Table of Contents

New Mexico (Common) Course Numbering System (NMCCNS) 8
Introduction 8
The New Mexico Lower Division Course Catalog 8
How the Catalog is Structured 8
Post – Baccalaureate Education courses 9
Addition, Deletion, and Reclassification of Courses 9
Changing Course Descriptions and Student Learning Outcomes 9
Accounting (ACCT) 10
Adobe (ADOB) 28
Agricultural Communication (ACOM) 30
Africana Studies (AFST) 32
Agricultural, Consumer, & Environmental Science (ACES) 35
Agricultural Economics/ECON (AEEC) 37
Agriculture and Extension Education (AXED) 38
Agronomy (AGRO) 41
Air Force Aerospace Studies (AFAS) 42
Artificial Intelligence Machine Learning (AIML) 43
American Heart Association (AHAC) 45
American Sign Language (SIGN) 46
American Studies (AMST) 51
Agriculture (AGRI) 56
Animal Science (ANSC) 57
Anthropology (ANTH) 64
Applied Liberal Arts and Sciences (ALAS) 79
Arabic (ARBC) 83
Architecture (ARCH) 90
Arts and Science (ARSC) 107
Art Education (ARTE) 107
Art History (ARTH) 108
Art Studio (ARTS) 116

Astronomy (ASTR) 190
Basic Patient Care Skills (BPCS) 198
Borderland and Ethnic Studies (BEST) 198
Bilingual Education (BLED) 199
Biochemistry (BIOC) 202
Biology (BIOL) 202
Biomedical Technology (BMET) 247
Business Administration (BUSA) 249
Business Computer Information Systems (BCIS) 269
Business Finance (BFIN) 282
Business Law (BLAW) 285
Chemical Dependency (CHDP) 286
Chemical Engineering (CHME) 286
Chemistry (CHEM) 288
Child Advocacy Studies (CAST) 310
Chicano and Chicana Studies (CCST) 311
Chinese (CHIN) 313
Classical Studies (CLST) 317
Clothing, Textiles & Fashion Merchandising (CTFM) 317
Communication (COMM) 319
Community and Regional Planning (PLAN) 330
Community Health & Social Sciences (CHSS) 331
Comparative Literature (COMP) 333
Computer Information Systems Technology (CIST) 334
Computer Science (CSCI) 361
Construction (CNST) 369
Counseling & Education Psychology (CEPY) 381
Counselor Education (COUN) 384
Criminal Justice (CJUS) 386
Dance (DANC) 411
Dental Assisting (DAST) 429
Dental Hygiene (DHYG) 439
Diagnostic Medical Sonography (DMSO) 455

Digital Studies (DGST) 467
Early Childhood Education (ECED) 468
Economics (ECON) 493
Education (EDUC) 496
Educational Foundations (EDUF) 527
Educational Leadership (ELAD) 528
Educational Technology (EDLT) 529
Electrical (ELTR) 529
Electroneuodiagnostic Technology (ENDT) 545
ENDT 2040. Evoked Potentials 549
ENDT 2080. Pediatric and Neonatal Neurodiagnostic Technology 549
Electronic Health Record (ELHR) 552
Emergency Medical Services (EMSS) 552
Environmental Engineering (ENVE) 569
Environmental Science Engineering (ENSC) 569
English (ENGL) 570
Entrepreneurship (ENTR) 596
Entomology, Plant Pathology and Weed Science (EPWS) 598
Environmental Engineering (ENVE) 599
Environmental Science (ENVS) 600
Exercise Science (EXSC) 607
Expanded Functions Dental Auxiliary (EFDA) 615
Family and Child Studies (FCST) 619
Family and Consumer Sciences (FCSC) 623
Farrier Science (FASC) 624
Film & Digital Media Arts (FDMA) 632
(FALB) 688
First-year Experience (FYEX) 688
Fish, Wildlife, Conservation Ecology (FWCE) 695
Food Science and Technology (FSTE) 696
Forestry (FORS) 698
French (FREN) 703
Future Studies (FUTR) 707

Genetics (GENE) 707
Geography (GEOG) 707
Geology (GEOL) 716
German (GRMN) 749
Greek (GREK) 752
Health Education (HLED) 754
Holistic Health and Healing Arts (HHHA) 770
Health Information Technology (HITP) 777
Health Science (HLSC) 791
Health, Medicine and Human Values (HMHV) 797
Human Rights (HMRT) 799
Heating, Ventilation, and Air Conditioning (HVAC) 801
Hebrew (HEBR) 815
History (HIST) 816
Honors (HNRS) 838
Horticulture (HORT) 851
Hotel, Restaurant & Tourism Management (HRTM) 853
Human Development (HUDV) 858
Human Rights (HMRT) 859
Human Services (HMSV) 861
Humanities (HUMN) 878
Information and Digital Literacy (IADL) 885
Indigenous Studies (IDST) 886
International Studies (INST) 886
Italian (ITAL) 887
Japanese (JAPN) 888
Landscape Architecture (LARC) 891
Language, Literacy and Sociocultural Studies (LLSS) 893
Latin (LATN) 894
Latin American and Latino Studies (LALS) 895
Latin American Studies (LTAM) 895
Liberal Arts (LBAR) 896
Library (LIBS) 897

Library Science (LIBR) 897
Language, Letters and Liberal Arts (LLLA) 898
Linguistics (LING) 898
Management (MGMT) 900
Marketing (MKTG) 900
Massage Therapy (MASS) 909
Materials Engineering (MLTS) 918
Mathematics (MATH) 921
Medical Assistant (MAST) 966
Medical Laboratory Technician (MLTS) 975
Military Science and Leadership (MLSL) 983
Mineral Engineering (MINE) 986
Modern Languages (MLNG) 986
Music (MUSC) 987
Museum Studies (MUSM) 1031
Native American and Hispano Studies (NAHS) 1031
Native American Studies (NATV) 1032
Natural Resources (NATR) 1034
Natural Science (NTSC) 1035
Navajo (NAVA) 1037
Naval Science (NVSC) 1044
New Mexico Nursing Education Consortium (NMNEC) 1047
Nursing (NURS) 1055
Nursing Assistant (NUAS) 1074
Nursing Refresher (NRRF) 1075
Nuclear Engineering (NUCE) 1076
Nutrition (NUTR) 1078
Occupational Therapy Assistant (OTAP) 1084
Office Technology (OTEC) 1090
Outdoor Leadership Studies (OLST) 1092
Patient Care Technician (PACA) 1094
Peace Studies (PCST) 1095
Petroleum Engineering (PETR) 1097

Pharmacy Technician (PHAR) 1098
Philosophy (PHIL) 1106
Phlebotomy (PHLB) 1115
Physical Education (PHED) 1118
Physical Science (PHSC) 1126
Physics (PHYS) 1128
Physical Therapist Assistant (PTAP) 1149
Plumbing (PLMB) 1165
Political Science (POLS) 1180
Population and Public Health (POPH) 1188
Portuguese (PORT) 1195
Professional Physical Education (PRPE) 1198
Psychology (PSYC) 1210
Public Administration (PADM) 1228
Public Health Science (PHLS) 1229
Pueblo Indian Studies (PINS) 1238
Radiologic Technology (RADT) 1240
Range Science (RGSC) 1255
Religion (RELG) 1256
Renewable Energy (RNBL) 1262
Respiratory Therapy (RESP) 1267
Russian (RUSS) 1296
Science (SCIE) 1297
Social Science (SOSC) 1298
Social Work (SOWK) 1301
Sociology (SOCI) 1304
Soil (SOIL) 1315
Spanish (SPAN) 1316
Spanish Language Interpreter (SPLI) 1332
Special Education (SPED) 1334
Speech & Hearing Science (SPHS) 1336
Sports Medicine (SPMD) 1337
Sterile Processing Tech (STPT) 1342

Structural Integration (Massage) (SHIN) 1343
Supply Chain Management (SCMT) 1347
Surgical First Assistant (SUFA) 1347
Surgical Technology (SURG) 1353
Swahili (SWAL) 1365
Sustainability (SUST) 1366
Technical Communication (TCOM) 1368
Theater (THEA) 1369
Traditional Arts (TRDA) 1384
Veterinary Technology (VETT) 1384
Welding (WELD) 1410
Women's Studies (GNDR) 1421
Woodworking (WOOD) 1422
Zuni (ZUNI) 1429

New Mexico (Common) Course Numbering System (NMCCNS)

Introduction

The Post-Secondary Education Articulation Act requires the New Mexico Higher Education Department to consult with faculty to establish a common course numbering system for lower division academic courses offered at public higher education institutions in the state. When the NMCCNS was being established, the steering committee decided to include both common and unique courses. The decision to include unique courses decision was made to prevent the assignment of the same 4-letter prefix and 4-digit number to courses that are offered at only a single institution.

The goal of the New Mexico (Common) Course Numbering System is to improve the articulation and transfer of courses between New Mexico's Higher Education Institutions. To this end, when students transfer between two New Mexico public or participating tribal institutions, a course taken at the sending institution transfers as the course carrying the same NMCCNS designation at the receiving institution (exceptions listed below).

For an institution to offer a common course, the institution must adopt the approved 4 letter/ 4 number designator, course description, and **all** of the listed Student Learning Outcomes. *There is currently an exception to this rule for Mathematics that will be phased out in the future.*

The New Mexico Lower Division Course Catalog

The New Mexico Lower Division Course Catalog is the official list of course descriptions and Student Learning Outcomes for all lower division courses that are approved to be part of the New Mexico Course Numbering System. The course catalog lists courses by their approved 4-letter discipline prefix and 4-digit number. For information regarding the New Mexico Course Numbering System, please visit the New Mexico Higher Education Department's website https://hed.state.nm.us/resources-for-schools/public_schools/nm-course-numbering-system or contact the agency's public schools liaison division at articulation.transf@state.nm.us.

How the Catalog is Structured

All courses listed in the catalog correspond to courses that are part of the New Mexico (Common) Course Numbering System. Each entry begins with the approved 4-letter discipline prefix and 4-digit number followed by the approved course title. Beneath the title is the approved course description. Institutions must use this description; however, institutions may add to them. Under the course description is a list of the approved Student Learning Outcomes. In order to offer a common course, **all** of the listed Student Learning Outcomes must be adopted; institutions may add Student Learning Outcomes to the list (up to 20% of the total).

Credit hours, prerequisites and co-requisites are not listed. Each institution will decide the appropriate credit hours, prerequisites, and co-requisites for the courses it offers.

Course Transfer

Almost all common courses that are part of the New Mexico Course Numbering System will transfer from the sending institution as the course carrying the same NMCCNS designation at the receiving institution. Exceptions are listed below.

Course	Number
Externship	1989/2989
Practicum	1990/2990
Directed Research	1991/2991
Directed Study	1992/2992
Workshop	1993/2993
Portfolio	1994/2994
Cooperative Education	1995/2995

Topics	1996/2996
Independent Study	1997/2997
Internship or field experience (Institution may choose to use internship or field experience in the title)	1998/2998
Capstone	1999/2999

Courses with the above titles and numbers may be offered by any discipline that is part of the numbering system (Example BIOL 1996. Topics in Biology). These courses are subject to the transfer policies of the receiving institution. If a student is planning to transfer, please encourage him/her to speak with an advisor prior to taking one of these courses.

Post – Baccalaureate Education courses

Post – Baccalaureate Education courses will use the following prefixes and number ranges. These courses are not guaranteed to transfer; they will be subject to the receiving institution's transfer policies.

EDUC 2850-2899
SPED 2850-2899
ECED 2850-2899

Addition, Deletion, and Reclassification of Courses

Institutions' may request the addition, deletion, or reclassification of courses that are part of the New Mexico Course Numbering System by completing the "Change Form" on the NMHED Apply site: https://hed.state.nm.us/about/divisions/public/academic-affairs-service-application. Additions, deletions, and reclassifications are handled by NMHED staff on a monthly basis. Change forms received by the 15th of each month will be processed by the 30th of the same month. Change forms received after the 15th will be processed the following month.

Changing Course Descriptions and Student Learning Outcomes

Institutions' may request changes to the course descriptions and Student Learning Outcomes that are in the course catalog by completing the "Change Form" on the NMHED Apply site: https://hed.state.nm.us/about/divisions/public/academic-affairs-service-application. Changes to unique courses will be processed by NMHED staff on a monthly basis. Changes to common courses will be referred to the New Mexico Curriculum and Articulation Committee (NMCAC), which meets (at least) quarterly. In most cases, the NMCAC will be asked to send proposed changes to the appropriate faculty at their institution. In some cases, the NMCAC will convene a subcommittee of discipline specific faculty to review the proposal.

Accounting (ACCT)

ACCT 1110. Business Application in Accounting

Course Description

Provides an essential foundation of the complete accounting cycle for a small business enterprise and a practical understanding of business financial statements. Includes an overview of the preliminary analysis of financial statements including the balance sheet, the income statement, and
the statement of cash flows.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to.

1. Identify and define financial and accounting terminology.
2. Define and characterize account types such as: asset, liability, owners' equity, revenue, and expense accounts.
3. Define debits and credits and understand their role in double-entry accounting using T-accounts as a tool.
4. Record transactions in the basic and expanded accounting equation.
5. Set up and determine appropriate accounts for companies chart of accounts.
6. Demonstrate transactional analysis and use of key accounts according to the rules of debit and on credit.
7. Journalize transactions: provide analysis and record business transactions into a general journal, and special journals.
8. Demonstrate posting process.
9. Complete the adjusted trial balance worksheet and prepare the income statement and balance sheet sections of the worksheet.
10. Explain adjusting and closing entries, journalize adjusting entries.
11. Define, identify, and demonstrate the impact of adjusting entries on financial statements.
12. Complete the accounting cycle including trial balance, worksheet, adjustments, and closing entries for a small business.
13. Demonstrate use of journalizing and posting using special journals and subsidiary ledgers.
14. Identify the form and function of the schedule of accounts receivable and accounts payable.
15. Record and post cash receipts and payments transactions.
16. Reconcile the bank statement and complete subsequent journal entries.
17. Explain the articulation between financial statements using financial statement analysis.
18. Identify common performance measures from the financial statements.
19. Compare financial statement information of a small business to industry standards.

ACCT 1115. Accounting Principles I

Course Description

This is an introductory course in the theory and practice of accounting that covers the purpose of accounting, the accounting process, and the various types of ownership structure. Also covered are types of business, career opportunities in accounting, analyzing financial transactions, adjusting entries, accounting worksheets, financial statements, and the closing process. Computerized exercise problems are used to assist student understanding and proficiency. This course is only offered for fall enrollment.

Student Learning Outcomes

Not Available

ACCT 1120. Accounting Principles II

Course Description

This course is a continuation of theory and practice of accounting study began in ACCT 1115. Specialized accounting procedures for a service business and its environment, entrepreneurship, and small businesses are emphasized. Topics

covered include the modified cash basis and combination journal, accounting for cash, payroll accounting, employee earnings and deductions, payroll accounting, employer taxes, and reports.

Student Learning Outcomes

Not Available

ACCT 1125. Supplemental Instruction to Financial Accounting

Course Description

Collaborative workshop for students to provide additional problem solving necessary for students to master Financial Accounting.

Student Learning Outcomes

1. Understand differences and similarities between a manual accounting system and QuickBooks Online.
2. Identify and execute the four levels of operation within QuickBooks: New Company Setup, Lists, Activities, and Reports.
3. Record sales/collections, purchases/payments, inventory, adjusting entries.
4. Set up payroll, record payroll transactions, print paychecks, and view various payroll related reports.
5. Produce a variety of reports and financial statements.
6. Analyze reports to identify and correct errors.

ACCT 1135. Accounting Applications

Course Description

Applies the complete accounting process and practical problems to expand skills in the performance of accounting functions.

Student Learning Outcomes

Students should be able to:

1. Complete a manual accounting system using journals (general and special), ledgers (general and subsidiary), and worksheets as appropriate.
2. Interpret and record business transactions (e.g. corporate, partnership, sole proprietorship), analyze accounts and prepare appropriate entries for accrual basis accounting.
3. Prepare bank reconciliations and resulting entries using a variety of source documents.
4. Prepare adjusting and closing entries and completed year-end financial statements.
5. Prepare Statement of Cash Flows using the indirect method.
6. Illustrate the differences between cash and accrual basis accounting and prepare financial statements when converting from cash to accrual basis of accounting.

ACCT 1150. QuickBooks

Course Description

An introductory course to QuickBooks Pro accounting software, including setting up a new company and chart of accounts; recording transactions for service and merchandising businesses with customers, vendors and employees; bank reconciliations; payroll; end-of-period procedures; financial reporting; managing lists; and running reports and forms and customizing them.

Student Learning Outcomes

Students should be able to:

1. Understand differences and similarities between a manual accounting system and QuickBooks Online.
2. Identify and execute the four levels of operation within QuickBooks: New Company Setup, Lists, Activities, and Reports.
3. Record sales/collections, purchase/payments, inventory, adjusting entries.
4. Set up payroll, record payroll transactions, print paychecks, and view various payroll related reports.
5. Produce a variety of reports and financial statements.

6. Analyze reports to identify and correct errors.

ACCT 1180. Quantitative Methods in Business

Course Description

This course helps the student develop problem solving sills using mathematical equations to solve business problems and to enhance business performance and operations. Topics covered in this course include: the time value of money, interest calculations, trade and cash discounts, and concepts related to minimizing operational costs while increasing productivity.

Student Learning Outcomes

Students should be able to:

1. Understand bank services to include electronic banking, checking accounts, and check registers.
2. Understand payroll, Wages and Salaries, Social Security, Medicare, Other Taxes, and Income Tax Withholding.
3. Understand the mathematics of Buying and Selling.
4. Explain the concept of Simple Interest.
5. Demonstrate knowledge computing Compound Interest, Interest-Bearing Bank Accounts, Inflation and Present Value and Future Value.
6. Understand Annuities, Stocks, Bonds, Business and Consumer Loans, and early Payoff of Loans.
7. Explain Taxes, Insurance, and Depreciation.
8. Analyze Financial Statements and Ratios.

ACCT 1210. Income Taxation

Course Description

Federal income taxation of individuals, sole proprietorships, partnerships, corporations, trusts, and estates with particular reference to CLU, life insurance and annuities.

Student Learning Outcomes

Students should be able to:

1. Demonstrate their familiarity with the Federal Individual Income Tax System.
2. Demonstrate their familiarity with the Federal Income Tax System for sole proprietorships, partnerships, corporations, trusts, and estates.
3. Explain and demonstrate gross income, deductions and loses and how they relate to Federal Individual Income tax returns.
4. Demonstrate their ability to calculate basic gains and losses on property transactions.

ACCT 1220. Volunteer Tax Training

Course Description

Introduces basic tax return preparation issues and the software to complete and electronically file basic tax returns for low-income and elderly taxpayers. Students will not be able to take the Volunteer Tax Preparation Internship if they do not meet the current IRS guideline that requires all volunteers to be either US citizens or authorized aliens. An “unauthorized alien” is defined by the IRS as a person not legally admitted into the United States for either permanent residence or employment.

Student Learning Outcomes

Students should be able to:

1. Explain basic personal income tax filing status requirements.
2. Use appropriate tax software to prepare simple income tax returns for individuals.
3. Answer basic tax questions.

ACCT 1230. Volunteer Tax Updates

Course Description

To ensure returning volunteers are updated on any new changes to the current tax code and are refreshed on the tax software necessary to prepare individual tax returns for low-income and elderly taxpayers. Students must pass the certification examination to receive credit for the course.

Student Learning Outcomes

Students should be able to:

1. Pass IRS Certification exams.
2. Prepare simple income tax returns for individuals.
3. Use appropriate tax software.
4. Answer basic tax questions.
5. Solve practical tax problems

ACCT 1410. Personal Tax Preparation

Course Description

Introduces basic federal and state tax codes for preparing individual income tax returns. Emphasis on use of tax software. Students will be required to pass a certification exam and assist in preparing individual tax returns for low income and elderly taxpayers.

Student Learning Outcomes

Students should be able to:

1. Explain basic personal income tax filing status requirements.
2. Use appropriate tax software to prepare simple income tax returns for individuals.
3. Answer basic tax questions.
4. Demonstrate personal and professional interview skills in an environment that demands confidentiality issues at all levels.

ACCT 1993. Workshop in Accounting

Course Description

Varies

Student Learning Outcomes

Varies

ACCT 1996. Topics in Accounting

Course Description

Special topics are offered occasionally and the selection is different every semester. Special Topic courses do not repeat material presented by regular semester courses. The purpose of special topics is to provide students with new, one-time, and developing information in accounting.

Student Learning Outcomes

Varies depending upon topic.

ACCT 1998. Volunteer Tax Preparation Internship

Course Description

Students apply current tax code to prepare individual tax returns for low-income and elderly taxpayers. Volunteers must meet VITA volunteer eligibility requirements as defined by the IRS, which includes the passing of a certification examination. The IRS also requires all volunteers to be either US citizens or authorized aliens. An “unauthorized alien” is defined by the IRS as a person not legally admitted into the United States for either permanent residence or employment.

Student Learning Outcomes

Students should be able to:

1. Demonstrate personal and professional interview skills in an environment that demands confidentiality issues at all levels.
2. Use tax software to prepare and electronically file simple income tax returns for eligible taxpayers.

ACCT 2088. Accounting Specialty
This course is used to transfer approved courses from other colleges and universities. (Currently applicable for CNM only for transfer purposes).
Student Learning Outcomes
Varies based on electives.

ACCT 2110. Principles of Accounting I (Financial)
Course Description
An introduction to financial accounting concepts emphasizing the analysis of business transactions in accordance with generally accepted accounting principles (GAAP), the effect of these transactions on the financial statements, financial analysis, and the interrelationships of the financial statements.
Student Learning Outcomes
Students should be able to: *Required:*
1. Analyze business transactions, their effects on the financial statements and the interrelationships of the financial statements involving the following:
    a. Cash transactions
    b. Receivables and Net Realizable Value
    c. Operational Assets and Depreciation
    d. Inventory
    e. Current Liabilities
    f. Long-term Liabilities
2. Define, identify and demonstrate the impact of adjusting entries on financial statements.
3. Explain and demonstrate the differences between cash and accrual basis accounting.
4. Define and identify generally accepted accounting principles.

Required to be included in either Principles of Accounting I (Financial) or Principles of Accounting II (Managerial)
1. Analyze equity ownership transactions and their effect on the financial statements.
2. Identify the cash flow statement activities and explain the purpose of the cash flow statement.
3. Perform ratio analysis to evaluate financial statements.

ACCT 2110x. Principles of Accounting IA (Financial)
Course Description
An introduction to financial accounting concepts emphasizing the analysis of business transactions in accordance with generally accepted accounting principles (GAAP), the effect of these transactions on the financial statements, financial analysis, and the interrelationships of the financial statements. Principles of Accounting 1A plus 1B are equivalent to Principles of Accounting I on the Matrix (1/2).
Student Learning Outcomes
Students should be able to:
1. Analyze business transactions, their effects on the financial statements and the interrelationships of the financial statements involving the following:
    a. Cash transactions
    b. Receivables
    c. Payables
2. Define, identify and demonstrate the impact of adjusting entries on financial statements.

3. Explain and demonstrate the differences between cash and accrual basis accounting
4. Explain, define and apply generally accepted accounting principles.

ACCT 2110y. Principles of Accounting IB (Financial)

Course Description

A continuation of Principles of Accounting IA emphasizing accounting principles and procedures for receivables, inventory, notes and interest, depreciation, equity transactions, cash flow and financial statement analysis. Principles of Accounting 1A plus 1B are equivalent to Principles of Accounting I on the Matrix.

Student Learning Outcomes

Students should be able to:

1. Analyze business transactions, their effects on the financial statements and the interrelationships of the financial statements involving the following:
    a. Receivables and Net Realizable Value
    b. Operational Assets and Depreciation
    c. Inventory
    d. Current Liabilities
    e. Long-term Liabilities
2. Define and identify generally accepted accounting principles.
3. Analyze equity ownership transactions and their effect on the financial statements.
4. Identify the cash flow statement activities and explain the purpose of the cash flow statement.
5. Perform ratio analysis to evaluate financial statements.

ACCT 2115. Survey of Accounting

Course Description

Designed to provide a basic understanding of accounting procedures for small businesses. Provides a foundation of the accounting cycle for a small business enterprise and a practical understanding of business financial statements.

Student Learning Outcomes

Students should be able to:

1. Explain basic accounting concepts and terminology.
2. Perform the basic steps in the accounting cycle for a small business.
3. Prepare bank reconciliations.
4. Prepare payroll journals and calculate withholding deductions.

ACCT 2120. Principles of Accounting II (Managerial)

Course Description

An introduction to the use of accounting information in the management decision making processes of planning, implementing, and controlling business activities. In addition, the course will discuss the accumulation and classification of costs as well as demonstrate the difference between costing systems.

Student Learning Outcomes

Students should be able to: *Required:*

1. Identify the differences between financial and managerial accounting.
2. Illustrate the accumulation of costs in cost accounting systems.
3. Describe the basic elements of the budgeting process, its objectives and budget preparation.
4. Define and classify cost behavior.
5. Perform cost-volume-profit analysis for decision making.
6. Perform differential (incremental) analysis for business decision making.
7. Explain the cause of the variance and its effect on the income statement.

8. Explain and demonstrate the difference between traditional costing and activity-based costing.

Required to be included in either Principles of Accounting I (Financial) or Principles of Accounting II (Managerial)

1. Analyze equity ownership transactions and their effect on the financial statements.
2. Identify the cash flow statement activities and explain the purpose of the cash flow statement.
3. Perform ratio analysis to evaluate financial statements.

ACCT 2125. Introduction to Intermediate Accounting I

Course Description

Introduction to intermediate accounting concepts, principles and practices, stressing financial reporting theory, applied financial accounting problems and contemporary financial accounting issues. Focuses on the determination of income and financial position of the corporate form of organization.

Student Learning Outcomes

Students should be able to:

1. Identify GAAP necessary to record specific economic transactions related to realization principle (revenue recognition), matching principle (expense recognition) and the balance sheet asset categories.
2. Analyze how economic transactions reported under GAAP impact financial statements.
3. Select the appropriate GAAP to record these economic transactions.
4. Prepare required entries, financial statements and disclosures for these transactions.
5. Critically examine accounting practices for recognition and reporting and their impact on the accounting environment.

ACCT 2130. Introduction to Intermediate Accounting II

Course Description

Completes the accounting theory framework started in Introduction to Intermediate Accounting I with the concepts and principles underlying liabilities, stockholder equity and the effects on the income statement and statement of retained earnings.

Student Learning Outcomes

Students should be able to:

1. Identify GAAP necessary to record specific economic transactions related to realization principle (revenue recognition), matching principle (expense recognition), and related transactions involving liabilities, stockholder equity and other financial statement components.
2. Apply financial accounting theory, professional standards and judgement to real world business transactions.
3. Prepare required entries, financial statements and disclosures for these transactions.
4. Critically examine accounting practices for recognition and reporting and their impact on the accounting environment.

ACCT 2135. Intermediate Accounting II

Course Description

An in-depth continuation of the study of the generally accepted accounting principles (GAAP) utilized to prepare financial statements for external users. This course deals primarily with financial accounting and reporting information related to enterprise liabilities and owner's equity.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to

1. Identify, analyze and record current liabilities and long-term liabilities of an enterprise.
2. Identity, analyze and record the lease contracts of an enterprise.
3. Identify, analyze and record the deferred tax assets and liabilities of an enterprise.

4. Analyze firm performance using financial accounting information with respect to current and long-term assets, and current and long-term liabilities.
5. Identify, analyze and record the shareholders equity of an enterprise
6. Identify, analyze and record accounting changes and correct accounting errors
7. Identify, analyze and record the derivative transactions of an enterprise
8. Apply financial accounting theory, professional standards and judgement to real world business transactions and record these transactions
9. Prepare a temporal and within industry comparative analysis of an enterprises' performance using financial statements.
10. Prepare an advanced level statement of cash flows

ACCT 2140. Advanced Accounting I

Course Description

A continuation of Accounting Principles II (ACG-111), this course focuses on specialized accounting procedures for merchandising business and partnerships, accounts receivable, notes and interest, merchandise inventory, and long-term assets.

Student Learning Outcomes

Students should be able to:

1. Apply the accounting methods in accounts receivables.
2. Account for Notes and Interests in accounts payable.
3. Account and apply the accounting concepts for Long-Term Assets.
4. Learn the accounting procedures for Partnerships.
5. The purpose of accounting and the accounting concepts; to apply accounting knowledge and skills for the business world.
6. Analyze transactions and obtain the concept of the accounting equation.
7. Analyze and use the double-entry framework of T accounts.
8. Analyze and use the double-entry framework of T accounts.
9. Analyze and use the double-entry framework of T accounts.
10. Adjusting entries and closing process.
11. Accounting for cash and payroll accounting.

ACCT 2150. Advanced Accounting II

Course Description

This course is a continuation of Advanced Accounting I (ACG-204) and covers accounting for corporations and manufacturing businesses, organization and capital stock, earnings and distribution bonds, the statement of cash flow, the indirect method, analysis of financial statements, departmental accounting, the job order cost system, and the worksheet and financial statement.

Student Learning Outcomes

Students should be able to:

1. The student will learn the characteristics, formation and the organization of a corporation; describe stockholder's equity, and types of capital stock, compute dividends on preferred and common stock; account for capital stock transactions; and prepare the stockholder's equity section of a corporation balance sheet. By demonstrating the ability to prepare general journal entries for corporation transactions such as organization costs, stock issuance, dividend allocations, stock subscriptions, prepare stockholder's equity section in a balance sheet
2. The student will learn to account for corporate income taxes, use the retained earring account, account for dividends and stock splits, and prepare the statement of retained earnings. By demonstrating preparing journal entries for corporate income tax, closing income summary and dividends to retained earnings, journal entries for

declarations to common and preferred stock cash dividends, stock splits, and prepared the retained earnings statement.
3. The student will learn to describe the types of bonds issued at face value, premium, discount and bond redemption and bond sinking funds. By demonstrating journal entries, adjustments, year-end adjustments, interests, reversing entries, redemption at maturity, and deposits.
4. The student will learn the purpose and explain the Statement of Cash Flows, describe the direct and indirect methods of reporting cash, describe the effects of changes in current assets, liabilities, prepare the Statement of Cash Flows, and interpret the statement of cash flows. By demonstrating the identifying the activities of operating, investing, and financing; making adjustments for net income, computer change in cash equivalents, prepare the statement of cash flows.

ACCT 2155. Managerial Accounting
Course Description
This is an introductory course that stresses accounting concepts and procedures related to generating and using accounting information for planning, control, and decision-making of business operations. Student will learn alternative methods of preparing managerial accounting information and examining how these methods are used by different companies to maximize economic profit.
Student Learning Outcomes
Not Available

ACCT 2160. Governmental Accounting
Course Description
The theory and practice of accounting for government and other non-profit organizations. Topics include fund accounting, financial reporting and accounting for non-profit entities.
Student Learning Outcomes
Students should be able to:
1. Explain the accounting theory used in fund accounting.
2. Define and apply the basic accounting practices used in each of the funds recommended by NCGA for state and local governments.
3. Describe the basic accounting and reporting requirements of non-profit entities.

ACCT 2170. Payroll Accounting
Course Description
Covers payroll accounting procedures and controls, tax and employment laws, and tax reports that form the core of payroll responsibilities.
Student Learning Outcomes
Students should be able to:
1. Identify payroll terminology and concepts, required payroll records, and various laws and regulations affecting payroll operations
2. Calculate gross wages and deductions
3. Record, journalize and post payroll transactions in accordance with GAAP using the appropriate accounting records (e.g. payroll registers, employee earnings records, journals, and ledgers)
4. Prepare and accurately complete payroll tax reports for timely filing

ACCT 2210. Spreadsheet Accounting
Course Description

This course is a hands-on spreadsheet accounting course designed to help students apply previous knowledge and processes of financial and managerial accounting to a computerized environment using popular spreadsheet software. It will include microcomputer accounting applications, integrating spreadsheets, word processing, graphics, and database.

Student Learning Outcomes

Not Available

ACCT 2212. MS Excel for Accounting

Course Description

This course is a hands-on spreadsheet accounting course designed to help students apply previous knowledge and processes of financial and managerial accounting to a computerized environment using MS Excel spreadsheet software.

Student Learning Outcomes

1. Discover the basics and applicable uses of MS Excel in providing accounting information to both internal and external decision makers.
2. Explore how formulas can be utilized to make computations.
3. Link different spreadsheets together and learn the significance of absolute and relative cell references.
4. Design and set up a spreadsheet that will calculate and recalculate complicated calculations with enhanced accuracy.
5. Perform calculations that will allow changing only parts of the spreadsheet for what if analysis purposes.
6. Practice formatting data in a spreadsheet as to how it looks on the screen along with how it looks when printed.
7. Participate in activities that involve learning how to utilize template files to complete various financial and managerial accounting projects.
8. Create spreadsheet templates from scratch (called model building) and then test the model for various financial and managerial accounting applications.

ACCT 2220. Computerized Accounting

Course Description

This course requires prior knowledge from Survey of Accounting or Principles of Accounting I (Financial). It employs integrated accounting software for payroll, inventory control, accounts payable, accounts receivable and general ledger functions. Course reviews the accounting cycle.

Student Learning Outcomes

Students should be able to:

1. Set up a computerized accounting system and chart of accounts for a business enterprise.
2. Record sales/collections, purchase/payments, inventory, payroll, and adjusting entries using accounting software.
3. Identify the manual transactions underlying the computerized accounting systems.
4. Produce a variety of reports and financial statements using accounting software.
5. Analyze reports to identify and correct errors.

ACCT 2230. Cost Accounting

Course Description

This course covers an analysis of cost data for goods and services for planning, controlling, and decision- making. Study of cost accounting emphasizes the concept of different costs for different purposes. The focus of study will be on cost accounting strategy and decision-making process. It includes cost concepts and behavior, cost-volume-profit (break-even) analysis, Relevant costs for decision making, cost estimation, job costing, activity-based costing, cost allocation, budgeting and variance analysis.

Student Learning Outcomes

Not Available

ACCT 2240. Cost Management Accounting

Course Description

Expands the student's ability to use job order and process costing systems as well as the student's ability to apply and analyze accounting information for decision making in planning and controlling business activities. This includes the collecting of cost information, cost estimation and allocation, standard costs, budgeting and cost-volume-profit relationships.

Student Learning Outcomes

Students should be able to:

1. Analyze and Interpret accounting data to assist in management decision making.
2. Account for raw materials, work-in-process, finished goods and cost of goods sold using job order and process costing; including just-in-time inventory management and activity-based costing concepts.
3. Prepare statements for cost of goods manufactured, cost of goods sold and income.
4. Describe cost classifications, behaviors and apply the (CVP) Cost-Volume-Profit analysis concepts of contribution margin, and relevant costs to decision-making and profit planning.
5. Compute break-even points and determine target volumes needed to earn target profits and calculate the contribution margin ratios and the margins of safety and operating leverage.
6. Apply the budgeting process to the creation of budgets through the use of standard costs.
7. Explain the meaning of variances, perform variance analysis and prepare journal entries to record and dispose of variances.
8. Use differential cost analysis and capital budgeting techniques to make decisions.

ACCT 2250. Introduction to Fund Accounting

Course Description

A study of basic fund accounting and financial reporting principles and procedures necessary to implement budgetary controls for governmental units and other not-for-profit organizations.

Student Learning Outcomes

Students should be able to:

1. Distinguish between private sector accounting and governmental accounting to include the environment, accounting system and organizational goals
2. Describe fund accounting including budgetary, appropriation, and encumbrance accounting entries and concepts
3. Record fund entries (budgetary, appropriation, encumbrance) for the following:
    a. Governmental Funds
    b. General Funds
    c. Special Revenue Funds
    d. Capital Projects Funds
    e. Debt Service Funds
    f. Proprietary Funds
    g. Fiduciary Funds
4. Identify the differences and similarities in reporting for governmental and not-for-profit organizations.

ACCT 2260. Managerial Accounting Applications

Course Description

A practical examination of accounting simulations that will provide opportunities to think critically about managerial accounting issues and to consider the ethics inherent in accounting decisions.

Student Learning Outcomes

Students should be able to:

1. Prepare and trace source documents.

2. Record transactions in job cost records.
3. Reconcile inventory and overhead control accounts.
4. Prepare financial statements.
5. Address “what if” managerial questions about variable costing, alternative overhead driers, budgeting for operations, variance, capital expenditures and internal controls.
6. Demonstrate an understanding of cost behavior.
7. Use Excel® to calculate compute elements of job-order costing, process costing, activity-based costing.
8. Determine joint versus by-products and allocate joint costs.
9. Use the direct allocation and sequential methods for service costs allocation.
10. Collect data for a transfer pricing decision.
11. Perform variance analysis.
12. Make tactical decisions for pricing special orders.
13. Discuss ethical issues in managerial accounting.

ACCT 2270.Budgeting

Course Description

Introduction to an integrative and practical view of concepts, methods, and techniques to develop a budget. Focuses on the budgeting process, its challenges, common issues, and approaches to mitigate problems and improve the learning curve of budget planning.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Develop a budget with a broad view of corporate functions.
2. Integrate strategic guidelines into discussions of the budgeting process.
3. Structure budget planning and development in a logical sequence.
4. Coordinate the project of budget planning for different areas of a business.
5. Apply financial concepts to support the budget planning process.
6. Explain budget monitoring to support performance management.
7. Evaluate performance by managing the results and the budget.

ACCT 2310. Government and Not-for-Profit

Course Description

A study of basic fund accounting and financial reporting principles and procedures necessary to implement budgetary controls for governmental units and other not-for-profit organizations. Recent GASB and FASB pronouncements are also addressed.

Student Learning Outcomes

1. Obtain an overview of financial reporting for non-business entities.
2. Distinguish between private and public sector organizations.
3. Identify the sources of authoritative accounting standard for various public and private sector organizations
4. Define the 11 fund types used by state and local governments.
5. Obtain an overview of the contents of the governmental financial report.
6. Define the governmental reporting entity.
7. Illustrate the basic financial statements for a state and local government.
8. Identify and describe the basic accounts used by governmental funds.
9. Identify the recognition criteria for revenues and expenditures under the modified accrual basis.
10. Apply fund balance classifications for governmental funds.
11. Prepare journal entries for the expenditures cycle using both budgetary and activity accounts.

12. Apply the modified accrual basis of accounting in the recording of a typical transaction of a General or special revenue fund, capital projects, debt service, and permanent funds.
13. Prepare the closing entries and classify fund balances.
14. Prepare the fund-basis financial statements for a General or special revenue fund.
15. Prepare the fund-basis financial statement for governmental funds.
16. Classify and identify appropriate fund reporting for trust agreements.
17. Apply the accrual basis of accounting in the recording of typical transactions of internal service and enterprise funds, agency, private-purpose trust, investment trust, pension (and other employee benefit) trust funds.
18. Prepare the fund-basis financial statements for proprietary funds.
19. Identify when an activity is required to be reported as an enterprise fund.
20. Contract statements of cash flow prepared under ASB guidelines with those prepared under FASB guidelines.
21. Identify the fiduciary funds and describe when each of them is appropriate.
22. Prepare the fund-basis financial statements for fiduciary funds.

ACCT 2311. Oil, Gas and Energy Accounting

Course Description:

An overview of accounting for the energy sector including an introduction to oil and gas accounting. Topics include accounting for exploration, development, production,
depletion, amortization, joint operations, asset impairment, and retirement obligation.

Student Learning Outcomes:

Upon successful completion of the course, the student will:

1. Define terminology related to the energy industry.
2. Demonstrate accounting for exploration, acquisition, and developmental costs.
3. Calculate depreciation, depletion, and amortization.
4. Evaluate revenues from production activities.
5. Explain basic tax laws applicable to oil and gas accounting.

ACCT 2320. Introduction to Tax I (Individual)

Course Description

Studies the current federal tax laws, providing a working knowledge of preparing taxes for individuals and sole proprietorships. Federal tax law topics include gross income, exclusions, deductions, credits, accounting periods and methods, and property transactions.

Student Learning Outcomes

Students should be able to:

1. Explain the objectives of the Federal Income Tax System and relate them to individuals working in the U.S. economy.
2. Distinguish between taxable income versus tax exempt income and allowable deductions versus non-allowable deductions.
3. Identify tax planning strategies for maximizing deductions and minimizing the disallowance of deductions.
4. Recognize and determine deductions and losses for individual's businesses.
5. Apply the components of the Federal income tax formula to determine individual tax liability.
6. Identify tax problems that can be solved by further research, or that require expert tax counsel.

ACCT 2350. Introduction to Tax II (Corporate)

Course Description

Introduction to the tax law currently implemented by the Internal Revenue Service on business entities including C Corporations, S Corporations, Partnerships and fiduciaries.

Student Learning Outcomes

Students should be able to:

1. Demonstrate knowledge of the components of federal taxation for various entities.
2. Prepare income tax returns for C-Corporations, S-Corporations, partnerships, estates, gifts and trusts and show the underlying calculations.
3. Identity when income and deductions are recognized, excluded or deferred.
4. Explain the interrelationships and differences between financial accounting and tax accounting.
5. Identify tax problems that can be solved by further research, or that require expert tax counsel.
6. Apply analytical reasoning tools to assess how taxes affect economic decisions for business entities.
7. Explain tax-related professional and ethical obligations.

ACCT 2410. Personal Tax Preparation

Course Description

Introduces basic federal and state tax codes for preparing individual income tax returns. Emphasis on use of tax software. Students will be required to pass a certification exam and assist in preparing individual tax returns for low income and elderly taxpayers.

Student Learning Outcomes

Students should be able to:

1. Explain basic personal income tax filing status requirements.
2. Use appropriate tax software to prepare simple income tax returns for individuals.
3. Answer basic tax questions.
4. Demonstrate personal and professional interview skills in an environment that demands confidentiality issues at all levels.

ACCT 2420. Volunteer Income Tax Internship

Course Description

Apply the skills and expertise learned in ACCT-2410 by assisting eligible taxpayers in satisfying their tax responsibilities through the VITA/TCE program by providing free tax return preparation using software.

Student Learning Outcomes

Students should be able to:

1. Acquire an enhanced appreciation and understanding (via applicable experience) for the existence of the Volunteer Income Tax Assistance (VITA) Program and the benefits it provides to eligible taxpayers.
2. Apply prior knowledge regarding the requirements for utilization of various tax forms.
3. Apply prior understanding of the basic tax law regarding filing status, personal and dependency exemptions reportable income, allowable deductions and available tax credits through actual tax preparation procedures.
4. Continue to develop and practice utmost personal and professional interview skills in an environment that demands confidentiality issues at all levels.
5. Prepare simple individual tax returns for the low-income public to be provided free of charge using the appropriate step and procedures.
6. Utilize understanding of tax software in the preparation and filing of basic tax returns.

ACCT 2430. Federal Income Tax for Business

Course Description

Introduction to the tax law currently implemented by the Internal Revenue Service on business entities including C Corporations, S Corporations, and Partnerships. Gift and Estate Tax is also covered.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Demonstrate knowledge of the components of federal taxation for various entities.
2. Identity when income and deductions are recognized.
3. Describe when income and deductions are excluded or deferred.
4. Explain the interrelationships and differences between financial accounting and tax accounting.
5. Apply analytical reasoning tools to assess how taxes affect economic decisions for business entities.
6. Demonstrate the ability to conduct tax research.
7. Understand tax-related professional and ethical obligations.
8. Explain basic tax policy considerations underlying common tax regimes.

ACCT 2510. Enrolled Agent Exam Review Course

Course Description

Reviews concepts learned in study of accounting, individual and business income tax and ethical decision making as they relate to passing the IRS Special Enrollment Exam. Representation, practices and procedures as defined by Circular 230 are also covered.

Student Learning Outcomes

Students should be able to:

1. Demonstrate knowledge of the requirements for becoming an Enrolled Agent and be prepared to successfully pass the SEE.
2. Demonstrate knowledge of the application of tax theory and income tax laws as they relate to Individual Taxation, Sole Proprietorships and Partnerships, Corporations, Fiduciaries, Trust, Estate and Gift Tax.
3. Demonstrate knowledge of the application of tax theory and income tax laws as they relate to Charities & Not-For-Profits, Government Entities, Retirement Plans, Ethics and Professional Responsibilities.

ACCT 2520. Introduction to Auditing

Course Description

Surveys auditing concepts and processes used by management and assurance professionals that include audit standards, reports, professional ethics, legal liability, evidence accumulation, audit planning, internal controls, transaction cycles, other engagements and operational auditing.

Student Learning Outcomes

Students should be able to:

1. Describe the attest function.
2. Identify the professional and regulatory standards that impact the auditing profession.
3. Use audit planning techniques to assess risks, calculate materiality and prepare audit programs.
4. Evaluate factual situations to identify internal control deficiencies, significant deficiencies, and material weaknesses.
5. Identify types of evidence and practice documenting the results of performing audit tests.
6. Use various audit sampling to determine whether sufficient evidence has been obtained.
7. Identify audit procedures performed in the completion of an audit.
8. Select the appropriate audit report for various factual situations.
9. Demonstrate knowledge of other attestation and assurance services performed by CPAs as well as other types of services, which independent auditors may or may not perform.

ACCT 2540. Internal Control and Auditing

Course Description

Not Available

Student Learning Outcomes

Not Available

ACCT 2551. Corporate Financial Reporting I

Course Description

This course is the first of three courses that provide an in-depth study of the topics covered in Financial Accounting including theory and problems. The course begins with a review of the financial accounting environment, the conceptual framework and the accounting process. The course also provides a comprehensive study of financial statements, time value of money, and revenue recognition. Finally, current assets are studied in detail.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Explore the environment of financial reporting and the many factors and challenges affecting it.
2. Discuss the basic concepts underlying the conceptual framework.
3. Explain and illustrate the features of an accounting information systems and display and understanding of basic accounting terminology.
4. Examine the many different types of revenues, expenses, gains, and losses that affect the income statement and related information.
5. Examine the many different types of assets, liabilities, and stockholders' equity items that affect the balance sheet and the statement of cash flows.
6. Study the tools and techniques that will help one measure the present value of future cast inflows and outflows.
7. Recognize the difficulties associated with estimating the collectability and valuation of accounts receivable.
8. Understand the basic issues related to accounting and reporting for the cost of inventory.
9. Consider some of the valuation and estimation concepts that are used to develop relevant inventory information.

ACCT 2552. Corporate Financial Reporting II

Course Description

This course is the second of three courses that provide an in-depth study of the topics covered in Financial Accounting including theory and problems. The course begins with a comprehensive study of long-term assets, current liabilities, and long-term liabilities. The study of accounting for income taxes and pensions and other post retirement benefits are also included.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Discuss the proper accounting for measurement and reporting issues related to property, plant, and equipment and intangible assets acquisition.
2. Discuss the proper accounting and the accounting methods used to record the retirement or disposal of property, plant, and equipment and intangible assets.
3. Calculate depreciation expense for property, plant, and equipment.
4. Calculate amortization expense for intangible assets.
5. Consider impairment of long-term assets, the treatment of expenditures incurred subsequent to acquisition, and asset disposal.
6. Identify, analyze, and record current liabilities and long-term liabilities of an enterprise.
7. Identity, analyze, and record the lease contracts of an enterprise.
8. Identify, analyze, and record the deferred tax assets and liabilities of an enterprise.
9. Describe the key characteristics of a debt and equity investment and demonstrate how to account for a purchase, change in fair market value, and for revenue received from investments.
10. Demonstrate how to account for the disposition of debt and equity investments.
11. Understand the nature and characteristics of employer pension plans, including the details of defined benefit plans and postretirement benefit plans.
12. Analyze firm performance using financial accounting information with respect to current and long-term assets, and current, and long-term liabilities.

ACCT 2553. Corporate Financial Reporting III

Course Description

This is the third of three courses which covers concepts, principles, and practices for financial accounting. Topics include shareholder's equity, share-based compensation and earnings per share, accounting changes and error corrections, the statement of cash flows, and derivatives. Comprehensive cases in GAAP and IFRS will be covered as well.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Prepare a temporal and within industry comparative analysis of an enterprises' performance using financial statements.
2. Compute basic earnings per share, considering the sale and repurchase of stock during the period as well as the effects of stock splits and stock dividends.
3. Use the treasury stock method to compute diluted earnings per share when a firm has outstanding stock options, warrants, and rights.
4. Determine the order in which multiple potentially dilutive securities should be considered in computing diluted earnings per share.
5. Understand the business and accounting concepts connected with derivatives and hedging activities.
6. Recognize the difference between a change in accounting estimate and a change in accounting principle and know how a change in accounting estimate is reflected in the accounting statements.
7. Recognize the various types of errors that can occur in the accounting process, understand when errors counterbalance, and be able to correct errors when necessary.
8. Prepare an advanced level statement of cash flows.

ACCT 2555. Certified Bookkeeper Preparation

Course Description

This course focuses on current job market demands for qualified professional bookkeepers. Students will receive targeted guidance and specific training to prepare for testing and achieving a national Certified Bookkeeper designation. This course is not intended for transfer to a four-year institution, and the scheduling and fees for the national certification exam are not included.

Student Learning Outcomes

1. Demonstrate proficiency in financial accounting principles, including analyzing business transactions, journalizing, posting to ledgers, preparing worksheets, and creating financial statements.
2. Apply managerial accounting concepts to support decision-making through cost analysis, budgeting, and financial forecasting.
3. Utilize advanced Excel tools and accounting software to perform complex calculations, manage financial data and create reports.
4. Apply payroll accounting principles to identify and ensure compliance with relevant tax laws, including computations, records, deposits, and reporting requirements.
5. Identify and explain tax-related concepts and regulations relevant to individual tax returns, ensuring compliance with current tax laws.
6. Analyze and explain cash management practices, including accounting for cash receipts, payments, accounts receivable, and accounts payable.
7. Evaluate the complete accounting cycle, including adjustments, accruals, deferrals, closing entries, and post-closing trial balances, to ensure accurate financial reporting.

ACCT 2993. Accounting Workshop

Course Description

Topic varies

Student Learning Outcomes
Student Learning Outcomes be developed depending upon nature of workshop.

ACCT 2995. Accounting Cooperative Education
Course Description
Provides students the opportunity to work a minimum of 135 hours in a new job experience in accounting or training-related supervised work. Student trainees are not paid for their work but are supervised jointly by CNM and the company.
Student Learning Outcomes
Students should be able to:

1. Demonstrate professionalism by
    a. arriving promptly for work
    b. being appropriately groomed
    c. working collaboratively with co-workers and supervisors
    d. meet all requirements of cooperating firm and academic institution
2. Create, in cooperation with the supervisor, a list of job expectations (which will include some of the following):
    a. prepare journal entries
    b. use special journals (i.e. A/R, A/P, etc.)
    c. prepare bank reconciliations
    d. prepare payroll
    e. uses appropriate software to perform accounting functions
    prepare reports, letters, etc., using Word, Excel®, accounting software or other software as designated by employer

ACCT 2996. Accounting Topics
Course Description
Special topics are offered occasionally and the selection is different every semester. Special Topic courses do not repeat material presented by regular semester courses. The purpose of special topics is to provide students with new, one-time, and developing information in accounting.
Student Learning Outcomes
Student Learning Outcomes will vary depending upon topic.

ACCT 2997. Accounting Independent Study
Course Description
Requires the student and instructor to define a specific problem in the area of the student's interest and directly related to accounting. Student develops and executes a solution applying analytical techniques and critical thinking to the problem. An oral presentation may be required.
Student Learning Outcomes
Students should be able to:
Student Learning Outcomes to be developed collaboratively between student and instructor.

ACCT 2998. Accounting Internship
Course Description
Varies
Student Learning Outcomes
Varies

ACCT 2999. Accounting Capstone:

Course Description
Focuses on assessment of Student Learning Outcomes for the program of study.
Student Learning Outcomes
Students should be able to:

Adobe (ADOB)

ADOB 1111. Adobe Construction Basics
Course Description
History and overview of adobe construction techniques. Topics include monumental structures and settlements throughout the world and adobe practices that meet modern building codes. Students will examine construction and design techniques from foundation to roof. Students will make adobe bricks, build walls and construct other building components.
Student Learning Outcomes
1. State locations and historical periods where adobe is found in four locations in the world
2. Name codes in New Mexico and the United States that affect adobe construction
3. Name and describe four styles of architecture found in New Mexico
4. Make multiple adobe bricks

ADOB 1112. Adobe Wall Construction
Course Description
An introduction to exterior and interior adobe wall construction techniques. Students will learn the requirements for wall thickness, height and foundation construction based on the New Mexico Earthen Building Code. Topics include the installation of windows and doors and lintels over openings, the construction of bond beams at the top of walls, methods for the attachment of roof structural members and design and construction of buttresses and arches.
Student Learning Outcomes
1. State the requirements of the New Mexico Earthen Building Code for foundation construction
2. Build an adobe wall with corners and intersections
3. Describe a method for the installation of doors and windows in adobe walls
4. Place a lintel on a wall to create a window opening

ADOB 1113. Passive Solar Adobe Design
Course Description
The integration of passive solar heating systems into the design of adobe homes. Topics include direct gain systems, Trombe Wall (indirect gain) systems and greenhouses/sunspaces. Students will learn the advantages and disadvantages of each system in order to choose among them for use in different parts of a house or commercial structure. Students will calculate the proper sizing of systems as well as auxiliary back-up systems.
Student Learning Outcomes
1. Name and describe the three passive solar heating techniques
2. State reasons for the choice of a particular system for a particular location
3. Calculate the size of glazing required to heat a living room in the Santa Fe climate
4. Describe and contrast the merits of radiant floor heating versus a wood stove for back-up heating

ADOB 1114. Floor Design and Construction
Course Description

Traditional and modern Southwest floors and floor coverings. Topics include mud, brick, stone, concrete, tile, wood and sheet-goods flooring materials and applications. Students will design and build floor mock-ups. Suspended floors over crawl spaces or basements are covered as well as the sizing of joists and deck materials. Radiant floor heating systems are also discussed.

Student Learning Outcomes

1. Describe and contrast ground contact floors versus suspended floors
2. Describe and carry out a mud or concrete floor pour
3. Describe and build a brick on sand floor
4. Select appropriate details for a given floor: insulation, final surface, radiant heating and sizing charts

ADOB 1115. Finish Practices

Course Description

Traditional and modern finishes used in the building of the exteriors and interiors of buildings of the Southwest. Topics include treatments of exposed adobe bricks; mud plaster by hand and trowel; plasters made with stabilized mud, lime, gypsum, cement and elastomerics. Wall insulation, vapor barriers, moisture protection, and the lath systems will be examined. The treatment of vigas, posts, corbels, exposed lintels and wood trim are also covered.

Student Learning Outcomes

1. Describe, mix and apply mud and gypsum plaster
2. Describe wall, ceiling and floor paints and stains.
3. Describe, select, mix and apply stain or preservatives on wood
4. Scribe and paint la zanefa
5. Demonstrate understanding of the use of appropriate insulations systems

ADOB 1116. Roof Design and Construction

Course Description

Traditional Southwest designs of pitched and flat roofs on adobe buildings. Topics cover roofing materials, structure, and plans, including vigas, beams, joists rafters, trusses. Ceiling materials, including latillas, rough boards, tongue-and-groove, are discussed along with details such as insulation, deck sheathing, canales and parapets. Two actual or mock-up roofs will be built.

Student Learning Outcomes

1. List and contrast the good and bad features of flat and pitched roofs
2. Describe structural members of traditional roofs and determine their size and spacing for a given span
3. Describe three types of pitched roofs and determine the size of rafters for a given span
4. Discuss choices in roofing materials and insulation for flat and pitched roofs

ADOB 1118. Preservation Practices

Course Description

The techniques of preservation, conservation, stabilization, restoration, remodeling, modernization and repurposing of adobe buildings. Consideration is also given to constructing additions to existing buildings. Topics include surveying and assessing existing buildings and the development of preservation plans. The US Secretary of the Interior's Standards for Historic Preservation are discussed along with the New Mexico Code for Historical Earthen Buildings. Safety around old buildings is emphasized.

Student Learning Outcomes

1. Define, discuss and contrast the different approaches in the taxonomy of preservation

2 Identify the important parts of a building that need to be included in a comprehensive assessment
3. Propose several remedies for a problem and choose and defend the best remedy
4. Prepare a preservation plan for a small existing building or virtual building presented by the instructor

ADOB 1122. Rammed Earth Construction

Course Description

An introduction to rammed earth construction techniques from around the world. This course examines various rammed earth construction methods including the use of small and large forms and manual and engine power. Topics also include the design of rammed earth walls that accommodate windows, doors, electrical, plumbing and heating ventilation and air conditioning (HVAC) systems.

Student Learning Outcomes

1. Describe and contrast hand rammed systems with power rammed systems
2. Describe door and window inclusion in walls
3. Describe insertion of electrical, plumbing and heating systems
4. Select appropriate details for a given house
5. Compare rammed earth techniques from around the world

ADOB 1123. Compressed Earth Block Construction

Course Description

An introduction to compressed earth block (CEB) and stabilized compressed earth block (SCEB) construction techniques from around the world. This course examines various compressed earth block manufacturing methods, including the use of small and large forming chambers and manual and engine power as well as block stabilization techniques. Topics also include the design of compressed earth block walls that accommodate windows, door and utilities.

Student Learning Outcomes

1. Identify the requirements of the New Mexico Earthen Building Code for CEB construction
2. Produce CEBs/SCEBs for use in wall construction
3. Build a CEB wall with corners and intersections
4. Describe a method for the installation of doors and windows in CEB walls
5. Place a lintel on a CEB wall to create a window opening

ADOB 1190. Adobe Building Practicum

Course Description

Applied adobe experience. Practicum activities may take place on campus, on the worksite of an adobe building project, on a adobe preservation site or working with an adobe related non-profit or government entity.

Student Learning Outcomes

1 Discuss and demonstrate the special safety considerations
2. Assess the components adobe project
3. Address cost considerations of an adobe projects

Agricultural Communication (ACOM)

ACOM 1110. Introduction to Agricultural Communication

Course Description

Students will learn about the history and theories of agricultural communications, be introduced to the degree program, explore careers in the field, and examine the role of media in agricultural communications.

Student Learning Outcomes

1. Identify classes needed in the degree program and relevant clubs.
2. Recall important times in the history of agricultural communication and journalism.
3. Comprehend the communication process and identify its components.
4. Identify effective and efficient media for agricultural communication.
5. Analyze the various roles and uses of media in agriculture communication.
6. Apply theories of communication and journalism to class assignments.

ACOM 1120. Introduction to Graphic Design in Agricultural

Course Description

This course focuses on introducing students to creating and critiquing visual communication materials in agricultural communications by developing understanding of visual communications, graphic design, and branding principles.

Student Learning Outcomes

1. Understand and demonstrate the correct use of formats, modes, and resolutions when creating or using graphics for various mediums and audiences.
2. Critique and evaluate graphic and photographic design elements in agricultural communications pieces.
3. Demonstrate a working knowledge of software and their uses for implementing principles of graphic design and branding.

ACOM 1130. Effective Leadership and Communication in Agriculture

Course Description

Theory and practice in leadership and communication for professionals who must work effectively in leadership and supervisory roles with people in agricultural business, industry, government agencies, and education. Course focuses on contemporary leadership theories. Oral communication skills in informative and persuasive speaking, parliamentary procedure, and for small groups are developed.

Student Learning Outcomes

1. Understanding Leadership.
    a. Definitions of Leadership
    b. Agricultural Education, FFA, Leadership
    c. Leadership Categories
    d. Democratic, Authorization, and Situational Leadership
    e. Personality and Leadership Relations
    f. Developing Leaders
    g. Personal Leadership Development
    h. Ability, Experience, and the Opportunity to Lead
    i. Leadership in the Workplace
    j. Human Relations, Technical, and Conceptual Skills
2. Communication Skills.
    a. Communication and Leadership
    b. The Purpose of Communication
    c. Forms of Communication
    d. Communication Barriers and Styles
    e. Verbal and Nonverbal Communication
    f. Feedback
    g. Self-Communication and Interpersonal Communication

3. Leading Individuals and Groups.
    a. Group Dynamics and Team Building
    b. Democratic Group Leadership
    c. Importance of Groups
    d. Types of Groups
    e. Organizing Groups
    f. Group Dynamics, Development, and Discussion
4. Conducting Successful Meetings.
    a. Skills Developed by Bring an Officer
    b. Basic Meeting Functions
    c. Characteristics of a Good Meetings
    d. Planning and Preparing for Meetings
    e. The Meeting Room
    f. Committees
    g. Informative and Motivational Meetings
    h. Group Member Involvement
    i. Officer and Member Responsibilities
    j. Developing a Program of Activities

ACOM 2120. Photography in Agriculture

Course Description

This is a field-based course focused on how to students use the camera as a tool to make the rules of photography and design work for the student's style, creativity, and goals pertaining to application of photography in agricultural communications. Students develop and disseminate a photography portfolio through a variety of communications channels.

Student Learning Outcomes

1. Utilize a DSLR or mirrorless camera to analyze scenarios to effectively curate a body of work that compliments agricultural communications practice
2. Demonstrate working knowledge of camera equipment and photography principles to create visual stories
3. Evaluate and critique imagery for use of photography skills and principles

ACOM 2998 Early Field-Based Experience in Agricultural Communications

Course Description

This course is designed to help you understand people and how to communicate with people. The key to all journalism or communications-related courses is to understand the audience well enough to know how to speak like them, to them, and to your stakeholders. The most successful communicators exhibit greatness in themselves and in their peers. Communicators cannot do their job if they do not show up with their best attitude and work ethic. Don't let your audience down, and we will make sure you are equipped to do so.

Student Learning Outcomes

1. Explain the role of communications in the agricultural or science industries.
2. Develop a communication campaign for an agriculturally related client.
3. Identify key principles of communication channels including newswriting, radio production, and communication plans.
4. Create effective internship application materials to meet needs in the industry.
5. Design a job portfolio that includes examples of communications experience.

Africana Studies (AFST)

AFST 1110. Introduction to Africana Studies

Course Description
An interdisciplinary course that introduce students to the histories, cultures, and experiences of global people of African descent.

Student Learning Outcomes

1. Students will carry out critical analysis and engagement with complex, interdependent global systems and legacies (natural, physical, social, cultural, economic, and political) and their implications for people's lives and the earth's sustainability.
2. Students will explore issues/objects/works through collection and analysis of evidence that result in informed conclusions/judgments, understanding and analysis of critical literacy and ethics pertaining to the dynamics of diversity, equity, inclusion and social change.
3. Students will examine habits of mind characterized by the comprehensive exploration of issues, ideas, artifacts and events related to diversity, equity and inclusion before accepting or formulating an opinion or conclusion.
4. Students will demonstrate the capacity to combine or synthesize existing ideas, images, or expertise in original ways.
5. Students will prepare, purposeful presentations designed to increase knowledge, foster understanding, or promote change in listener's values, beliefs, or behaviors pertaining to the dynamics of diversity, equity, inclusion and social change.
6. Students will develop and express ideas in writing and learning in many genres and styles using different writing technologies, mixing texts, data and images that relate to the dynamics of diversity, equity, inclusion and social change.
7. Students will show the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situation.
8. Students will demonstrate the ability to know a need for information or visual literacy and understanding of the dynamics of historic and contemporary inequality and how they shape individual and community power, biases, structural arrangements and social justice bias.
9. Students will enact behaviors and efforts and interact with others on the team to enhance the quality and quantity of contributions made to team discussions.
10. Students will design, evaluate and implement strategies to answer open-ended questions in multiple ways.
11. Students will work to make a difference in the civic life of communities and develop the combination of knowledge, skills and values and motivation to make a difference.
12. Students will develop their cognitive, affective and behavioral skills and characteristics to support effective and appropriate interaction in a variety of cultures.
13. Students will develop their ethical self-identity as they practice ethical decision making skills while learning how to describe and analyze positions on ethical issues.
14. Students will engage in self-reflection regarding one's own history and position in contemporary U.S. society as well as in a global context.
15. Student learners will connect perspectives and integrate relevant experience and academic knowledge from multiple disciplines.

AFST 1120. Race in the Digital Age
Course Description
The digital realm is comprised of storied sites such as commerce, employment, education, therapy, community, political expression, crime, and ideas. Technology has transformed the who, what, where, and why of how we define community and identity in the digital age. However, who you are and where you are still matters, despite the benefits of anonymity in cyberspace. This course will investigate the relevance of race, gender, class, identity, and the "cultural capital" that one can spend in our Digital Age economy. To this end, we will start with critical race scholar, Prof. Derrick Bell's 1990 sci-fi influenced work, which prophesied a 21st century "post-racial" American: entwining over two centuries of racial

designations on an ever-evolving economic marketplace. This course will approach our present "post-racial" moment as an exceptional period for developing new models for identity formation.

Student Learning Outcomes

After completion of this course, students will:

1. Engage in problem-based learning that will allow students to shape their own directions of inquiry and learn about existing analyses of gender, race, and cultural realities within the complexities of science and technology.
2. Make an informed argument about competing scientific, technological, economic, political, and/or social priorities within a socio-cultural historical framework through reflections on entrepreneurial experiential community-based experiences.
    a. Students will apply various perspectives and processes to discover, describe and understand human behavior in complex and diverse ethnic and gendered societies by participating in Global Entrepreneurship Week, Pitch Competitions, and entrepreneurial experiences throughout Albuquerque. By doing this, students will learn how to uncover new opportunities that others miss and reframe identity-based entrepreneurial markets in new ways.
3. Applying analytical, creative, and intuitive thinking styles, present research on the problems, opportunities for business advantage related to the societal strengths and limitations of technology, business, media, and the nuances of the gaming culture related to socio-cultural realities and lead a discussion about it with peers.
4. Develop critical thinking skills that help students develop the wide range of cognitive skills and intellectual dispositions they need to effectively identify, analyze, and evaluate arguments; to formulate and present convincing reasons in support of conclusions; and to make reasonable, intelligent decisions about how their research connects the past to the present.
    a. Using interdisciplinary approaches to solving intellectual programs, be prepared to articulate arguments relating to power and control, especially the ways technologies are implicated in both the perpetuation and potential transformation of structured relations of inequality (class conflict, patriarchy, racism, colonialism) related to cultural and technology studies.
5. Attain facility in critical thinking and writing, especially through the intertwined lenses of race, gender, class, sexuality and identity, by writing critical reflection papers.
6. Using innovation, divergent thinking, and risk taking, students will enhance their knowledge of social and cultural institutions in the digital economy and the values of their society and other societies and cultures in the world by analyzing video games, creating remix videos, attending entrepreneurial events throughout the city.
7. Students will articulate their roles as citizens in a global context and express awareness and appreciation for diverse value systems in a global knowledge-based market economy through their final projects.

AFST 1996. Topics in Africana Studies

Course Description

Varies

Student Learning Outcomes

Varies

AFST 2110. African American History

Course Description

This course surveys the long and turbulent journey of African Americans, the rich culture they have cultivated, and their persistent struggle for freedom from the perspective, interests, aspirations, possibilities and envisioned destinies of African descended peoples. From African antiquity to the 21stth century, students will study: 1) The African background; 2) The Holocaust of Enslavement; 3) Black Resistance and Abolition; 4) Reconstruction; 5) The Jim Crow Era; 6) Civil Rights and Black Power, and 7) The Post-Industrial/Post Civil Rights Era.

Student Learning Outcomes

1. Demonstrate a full ability to analyze and interpret how enslavement and oppression shape the racial, gendered, social, economic, and political realities of African descended people in the U.S.
2. Recognize and respond to ethical challenges/social justice issues that affect African American people.
3. Acquire a critical understanding of the human condition.

AFST 2140. Black Women in the African Diaspora
Course Description
This survey course reviews the contributions of Black women to the Black Diasporic story.
Student Learning Outcomes
1. Students will gain theoretical knowledge of the field of Black feminist thought.
2. Students will explore the relationship between Black feminist theory and the larger more general body of work on feminism.
3. Students will study the historical, political and social experiences of Black women in the Americas.
4. Students will understand the intersecting relationship between race, gender, class and sexuality.
5. Students will critically analyze the representations of Black women in popular culture.
6. Students will engage in critical thinking and critical dialogues and discussions.

AFST 2996. Africana Studies Topics
Course Description
Varies
Student Learning Outcomes
Varies

Agricultural, Consumer, & Environmental Science (ACES)

ACES 1110. Agricultural Leadership Development
Course Description
This course will introduce the student to skill sets necessary to engage in the process of leadership through an applied project. A broad spectrum of principles and applications associated with the College of Agricultural, Consumer and Environmental Sciences will be employed. The development of a specific project through a collaborative process will be required. Students will be engaged in hands-on, real-time experiences applicable to agriculture.
Student Learning Outcomes
Varies

ACES 1120. Freshman Orientation
Course Description
Orientation to University life, including the understanding and utilization of resources that promote University success. Designed to promote success in achieving a career objective and perseverance for degree completion. Promotes a recognition of changes required in moving from high school to the University. Eight weeks in length, required for all freshmen in the College of Agricultural, Consumer and Environmental Science.
Student Learning Outcomes
1. Orient students to NMSU and to the College of Agricultural, Consumer and Environmental Sciences.
2. Develop an understanding of the personal skill set needed for academic success.
3. Develop awareness of the academic and personal resources available to NMSU students.
4. Help students create a peer network that will support their academic and personal success.
5. Strengthen skills in oral and written communications.

ACES 1130. Agricultural Industry Certifications

Course Description

Provides academic course credit for the successful completion of agricultural industry certifications. The successful completion of one approved agricultural industry certification yields three hours of course credit. The completion of two agricultural industry certifications can yield a maximum course credit of six hours. Any third-party costs associated with completing the agricultural industry certification(s) will be the responsibility of the student.

Student Learning Outcomes

1. Demonstrate a comprehensive understanding of the key concepts, tools, and techniques specific to the agricultural certification, including both theoretical knowledge and practical applications relevant to the industry.
2. Achieve proficiency in technical skills related to modern agricultural practices within their chosen certification area, such as precision agriculture, sustainable farming techniques, and the use of advanced agricultural machinery and technology.
3. Develop and apply problem-solving and critical-thinking skills to address real-world challenges in the agricultural sector, utilizing data-driven approaches and industry best practices.
4. Demonstrate an understanding of professional and ethical standards within the agricultural industry, including sustainable practices, environmental stewardship, and adherence to safety and regulatory requirements.

ACES 1210. Financial Fitness for College Students

Course Description

An introduction to personal financial practices in post high school and/or college lives. Emphasis is placed on budgeting, savings, investment, college debt, student loans, credit cards, scams and consumer protection.

Student Learning Outcomes

1. Discuss the importance of personal financial management during college years.
2. Discuss the essentials of following:
    a. paying yourself first and budgeting,
    b. differentiating between needs and wants,
    c. the significance of building and having good credit,
    d. managing debt,
    e. understanding and minimizing student loan debt,
    f. investing,
    g. life success principles, e.g., goal setting, time management, stress management.
3. Choose online financial tools to help them succeed financially.

ACES 1220. Academic Excel®lence

Course Description

Academic curriculum of Excel®lence that includes the development of collaborative learning and student success environment, learning diverse learning styles and multiple intelligences, and developing multi-contextual academic communication styles.

Student Learning Outcomes

1. Demonstrate an understanding of the relationship between time management and academic success.
2. Express a familiarity with college culture.
3. Communicate a comprehension of study skills and test taking strategies.
4. Apply material learned to other aspects to enhance academic Excel®lence.
5. Develop an academic and career life plan that will highlight goals, taking into account life circumstance.
6. Become competent in appropriate professional/academic communication.

Agricultural Economics/ECON (AEEC)

AEEC 1110. Introduction to Agricultural Economics and Business

Course Description

Orientation to agricultural economics and business through the discovery process for the consumer in the food, fiber and natural resource sectors of the global economy. The course will discuss the application of micro- and macro-economic principles as they relate to agricultural economics and business.

Student Learning Outcomes

1. Gain a broad understanding of the role of the consumer in the marketplace for agricultural commodities, producers, agencies and the global market structure.
2. Apply introductory economic principles to applied global situations.
3. Employ economic concepts in the application of production level decision making.
4. Employ economic principles to the basic and global agricultural community.
5. Understand relationships that exist between producers and consumers.

AEEC 1120. Careers in Food and Agribusiness

Course Description

This course provides an orientation to careers in agricultural economics and agricultural business. Students will learn about the agricultural supply chain in New Mexico, the United States, and the world.

Student Learning Outcomes

1. Become more familiar with career opportunities in agricultural economics and agricultural business.
2. Understand skills and characteristics desired by potential employers of Agricultural Economics and Agricultural Business students.
3. Develop greater appreciation of current policy and management issues in agriculture.
4. Become more familiar with faculty and staff in the Department of Agricultural Economics and Agricultural Economics and resources available to students within the Department.
5. Refine written and verbal communication skills.

AEEC 2110. Principles of Food and Agribusiness Management

Course Description

This course introduces business management theory and application of theory related to businesses within the food and fiber supply chain. Topics include management and financial principles, market planning, and organization theory.

Student Learning Outcomes

1. Demonstrate, refine and expand written and oral communication skills.
2. Develop an understanding of basic financial statements, their use and analysis.
3. Understand the roles management and management styles play in modern agribusiness.
4. Learn about the history of agribusiness domestically and internationally.
5. Integrate the role of technology into modern agribusiness management.

AEEC 2120. Introduction to Food and Agribusiness Accounting

Course Description

This course outlines the purpose and methods of keeping and analyzing farm and ranch records. Course topics include financial statements, efficiency measures, analysis of the business, and tax computations.

Student Learning Outcomes

1. Understand the terminology and principles used in modern farm and ranch financial management statements.
2. Evaluate capital investments, analyze farm business performance, and develop tools for financial planning and analysis.
3. Evaluate farm and ranch cash flows.

AEEC 2130. Survey of Food and Agricultural Issues
Course Description
Same as FTSE 2130.
Survey of food and agricultural issues, including: geography of food production and consumption; human-agricultural-natural resource relations; agriculture in the United States and abroad; modern agribusiness; food safety; food, agriculture, and natural resources policy; ethical questions; role and impact of technology.
Student Learning Outcomes

1. Understand of global agriculture including production techniques used in various geographical regions, consumption trends, and political and social constraints.
2. Synthesis information about agricultural issues and make informed arguments.
3. Articulately discuss modern issues in agriculture.
4. Write coherent arguments relative to personal beliefs regarding agricultural issues.

AEEC 2140. Technology and Communication for Business Management
Course Description
This course helps students improve their skills related to data analysis, information management, and communication. Drawing examples from a variety of management, business, technological and research situations, students discover the versatility and functionality of modern computer software. The course emphasizes a 'hands-on' approach.
Student Learning Outcomes

1. Demonstrate an understanding of the terminology used to describe common techniques and concepts in business information systems.
2. Demonstrate mastery of spreadsheet design and use.

AEEC 2996. Topics in Agricultural Economics
Course Description
Specific subjects and credits to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

Agriculture and Extension Education (AXED)

AXED 1110. Introduction to Agricultural, Extension, and Technology Education
Course Description
Orientation to programs, philosophies, competencies and leadership skills needed by professionals in agricultural and technology education, extension education, agricultural communications, and related career opportunities in industry, governmental agencies, and international organizations.
Student Learning Outcomes

1. Orient student to the AXED Department and their role as students.
2. Explore career opportunities (and the related skill sets needed for success) in public schools, career and technical institutions, the cooperative extension service, community, and international development, agricultural communications, agricultural industry associations and public service (e.g., NMDA and USDA).
3. Develop an understanding of the self-leadership skills needed to be effective in a variety of professional and personal environments.
4. Familiarize students with the aspects included within a total program in agricultural or technology education.
5. Strengthen skills in oral and written communications.

AXED 1120. Introduction to Agricultural Communication
Course Description

Students will learn about the history and theories of agricultural communications, be introduced to the degree program, explore careers in the field, and examine the role of media in agricultural communications

Student Learning Outcomes

1. Identify classes needed in the degree program and relevant clubs.
2. Recall important times in history of agricultural communication and journalism.
3. Comprehend the communication process and identify its components.
4. Identify effective and efficient media for agricultural communication.
5. Analyze the various roles and uses of media in agriculture communication.
6. Apply theories of communication and journalism to class assignments.

AXED 1130. Techniques in Agricultural Mechanization

Course Description

Development of competencies in agricultural mechanics including safety, tool identification, operation and maintenance of hand and power tools, cold metal, drafting, and plumbing procedures. Designed for any major wishing to improve mechanical skills needed in agriculturally related occupations in education and industry.

Student Learning Outcomes

1. To understand basic drafting language used in orthographic and isometric drawings.
2. To develop an understanding of the proper use and safety of basic hand and power tools.
3. To develop skills needed to operate basic hand and power tools correctly.
4. To develop an understanding of surveying methods and building layout for construction.
5. To develop an adequate level of competence in workshop techniques.
6. To prepare students to properly teach and demonstrate these techniques to others who may use them as a means of earning a living.

AXED 2110. Metal Fabrication

Course Description

Instruction and skill development in process and procedures of metal fusion, including gas and electric welding techniques, safety, and oxyacetylene cutting and welding. Designed to improve mechanical skills needed in agriculturally related occupations in education and industry.

Student Learning Outcomes

1. To develop students' understanding and appreciation for metal fabrication, design and teaching.
2. To develop in the student an adequate level of competence in shop work techniques, so that the student may be able to properly teach and demonstrate multiple metal fabrication techniques to others who may use them as a mean of earning a living.
3. To develop the student's fundamental techniques in shielded metal arc welding, oxy-acetylene welding and cutting operations, metal inert gas welding (MIG), and gas tungsten-arc welding as needed in repair and construction of agricultural equipment.
4. Student will understand appropriate shop management techniques and have an appreciation for mechanized agriculture.
5. To assist the student in developing an understanding and comprehension of the fundamental principles that apply to the area of basic shop work included in this course, such as proper selection of electrodes, oxy-acetylene filler rods, welding processes best suited for given welding conditions, the proper tool for the job, etc.
6. To develop in the student comprehension of safety practices that apply to the areas of basic shop work, tools, and equipment required in the course.

AXED 2120. Effective Leadership and Communication in Agriculture

Course Description

Theory and practice in leadership and communication for professionals who must work effectively in leadership and supervisory roles with people in agricultural business, industry, government agencies, and education. Course focuses on contemporary leadership theories. Oral communication skills in informative and persuasive speaking, parliamentary procedure, and for small groups are developed.

Student Learning Outcomes

1. Understanding Leadership.
    a. Definitions of Leadership
    b. Agricultural Education, FFA , Leadership
    c. Leadership Categories
    d. Democratic, Authorization, and Situational Leadership
    e. Personality and Leadership Relations
    f. Developing Leaders
    g. Personal Leadership Development
    h. Ability, Experience, and the Opportunity to Lead
    i. Leadership in the Workplace
    j. Human Relations, Technical, and Conceptual Skills
2. Communication Skills.
    a. Communication and Leadership
    b. The Purpose of Communication
    c. Forms of Communication
    d. Communication Barriers and Styles
    e. Verbal and Nonverbal Communication
    f. Feedback
    g. Self-Communication and Interpersonal Communication
3. Leading Individuals and Groups.
    a. Group Dynamics and Team Building
    b. Democratic Group Leadership
    c. Importance of Groups
    d. Types of Groups
    e. Organizing Groups
    f. Group Dynamics, Development, and Discussion
4. Conducting Successful Meetings.
    a. Skills Developed by Bring an Officer
    b. Basic Meeting Functions
    c. Characteristics of a Good Meetings
    d. Planning and Preparing for Meetings
    e. The Meeting Room
    f. Committees
    g. Informative and Motivational Meetings
    h. Group Member Involvement
    i. Officer and Member Responsibilities
    j. Developing a Program of Activities

AXED 2130. Early Field-Based Experience

Course Description

Firsthand view of the roles of professional educators through field experiences with Cooperative Extension or other government agencies. Includes 4 weeks of classroom instruction and 30 hours of observation in a work setting.

Student Learning Outcomes
As part of this class, you will be able to:

1. Identify successful characteristics, tips and strategies that an agricultural education professional may use as part of their program.
2. Identify key components of an agricultural education program.
3. Actively observe a local agricultural education program.
4. Identify ways that your agency program networks and interacts with clientele and community.

AXED 2140. Early Field-Based Experience in Agricultural and Technology Education
Course Description
First-hand view of the roles of professional educators through field experiences in a secondary agricultural or technology education setting. Includes 4 weeks of classroom instruction and 30 hours of observations in a classroom setting. Consent of Instructor required.
Student Learning Outcomes

1. Explain student outcomes related to agricultural education.
2. Examine the role of agriculture teachers to accomplish the purpose of agricultural education.
3. Explain the relationship between motivation and learning.
4. Describe how teachers facilitate learning in an agriculture classroom.
5. Reproduce the three-circle model of agriculture education.
6. Provide an example of instruction in each of the three circles and instruction that happens in more than one circle.
7. Deliver instruction in a classroom or laboratory setting.
8. Deliver instruction related to FFA.
9. Deliver instruction related to SAEP.

AXED 2996. Topics
Course Description
Specific subjects and credits to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

Agronomy (AGRO)

AGRO 1110C. Introduction to Plant Science
Course Description
This is an introductory course for understanding plant science. Basic biological, chemical, and physical principles of various plants are covered. The focus of this course is on plants/crops used in agriculture production of food and fiber as well as pasture and range plants. Plant taxonomy and soil properties will also be discussed.
Student Learning Outcomes

1. Describe the basic structure of plants including growth and function.
2. Define photosynthesis, respiration, and translocation.
3. Utilize plant taxonomy techniques to identify various plants.
4. Classify soils based on their chemical and physical properties.
5 Explain how different soil properties affect plant growth and sustainability.

AGRO 2160. Plant Propagation
Course Description
Same as HORT 2160.

Practical methods of propagating horticultural plants by seed, cuttings, layering, grafting, division and tissue culture. Examination of relevant physiological processes involved with successful plant propagation techniques

Student Learning Outcomes

1. Practical methods of propagating plants by seed, cuttings, layering, grafting, division, and tissue culture through experiential, "hands-on" laboratories.
2. Relevant physiological principles involved in propagating horticultural plants through lecture discussions and readings.

AGRO 2996. Topics in Agronomy

Course Description

Specific subjects and credits to be announced in the Schedule of Classes.

Student Learning Outcomes

Varies

Air Force Aerospace Studies (AFAS)

AFAS 1120. Aerospace Studies I

Course Description

Survey course designed to introduce students to the U.S. Air Force and U.S. Space Force and provides an overview of the basic characteristics, missions, and organization of the Air Force and Space Force.

Student Learning Outcomes

1. Assess the role of self-mastery as a critical component of Department of the Air Force (DAF) professionalism and its importance for effective followership and leadership.
2. Illustrate the relationship between teamwork, problem-solving, and the DAF culture of innovation by engaging in collaborative discussions and activities.

AFAS 1121. Aerospace Studies II

Course Description

Survey course designed to introduce students to the U.S. Air Force and U.S. Space Force and provides an overview of the basic characteristics, missions, and organization of the Air Force and Space Force.

Student Learning Outcomes

1. Integrate the historical contributions of the Department of the Air Force (DAF) to national security with contemporary leadership challenges in aerospace operations.

AFAS 1192L. Leadership Laboratory I

Course Description

Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air and Space Force second lieutenants and complement the AFROTC academic program.

1. Demonstrate leadership skills in dynamic, team-based environments through problem-solving exercises, group drills, and simulated field operations to prepare for second lieutenant roles.

AFAS 1292L. Leadership Laboratory II

Course Description

Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air and Space Force second lieutenants and complement the AFROTC academic program.

Student Learning Outcome

1. Execute advanced leadership strategies during simulations, demonstrating adaptability and effective problem-solving in high-stress environments.

AFAS 2192L. Leadership Laboratory III
Course Description
Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air and Space Force second lieutenants and complement the AFROTC academic program.
Student Learning Outcomes
1. Engage in experiential leadership and management exercises that develop competencies needed for command roles in the Air and Space Force.

AFAS 2229. Field Training Fitness Prep
Course Description
Prepares cadets for leadership through various methods of military fitness training. Course instills Air Force physical fitness standards and provides training in all aspects of health, including physical fitness, nutritional awareness, stress management, and other aspects of health. Requires lab activities in the fitness center.
Student Learning Outcomes
None Available

AFAS 2250. Aerospace Studies III
Course Description
Provides a fundamental understanding of both leadership and team building. The lessons and course flow are designed to prepare cadets for field training and leadership positions in the detachment.
Student Learning Outcomes
1 Analyze leadership and team-building principles and apply them in scenarios designed to prepare cadets for field training and leadership roles within the detachment.
2. Apply conflict management techniques and team-building activities to effectively manage diverse team dynamics in operational settings.

AFAS 2251. Aerospace Studies IV
Course Description
Provides a fundamental understanding of both leadership and team building. The lessons and course flow are designed to prepare cadets for field training and leadership positions in the detachment.
Student Learning Objectives
1. Evaluate team building and leadership strategies, identifying strengths and areas for improvement in real-world scenarios to prepare for field training leadership roles.
2. Lead conflict management and team-building activities that reflect operational challenges in the field, ensuring effective team performance under pressure.

AFAS 2292L. Leadership Laboratory IV
Course Description
Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air and Space Force second lieutenants and complement the AFROTC academic program.
Student Learning Outcome
1. Engage in experiential leadership and management exercises that develop competencies needed for command roles in the Air and Space Force.

Artificial Intelligence Machine Learning (AIML)

AIML 1150. Artificial Intelligence and Society
Course Description

This course provides a broad, interdisciplinary, and non-technical introduction to the fundamental concepts of Artificial Intelligence (AI), its historical development, its transformative impact on various aspects of society, as well as how AI systems perceive, reason, learn, and interact with humans. Students will learn to use artificial intelligence responsibly, understanding both its potential and the ethical considerations surrounding its use. The course emphasizes communication, critical thinking, creativity, digital literacy, and responsible engagement with AI in a global context.

Student Learning Outcomes

1. Demonstrate an understanding of what AI is in general.
2. Analyze and evaluate the impact of AI on individuals and society with particular regard for ethical use of AI, including environmental impacts.
3. Recognize how AI systems are designed by humans to process information, identify patterns, and serve societal needs and wants.
4. Understand how AI's training data, prompts, and personalization can contribute to biased outputs.
5. Understand the differences between AI outputs and human thinking and reasoning.
6. Employ effective and creative processes when using generative AI.
7. Engage in reasoned civil discourse regarding AI and appropriate and ethical uses of AI.

AIML 1310. Introduction to Artificial Intelligence

Course Description

Cover basic concepts and applications of artificial intelligence (AI), including AI project cycles. Focus on issues surrounding AI including ethics, bias, culture, regulations, and professional expectations.

Student Learning Outcomes

1. Identify and describe emerging technologies in AI and future impacts.
2. Summarize basic function and structure of AI systems.
3. Describe issues relating to ethics, bias, design, training, and social impact of AI systems.
4. Identify and describe the stages and significance of the AI project cycle.
5. Create AI models, utilizing training and testing with datasets.

AIML 1320. Fundamentals of Artificial Intelligence

Course Description

Compares and applies machine learning solutions for computer vision, natural language processing, and data analytics.

Student Learning Outcomes

1. Apply an AI solution given a test data set and desired outcome.
2. Evaluate AI data sets.
3. Explain AI training and evaluation processes.
4. Plan the construction of a new AI solution given a problem to solve.

AIML 2310. Deep Learning

Course Description

Deep learning mimics the human brain enabling systems to make predictions with incredible accuracy. Students in this course identify the main deep learning algorithms and applications.

Student Learning Outcomes

1. Identify deep learning algorithms.
2. Choose deep learning algorithms for specific applications.
3. Review and recommend applications that use deep learning.

AIML 2320. Natural Language Processing

Course Description

Natural language processing machines understand and respond to text or voice with text or speech of their own. Students in the course identify the main natural language processing algorithms and applications.

Student Learning Outcomes

1. Identify natural language processing algorithms.
2. Choose natural language algorithms for specific applications.
3. Review and recommend applications that use natural language processing.

AIML 2330. Generative and Agentic AI

Course Description

This course introduces students to the foundations and applications of generative and agentic artificial intelligence. Students explore how modern models create text, images, and code, and how AI agents plan, use tools, and interact autonomously with digital environments. Through hands-on exercises, students learn prompt engineering, model mechanics, agent architecture, and multi-agent collaboration. Ethical considerations, safety, and real-world applications are emphasized throughout. The course culminates in a capstone project where students design and build either a generative AI system or a functional AI agent.

Student Learning Outcomes

1. Explain foundational concepts of generative and agentic AI, including models, mechanisms, and real-world applications.
2. Apply prompt engineering techniques and advanced prompting strategies.
3. Analyze how generative models work internally (neural nets, transformers, embeddings, tokenization) and communicate this clearly.
4. Evaluate, design, and implement generative AI use cases across modalities (text, code, images, audio, video) responsibly.
5. Explain agentic AI principles (autonomy, memory, planning, tool use) and contrast with generative AI.
6. Design, build, and evaluate AI agents (including multi-agent systems) with modern frameworks.
7. Critically assess ethical, safety, and governance issues for generative and agentic AI.
8. Create and present a capstone project applying generative or agentic AI to real-world problems or creative work

American Heart Association (AHAC)

AHAC 1110. Basic Life Support for Health Care Providers

Course Description

This class covers life-saving methods for healthcare professionals that include adult, infant, and child resuscitation, prevention of disease transmission and the use of a bag-valve mask. Upon successful completion of this course, students will receive BLS-CPR certification through the American Heart Association

Student Learning Outcomes

1. Successfully demonstrate competency in all required skills
2. Successfully demonstrate competency in the three final skill scenarios.
3. Correctly answer at least 84% of the written examination.

AHAC 2110. Basic Life Support for Health Care Providers Instructor

Course Description

None Available

Student Learning Outcomes

None Available

AHAC 2111 Advanced Cardiac Life Support

Course Description

None Available
Student Learning Outcomes
None Available

AHAC 2112. Pediatric Advanced Life Support
Course Description
None Available
Student Learning Outcomes
None Available

American Sign Language (SIGN)

SIGN 1110. American Sign Language I
Course Description
American Sign Language I is an introductory level language course in the language of the American Deaf Culture. Content includes ASL vocabulary and conversational skills; linguistic features of ASL; and skills in narrative/storytelling. In-class activities, comprehension and expressive examinations, narrative and storytelling assignments in addition to semester projects are venues for students to demonstrate their learning. In addition, Deaf Culture and Deaf Community issues are addressed.
Student Learning Outcomes

1. Engage in basic conversations using ASL, such as introducing oneself, exchanging personnel information, and talking about one's surroundings.
2. Demonstrate the use of grammatical structures, including spatial referencing, use of classifiers, role shifting, ASL syntax, and non-manual signals (NMS).
3. Demonstrate clear sign production using an understanding of sign parameters: hand shapes, movement, location, palm orientation, and NMS in targeted lexicon.
4. Demonstrate the use of basic ASL vocabulary and expressions necessary for conversations about real-life situations.
5. Evaluate and provide feedback concerning peers' and one's own uses of ASL.
6. Develop culturally appropriate behaviors and conversation strategies within a variety of contexts for interacting with people who are Deaf.
7. Demonstrate effective use of comprehension and expressive ASL skills through narrative and/or storytelling activities.
8. Describe issues of the American Deaf community and Culture.

SIGN 1120. American Sign Language II
Course Description
American Sign Language II is a continuation course that builds on concepts and skills developed in American Sign Language I. Students gain further exposure to ASL structure and grammar, and Deaf Culture and the Deaf community. Emphasis is on increasing students' ability to comprehend other signers and express themselves with more elaboration when conversing or presenting in ASL.
Student Learning Outcomes

1. Further develop basic conversational skills in ASL, taking on more complicated topics.
2. Apply knowledge of ASL grammar, including classifiers, spatial referencing and agreement, role shifting, and non-manual markers.
3. Develop ASL vocabulary, fingerspelling, number, narrative and storytelling skills.
4. Evaluate and provide feedback concerning peers' and one's own uses of ASL.
5. Demonstrate effective use of comprehension and expressive ASL skills through conversation, discussion, narrative and/or storytelling activities.

6. Demonstrate knowledge and appreciation of the American Deaf community and ASL.
7. Through first-hand experience in the American Deaf community and ASL, relate and reflect on perspectives of the community.

SIGN 1130. Introduction to Deaf Studies

Course Description

Provides an overview of cultural issues and historical perspectives, education for deaf and hard-of-hearing children, laws pertaining to educational choices, and rights of the deaf. The course also addresses sociological influences contributing to life for deaf persons in America and explores the role of technology, organizations, and relevant legislation. Additional topics include etiologies, demographics and communication methods.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe the significant developments in the history of deafness.
2. Discuss the contributions made by deaf and hearing towards a stronger Deaf Community.
3. Contrast the cultural perspective of deafness to the broader cultural view.
4. Describe multiple causes of deafness and their impact on communication, the family, and education.
5. Describe the history of current educational programs & trends in America.
6. Recognize role and contributions of significant organizations and legislation in empowering the Deaf Community.
7. Utilize the basic technologies that enhance communication access for deaf and hard of hearing persons.

SIGN 1135. Introduction to ASL Professional Interpreting.

Course Description

A foundation course that introduces the profession of sign language interpreting. This course discusses the role, function, responsibilities, and communication strategies of ASL interpreters, including the situational application of national standards and the Code of Professional Conduct. It will also include major topics including history, organizations, and ethics, interpreting settings, certification, career information and current trends in the field.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Outline the history of the profession of Sign Language interpreting.
2. Identify the current federal and NM state laws affecting interpreters.
3. Define the rights and responsibilities of both the hearing and deaf consumers of interpreting services.
4. Apply RID Code of Ethics to interpreting situations.
5. Define terminology relevant to the field of interpreting.
6. Identify professional career goals.

SIGN 1140. Basic American Sign Language Linguistics

Course Description

An introduction to grammar and linguistic systems of American Sign Language (ASL). The course will focus on proper usage of ASL within Deaf culture and will also expose students to phonology, morphology, lexicon, syntax, discourse, and language acquisition, aspects of using sign language, and how visual languages differ from and are similar to spoken language.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe the history and linguistic origins of ASL, as well as other visual languages.
2. Identify key dialectal variations of language usage between ASL and English, such as accents and word order.
3. Describe and distinguish the differences between morphological (word forms) and syntactical (word order) components within ASL.

4. Demonstrate the ability to distinguish between semantics (word meaning) and contextual connotations of ASL and English and apply proper language in translation.
5. Apply proper grammar, usage, and syntax of ASL in a variety of settings.

SIGN 2110. American Sign Language III

Course Description

This is an intermediate level course in American Sign Language (ASL). Expected areas of intermediate skill and knowledge development include: language comprehension and production, conversational use, narratives, ASL language features and further knowledge of and interaction with Deaf culture and the Deaf community.

Student Learning Outcomes

Through in- and out-of-class activities, assignments and projects, the student will:

1. Demonstrate intermediate ASL vocabulary, conversation and narrative/storytelling skills.
2. Demonstrate fundamental ASL features including visual/spatial orientation, constructed dialogue and action, spatial referencing, classifiers, non-manual behaviors and syntax/word order.
3. Demonstrate appropriate use of cultural behaviors and conversational strategies.
4. Translate written and spoken English to ASL and vice versa.
5. Self-evaluate and provide feedback to peers concerning ASL usage.
6. Examine the culture of the American Deaf community through engaging in community activities and its language.

SIGN 2120. American Sign Language IV

Course Description

American Sign Language (ASL) IV is a continuation of the intermediate level ASL III course. Emphasis is on further development of students' comprehension and production skills through a more advanced study of ASL discourse, grammatical structures, and semantics. Creative use of expression, classifiers, body posture, and signing space will be practiced along with videotext viewing and video production. Topics in Deaf culture and interaction with the Deaf community will be integral to the course.

Student Learning Outcomes

1. Demonstrate advanced-intermediate level comprehension and production skills incorporating complex ASL grammatical features, including classifiers, non-manual signals, role shifting, and spatial organization.
2. Identify and understand ASL idioms/expressions and how they are used in ASL discourse.
3. Comprehend and discuss ASL texts on a variety of topics, signed by a variety of Deaf people.
4. Demonstrate narrative competence through signed presentations, both prepared and spontaneous.
5. Demonstrate an understanding of ASL-English equivalents through translation tasks.
6. Use self-evaluation and peer/instructor feedback to revise one's video ASL texts.
7. Develop cultural competence through exposure to and reflection on Deaf culture.

SIGN 2125. Introduction to Signed Language

Signed languages and signing systems frequently used by deaf people are discussed. Cross-linguistic and cross-cultural information on ASL will be discussed. Focus is on ASL, signed English and fingerspelling, and the most common manually coded signed systems. In addition to the acquisition of basic vocabulary and grammar, this course emphasizes the knowledge of the characteristics, values and cultural and linguistic diversity of the Deaf Culture.

Student Learning Outcomes

1. Students will effectively communicate at a basic level with Deaf/Hard of Hearing individuals representing a cross-section of the deaf community.
2. Students will demonstrate knowledge of the basic education and access issues faced by the American Deaf community.

3. Students will demonstrate knowledge of the differences between American Sign Language and manually coded English systems.
4. Students will identify basic linguistic principles and describe the history of the recognition of American Sign Language.
5. Students will describe the cultural diversity and dynamics of the Deaf Community.

SIGN 2130. Fingerspelling

Course Description

This course will assist the student in acquiring fluent fingerspelling through the use of intense receptive and expressive drills. Lexical borrowing and the semantic and morphological categories involved in restructuring English finger spelled citation forms will be studied. Recordings of a variety of fingerspelling styles will be presented to ensure that the students acquire a comprehensive background. Students will also be recorded to allow for self-analysis of their fingerspelling skills.

Student Learning Outcomes

1. Students will demonstrate predictive strategies for the comprehension of finger spelled words and advanced numerical systems based on linguistic, cultural, and contextual information.
2. Students will demonstrate fluency in comprehension and production of finger spelled words and numbers.
3. Students will demonstrate comprehension of finger spelled words and the numerical systems in ASL.
4. Students will describe current research on the perception and production of fingerspelling skills.

SIGN 2135. Fingerspelling and Numbers

Course Description

Provide students with a general knowledge of various techniques of hand fingerspelling and number signing skills. Concentration on receptive and expressive skills along with focus on methods, theory, and skill development including speed, dexterity, clarity, and loan signs. The course also includes advanced use of numbers, prefixes, suffixes, and polysyllabic words.

Student Learning Outcomes

1. Demonstrate fluency in comprehension and production of finger spelled words and numbers.
2. Demonstrate comprehension of finger spelled words and the numerical systems in ASL.
3. Demonstrate strategies for the comprehension and incorporating finger spelled words and advanced numerical systems based on linguistic, cultural, and contextual information.
4. Describe current research on the perception and production of fingerspelling skills.

SIGN 2140. American Sign Language Classifiers

Course Description

An advanced course in the American Sign Language (ASL) morphemic system known as classifiers. The course is for advanced signers or interpreters with extensive interpretation experience who wish to increase classifier competence. Instruction involves a systematic and sequential approach to teaching classifiers. Students learn how to create mental pictures of what needs to be signed during interpretation by developing the basic building blocks of successfully signed narratives with classifiers. The course enhances signers' existing vocabulary and grammar with classifiers to assist in their ability to conjure up mental representations of narratives effectively in three-dimensional images.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify examples of handle, entity, and trace classifiers in short videos of ASL discourse.
2. Demonstrate skill in using handle, entity, and trace classifiers by presenting short passages in ASL which incorporate one or more of these types of classifiers.
3. Recognize and describe the differences between the non-manual signals (NMS) used to show emotion and those used to provide linguistic information.

4. Produce one or more short stories in ASL that incorporate several examples of handle, entity, and trace classifiers and that also effectively use NMS and character role-shift.
5. Summarize a short story in either paraphrased ASL or written English that incorporates examples of handle, entity, and trace classifiers.

SIGN 2145. Advanced Fingerspelling, Numbers, and Classifiers

Course Description

Further studies in advanced fingerspelling, numbers, classifiers, and non-manual grammatical signals, including development of techniques with concentration on receptive and expressive skills, Additionally, the class focuses on the use of face, eyes, and head to convey grammatical information and continues work on methods, theory, and skill development with signs**.**

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate knowledge of the techniques of fingerspelling, numbers, and classifiers while incorporating them into ASL (structure and grammar).
2. Demonstrate the use of fingerspelling, numbers, and classifiers with other signers.
3. Analyze and compare various techniques of fingerspelling, numbers, and classifiers.
4. Produce one or more short stories in ASL that incorporate several examples of all components of classifiers, fingerspelling, and numbers.

SIGN 2150. Lexical Semantics for Transliteration

Course Description

Articles, videotapes, and supplemental materials will be used to demonstrate Various codes for English; these codes may be contrasted with the natural language of ASL. Periodically, students will be videotaped to aid in the analysis of their transliteration production.

Student Learning Outcomes

1. To examine polysemy of the English lexicon that transliterators must be concerned with, ranging from semantic prototypes to word meanings that are essentially fluid.
2. To provide class participants with the opportunity to improve their ability to sign and speak simultaneously while using appropriate American Sign Language grammatical features.
3. To provide an overview of different signed systems that attempt to visually represent English. The employment of signs created to represent English tenses, suffixes, prefixes and syllables are briefly examined and discussed.
4. To explore metonymy and metaphor in American Sign Language and to determine how this mapping can assist with the interpretation of signed English transliteration.

SIGN 2210. American Sign Language I

Course Description

This course in American Sign Language is designed to develop the students' receptive, expressive and conversational skills. Students will also develop narrative skills in application of these receptive and expressive skills. ASL vocabulary and linguistic features are introduced, as well as fundamental concepts about the Deaf community and culture.

Student Learning Outcomes

1. Students will demonstrate emerging expressive skills through production of targeted signs, fingerspelling, numbers, and selected ASL grammatical structures through in-class activities, homework assignments, and narratives.
2. Students will demonstrate emerging receptive skills development through in-class activities, and a final exam.
3. Students will demonstrate knowledge about the Deaf community, ASL grammar, and Deaf culture from textbooks, lectures, and videos through in-class activities, workbook assignments, and written exams.

SIGN 2214. Introduction to Deaf Culture & the Deaf Community

Course Description
Provides a broad introduction to concepts related to the Deaf, Deaf culture and the languages of people withing Deaf communities in particular and Deaf society in general. The course examines current issues and languages in the Deaf community, including technology and diversity.
Student Learning Outcomes
1. Discuss the characteristics of North American Deaf/Hearing communities.
2. Recognize and define aspects of power and oppression including cultural appropriation, hearing privilege, audism, linguicism and ableism.
3. Examine the labels and stereotypes of Deaf people in historical context (cultural vs. pathological perspectives on Deaf people.
4. Identify the Deaf community's historical events, person(s), and organizations that impact the Deaf community.
5. Explore the traditions of Deaf people – Deaf history, Deaf folklore, Deaf Art/De'VIA, ASL literature and Deaf literature.

SIGN 2220. American Sign Language Level II
Course Description
American Sign Language II is a continuation course that builds on concepts and skills developed in American Sign Language I. Students gain further exposure to ASL structure and grammar, and Deaf Culture and the Deaf community. Emphasis is on increasing students' ability to comprehend other signers and express themselves with more elaboration when conversing or presenting in ASL
Student Learning Outcomes
1. Further develop basic conversational skills in ASL, taking on more complicated topics.
2. Apply knowledge of ASL grammar, including classifiers, spatial referencing and agreement, role shifting, and non-manual markers.
3. Develop ASL vocabulary, fingerspelling, number, narrative and storytelling skills.
4. Evaluate and provide feedback concerning peers' and one's own uses of ASL.
5. Demonstrate effective use of comprehension and expressive ASL skills through conversation, discussion, narrative and/or storytelling activities.
6. Demonstrate knowledge and appreciation of the American Deaf community and ASL
7. Through first-hand experience in the American Deaf community and ASL, relate and reflect on perspectives of the community.

SIGN 2996. Topics in American Sign Language
Course Description
Specific subjects and credits to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

SIGN 2998. Internship in American Sign Language
Course Description
Specific subjects and credits to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

American Studies (AMST)

AMST 1105. Introduction to American Studies
Course Description

This course is an interdisciplinary exploration of U.S. history, society, thought, and imagination with special focus on the Rio Grande Valley as a microcosm of the nation. This course will examine the social construction of identity and difference, the culture of everyday life, and local and global perspectives of the United States, historically, in our present moment, and with a look toward the future. This course will introduce students to prevalent theories and methods within the discipline including, but not limited to critical race, feminist, and post-colonial theory.

Student Learning Outcomes

At the conclusion of the course, you should be able to:

1. Demonstrate critical thinking in the evaluation and analysis of textual, visual, and aural sources.
2. Identify and apply significant terms, concepts, and methods in the interdisciplinary field of American Studies.
3. Describe and analyze patterns and the ongoing work of understanding and appreciating the diversity of the American experience.

AMST 1110. Introduction to Environmental & Social Justice

Course Description

An introduction to the socially and politically constructed values directing Americans' attitudes toward nature, science and technology and to the impacts of those attitudes on built and natural environments regionally, nationally and globally.

Student Learning Outcomes

At the conclusion of the course, you should be able:

1. To articulate how your beliefs, assumptions, and values related to science, technology and the environment are influenced by factors such as politics, economics, culture, biology, and history.
2. To identify, describe and explain how science, technology and the environment are influenced by social structures, institutions, and processes within the contexts of complex and diverse communities.
3. To demonstrate critical analytic skills, using appropriate examples, critical reasoning, and diverse evidence to support their positions and relate these understandings to the reciprocal interactions between self, society, and the environment.
4. To explain issues, concepts and key words such as climate change, nature/culture, race, gender, technological determinism, doubt, evolution, etc., by exploring their contemporary usages while situating them in diversity of experiences across a range of historical periods and cultural perspectives.
5. To relate contemporary issues, social processes and models of thought, to broader political, economic, cultural and historical contexts. Draw from these social and historical contexts to critically evaluate contemporary problems, issues and modes of expression related to science, technology and the environment.

AMST 1120. Introduction to Gender, Sexuality & US Empire

Course Description

While Gender Studies is truly a vast field of inquiry, there is great symmetry in the ways in which feminist scholars have been engaged with questions as to how disciplinary apparatuses and discourses shape and construct "gender." This course will begin with the process of peeking into this exciting scholarship, focusing on the "intersectional ties" of identity-that is, how gender has been produced in and through other categories of identity, such as race, class, sexuality, and nation. While there are numerous ways to structure such a course, this course will maneuver through the field of Gender Studies with an eye toward feminisms, race, and U.S. Empire through processes of incarceration, colonialism, and war). In this course, we will explore how the "intersectional ties" of identities have been constructed within a range of institutions, discourses, and processes, such as law, medicine, popular culture, nationalism, colonialism, and empire. Throughout, we will pay close attention to how discourses normalize certain types of identities, practices, and behaviors, and mark others as deviant or unnatural. And, of course, we will look for strategies to contest these productions. This will necessarily place us within key debates in feminist studies of power, agency, activism, and justice at the individual, community, national, and transnational levels, and allow us to end the course by interrogating the role of Gender Studies in regard to current U.S. occupation in the

Middle East and Native America. This course will provide a strong foundation for you to pursue studies in feminist, queer, critical race, and postcolonial theories.

Student Learning Outcomes

1. To familiarize you with key concepts in feminist scholarship, such as social construction, identity, intersectionality, difference, power, agency, normativity.
2. To help you obtain a critical analysis as to how these concepts are deployed within different institutional and disciplinary discourses.
3. To provide a strong understanding of the histories and theories of the intersectionality of identities and to gain a critical analysis as to the relationships between sex, gender, sexuality, race, class, and nation.
4. To interrogate the norms of whiteness, heterosexuality, middle-class, and U.S. nation-state (particularly via reigning discourses of citizenship, rights, and democracy) from diverse points of postcolonial, racial, class, and LGB TQ writing and analysis.
5. To introduce you to the bodies of study that encompass "Gender Studies," such as women of color studies, transnational feminist studies, queer studies, LGB T studies, postcolonial and critical race theories.
6. To enrich your reading skills and teach you how to read thoughtfully and productively in ways that allow you to locate and engage with the authors' arguments, and how to reach your own conclusions based on a thorough understanding of the "text" (broadly understood).

AMST 1130. Introduction to Politics in Popular Culture

Course Description

This course considers a range of theoretical approaches to the study of popular culture, including cultural studies and feminist theory as well as key concepts and key debates in the study of popular culture. It explores the ways popular culture is implicated in the formation of social determinants such as ethnicity, race, gender, class, and sexuality and conversely, how these social determinants are implicated in the formation of popular culture. The course also considers the ways in which popular culture serves as a site of ongoing political struggle. The aim of the course is to provide students with a critical vocabulary to make sense of the broader significance and relevance of popular culture--why popular culture matters. To accomplish this, we will investigate a number of popular expressive forms including magazines, fandom, digital music, and hip hop.

Student Learning Outcomes

At the end of the course, students should be able to

1. Identify what are considered major approaches to the study of popular culture.
2. Identify key concepts and key debates in the study of popular culture.
3. Articulate how the study of popular culture cannot be divorced from politics and power relations.

AMST 1140. Introduction to Critical Race and Indigenous Studies

Course Description

This course offers an introduction to the field of American Studies through an interdisciplinary examination of race, class and ethnicity in the United States and in a global context. Using a schedule of keywords, we will engage a range of central themes and concerns. We will examine histories of injustice, and resistance to injustice. Readings and assignments encourage students to notice the privilege and oppression at the core of U.S. society. The class will challenge the widely accepted assumption that we as a nation have moved beyond race and racism. Through readings, films, online sources, and our assignments, this course aims to increase our knowledge of inequity in our society, and the impact of those inequities on various societies and individuals.

Student Learning Outcomes

As a result of this course, successful students will be able to:

1. Demonstrate knowledge of information sources on race, ethnicity and class.
2. Demonstrate your understanding of the issues of race, class and ethnicity in America.

3. Demonstrate your understanding and appreciation of regional diversity in the U.S.
4. Define racial and ethnic diversity globally and its consequences.
5. State a hypothesis on race, ethnicity and/or class and write a research paper on the topic of your choice.
6. Discuss cultural competency as a lifelong activity.

AMST 1150. Introduction to Southwest Studies
Course Description
This course introduces the complex histories, social issues, and cultural experiences of peoples of the southwestern United States. Course materials and discussions also demonstrate the possibilities of interdisciplinary study of regional American culture. It is multicultural in content and multidisciplinary in methodology. We will examine cross-cultural relationships among the peoples of the Southwest within the framework of their expressions and experiences in art, culture, religion; social and political economy.
Student Learning Outcomes
Upon the completion of this course will:
1. Be able to identify how historical social, economic, political, religious and ecological factors shape communities in the southwest borderlands region and those communities' relation to the United States, Mexico, and the world.
2. Comprehend how people including but not limited to indigenous and immigrant communities in the Southwest use culture, art, and politics to conceptualize, reinforce, and contest the social and ecological factors that shape them and their communities.
3. Be able to analyze and compare the historic and contemporary cultural expressions of the Southwest.
4. Be able apply knowledge of southwest studies through the conduct of interdisciplinary research method.

AMST 1160. Environment, Science, & Technology
Course Description
This course examines how theoretical concepts of environment, science, and technology are bound up with everyday practices and broader understandings of nature and society (i.e., bodies, natural resources, race, gender, and sexuality). This course is interdisciplinary in its approach.
Student Learning Outcomes
Students will be able to:
1. Describe the social construction of such concepts as "environment," "science," and "technology"
2. Identify cultural assumptions underlying notions of scientific progress, environment, green, sustainability Explain how concepts of gender, race, sexuality, disability and class form and are formed by environment, science and technology.
3. Outline the roles of environment, science and technology in the creation of political and economic policies.

AMST 1170. Introduction to Asian American Studies
Course Description
This course explores the diverse histories and contemporary social, cultural, and political experiences of Asian Americans and Pacific Islanders in the United States. We will take an interdisciplinary approach as we examine the formation of “Asian American,” who is included and excluded from the category, how it functions as a diverse network of solidarity, as well as an imperfect racialization whose meaning shifts over time. The course introduces students to the key scholarly works, theories, and frameworks that inform the field of Asian American Studies and considers the political stakes of academic research on Asian American and Pacific Islander communities. We will focus on the intersecting categories of race and ethnicity, gender, sexuality, and class as well as major themes and threads including U.S. imperialism and colonialism, migration, labor, popular culture, citizenship, and racialization among others. The course provides the opportunity to examine the cultural and political formations of Asian

American and Pacific Islander people and communities which encompass over 50 cultures and societies including but not limited to those of East, South, Southeast, Western Asia, North Africa, and the Pacific Islands.

Student Learning Outcomes

1. Discuss the history of Asian Americans in relation to the United States and empire.
2. Articulate the historical formation of Asian American studies and the key concepts, theories and debates that constitute the field.
3. Examine Asian American history and contemporary politics through a decolonial lens.
4. Critically analyze media through the lens of Asian American cultural theory.
5. Develop a research topic related to Asian American studies.

AMST 1996. American Studies Topics

Course Description

Varies

Student Learning Outcomes

Varies

AMST 2110. American Life and Thought

Course Description

This course introduces students to cultural studies and the alternative interpretations of American history and culture. Particular attention will be paid to indigenous history, country music, tattoos, and American mobilization for war. Course materials and lectures will frequently utilize cultural traditions to explore key concepts and issues. Additionally, this course will require students to assume an analytical and critical perspective on academic interpretive models. We will read texts that exemplify critical Marxist, feminist, and reflexive anthropological approaches.

Student Learning Outcomes

At the end of this course students will be able to do the following:

1. Summarize the major economic, political, social and cultural forces influencing identity and experience in the United States.
2. Explain the multidisciplinary diversity and intellectual rigor that make up the field of American Studies.
3. Develop compelling and logical questions and arguments about American life and thought.
4. Interpret, understand, and engage a variety of texts within cultural, social and historic contexts.
5. Gather, analyze, and evaluate information from a variety of sources and media.
6. Compose texts in a variety of media formats.

AMST 2130 The Native American Experience

Course Description

Not Available

Student Learning Outcomes

Not Available

AMST 2996. Topics in American Studies

Course Description

Varies

Student Learning Outcomes

Varies

AMST 2998. American Studies Internship
Course Description
Varies
Student Learning Outcomes
Varies

Agriculture (AGRI)

AGRI 1110. Introduction to Agricultural Education
Course Description
An introduction to teaching agriculture with emphasis on opportunities for graduates and expectations of the ENMU Teacher Education Program. Emphasis placed on history, pedagogy and youth program organization.
Student Learning Outcomes

1. Investigate the historical development of agriculture education and the FFA student leadership organization.
2. Discuss the importance of supervised agriculture experience within agricultural education.
3. Students are expected to be proficient in CDE knowledge and practice.
4. Develop the student's understanding of instructional methods and teaching methodology.
5. Students will participate in a practice field-based teaching of agriculture education.

AGRI 1120. Introduction to Dairy
Course Description
This course is designed to provide a basic understanding of the dairy industry, milk composition, production, marketing, dairy cattle breeding, feeding, housing and dairy farm management.
Student Learning Outcomes

1. To develop an appreciation for the value of milk to humans and the scope and economic importance of the dairy industry.
2. To create a better understanding of the basic characteristics of the dairy cow and her environment.
3. To introduce the basic principles of dairy cattle management and the resources which are the foundation for improvement in the dairy industry.

AGRI 1210. Rural Buildings and Materials
Course Description
This class will focus on introductory and advanced topics in building materials, fabrication and project development. This class will also integrate aspects of the teaching of agriculture mechanics and supervising project development in a secondary school setting. Many of the skills learned within this class can be applied to tasks in the home.
Student Learning Outcomes

1. Identify safety and maintenance procedures in an ag mechanics laboratory setting.
2. Identify and describe the use of tools and equipment in the ag mechanics laboratory.
3. Utilize tools and equipment to in the ag mechanics laboratory.
4. Apply knowledge of carpentry to construct small scale projects.
5. Apply knowledge of electrical principles to wire circuits.
6. Apply knowledge of plumbing skills in small scale projects.

AGRI 1220. Agricultural Power and Machinery
Course Description

Advanced studies in mechanization skills for agricultural operations. Agricultural engines and theory of combustion, fuel systems, governor systems, and electric principles will be discussed. Introduction to agricultural machinery will be addressed.

Student Learning Outcomes

Upon successful completion of this course, students should be able to:

1. Discuss the history of the internal combustion engine.
2. Explain engine classifications.
3. Identify engine parts and their functions.
4. Describe energy conversion principles and calculate horsepower.
5. Describe 4-stroke and 2-stroke engines cycle theory and operation.
6. Describe the differences between diesel and gasoline engines.
7. Explain engine compression and operation.
8. Describe the various fuel systems, governor systems, and electrical principles associated with engines.
9. Navigate agricultural machinery owner's manuals.

AGRI 2993. Workshop in Agriculture

Course Description

Varies

Student Learning Outcomes

Varies

AGRI 2996. Topics in Agriculture

Course Description

Varies

Student Learning Outcomes

Varies

Animal Science (ANSC)

ANSC 1110. Animal Science Careers

Course Description

Introduction to scientific disciplines and career options in animal-agriculture career skill development, including resume preparation, networking, importance of internships, and leadership experiences in animal agriculture.

Student Learning Outcomes

1. Increasing the understanding of career opportunities in animal agriculture.
2. Gain a broad experience in the development of creative thinking about the career choices available in animal agriculture.
3. Apply the increased knowledge of career development in the career path and internship directions for each student.
4. Gain leadership experience that will be impactful for the student in their pursuit of a career in animal agriculture.

ANSC 1120. Introduction to Animal Science

Course Description

Survey of the livestock industry throughout the world. Basic management practices will be covered, including livestock selection, nutrition, reproduction, anatomy and marketing to the consumer. This course will also discuss animal behavior and welfare.

Student Learning Outcomes

1. Understand the role of farm animals in a global setting.

2. Describe the role of nutrition, breeding, behavior, welfare, and physiology of livestock in the world.
3. Explain the structure and organization of livestock industries.
4. Discuss concepts and terminology of the livestock industries as they relate to the global perspective.
5. Classify the overall management, care, marketing of animals, represented in the various livestock industries.

ANSC 1120L. Introduction to Animal Science Lab
Course Description
Students will observe and participate in activities related to farm animal management and will include areas of livestock selection, nutrition, reproductive physiology, animal ID and animal health. This lab is required for animal science majors.
Student Learning Outcomes
1. To provide the students with an understanding of the principles, concepts and terminology of today's livestock industry.

ANSC 1120C. Introduction to Animal Science Lecture and Lab
Course Description
This course is designed to provide an introduction to nutrients and their function in livestock animals. Basic feed identification, evaluation, and diet formulation will be discussed. The anatomy of the digestive tract of animals and their ability to utilize feedstuffs is presented. Classification, digestion, absorption, transport and metabolism of major nutrients required by animals are studied.
Student Learning Outcomes
Not Available

ANSC 1125. Equestrian Team Competition
Course Description
Basic principles of equestrian team competition, including care and management of the riding horse, equitation equipment, and development of riding skills. Emphasis will be placed competition within the Intercollegiate Horse Show Association. Consent of Instructor required.
Student learning Outcomes:
1. Have a general knowledge of horses and basic horsemanship/equitation position.
2. Explain and demonstrate basic techniques of balance, control, and safety skills while being in contact and mounted on a horse.
3. Explain and demonstrate proper handling and safety around horses and the proper care of the stable and tack.
4. Be able to ride unassisted at the walk, jog, and lope in either English or Western tack.
5. Apply general knowledge of horsemanship and equitation to competitive equine events in a safe manner including equitation on the flat, equitation over fences, horsemanship, ranch riding and reining.

ANSC 1130. Western Equitation I
Course Description
Basic principles of Western riding, including care and management of the riding horse, equitation equipment, and development of riding skills.
Student Learning Outcomes
1. Articulate basic horsemanship position and how it is used to communicate with the horse.
2. Implement proper handling and basic techniques of balance, control, and safety while working with or riding a horse.
3. Execute a basic horsemanship pattern at a walk, jog, and lope.
4. Integrate general knowledge of horsemanship to competitive equine events in a safe manner.

ANSC 1140. Introduction to Dairy Science

Course Description

Introduction to the basic aspects of dairy science and how to apply key concepts to the practical feeding and management of dairy cattle and production of dairy products. Students should also obtain an appreciation for the size and diversity of the dairy industry.

Student Learning Outcomes

1. Learn key concepts in dairy production and management.
2. Be familiar with terms used in production of milk and milk products.

ANSC 1160. Introductory Horse Science

Course Description

The light horse industry; breeds; introduction to feeding, breeding, marketing and management; handling and selecting horses for breeding and performance.

Student Learning Outcomes

1. Describe and identify breeds of horses, their characteristics and their uses.
2. Demonstrate knowledge of basic physiology of horses by recalling parts of the horse, including bones, muscle, tendons and ligaments. Also, by ageing horses via teeth, body condition scoring and taking vital signs.
3. Demonstrate safe and proper handling of horses.
4. Demonstrate comprehension of basic nutrition and feedstuffs by formulating/correcting diets in clinical and non-clinical situations.
5. Recall aspects of basic reproduction by calculating a stallion book and recalling appropriate procedures for breeding.
6. Create informative articles that seek to educate the lay horse person about a topic covered in class.

ANSC 1170. Introduction to Animal Metabolism

Course Description

Principles underlying the mechanisms of animal metabolism as they relate to production, maintenance, and health of animals.

Student Learning Outcomes

1. This course introduces the study of the physiology of life.
2. The first part of the course covers acids and bases and the chemical nature of organic compounds.
3. The second part of the course relates to the chemistry of biomolecules (nutrients) and summarizes the chemical reactions of life (metabolism).

ANSC 1180. Companion Animal Metabolism

Course Description

Examination of the historical, current, and potential future roles of companion animals in human society. Topics include animal domestication, breeds, exotic companion animals, the companion animal industry, and competitions and sports involving companion animals. Emphasis is on canine and feline species

Student Learning Outcomes

Upon successfully completing this course, students will be able to:

1. Discuss the theories regarding why, how, and when companion animals became domesticated.
2. Describe how selective breeding has optimized certain physiological and behavioral traits of companion animals in order to fulfill the needs of individual people and society.
3. Explain the concept of human-companion animal interaction (HAI) and the influence this bond has on human behavior, health, society, and government policy/laws.
4. Understand the breadth and economic impact of the rapidly expanding companion animal industry and the recent expenditure trends of pet owners.

5. Discuss the past and present uses of companion animals and theorize regarding the future uses of companion animals in society.
6. Be effective in searching for, and critically evaluating, scientific based resources.

ANSC 1500. Anatomy and Physiology for Protein Production

Course Description

This course provides an overview of anatomy and physiology in animals used for protein production in human and animal diets. The course is designed to provide the study of anatomy and physiological systems of cattle, sheep and swine.

Student Learning Outcomes

Upon completion of this course, students will:

1. Describe how physiology relates to anatomy.
2. Describe how physiology relates to various bodily functions.
3. Describe the different types of cells in the animal body.
4. Explain how cells make tissues.
5. Explain how various tissues make organs.
6. Describe the role of various organs within the body.
7. Describe the anatomy and physiology of the following animal body systems.
    a. Skeletal System
    b. Muscle Systems
    c. Respiratory System
    d. Cardiovascular System
    e. Properties and Functions of Blood
    f. Nervous System
    g. Urinary System
    h. Digestive System
    i. Sensory Organs
    j. Male and Female Reproductive Systems
    k. Body Water

ANSC 1510. Equine Anatomy and Physiology

Course Description

This course presents to students a broad-based approach of horse anatomy and physiology with emphasis on the foot and lower leg. A comprehensive look at hoof and leg dissection is also covered in this course. The biomechanics of these structures are also presented.

Student Learning Outcomes

1. Identify the parts and regions of a horse.
2. Use terminology relating to anatomy and physiology.
3. Identify views of the horse.
4. Label the skeleton of a horse.
5. Name the bones, tendons, and ligaments found in the equine limb.
6. Illustrate the tendons and ligaments inside the foot.
7. Illustrate the tendons and ligaments of the leg.
8. Discuss the stay apparatus.
9. Illustrate the structures of a horse’s foot on class projects and exams.
10. Identify various hoof conformations.
11. Identify various limb conformations.

12. Discuss the circulation of the horse's foot.
13. Illustrate the nerves found in the leg.

ANSC 1520. Health of Animal for Protein Production

Course Description

This course provides an overview of management concepts and techniques that sustain or improve the health and welfare of animals used in the production of animal protein.

Student Learning Outcomes

Upon completion of this course, students will:

1. Describe the normal range for heart rate, respiratory rate and temperature for cattle, sheep and swine.
2. Describe the variables contributing to a strong immune response.
3. Define clinical symptoms of nutritional imbalances.
4. Identify and describe common diseases of domestic animals.
5. Define stressors and mitigation strategies to minimize stress through management in animal protein production systems.
6. Design scenarios to improve the animal health and welfare of domestic animals.

ANSC 2110. Introduction to Equine Behavior & Training

Course Description

Basic principles, methods, and philosophies of handling, starting, and training the young Western performance horse, with emphasis on preparation for show and sale, evaluation of pedigree and conformation, and marketing through auction sales.

Student Learning Outcomes

1. Become proficient in the ability to train a young horse to prepare them for sale, and future training.
2. Realize the importance of pedigrees and conformation in determining the value of horses.
3. Become familiar with all aspects of organizing and conducting a horse auction.

ANSC 2120. Equine Management

Course Description

Introduction and application of the business skills necessary to effectively manage the equine operation. Students will learn how to use strategic thinking and sound business management practices to succeed in the demanding equine industry.

Student Learning Outcomes

1. Develop a working knowledge of the business principles needed to operate a successful entrepreneurial enterprise.
2. Increase the awareness of the need for business principles in the aggregate function of an equine operation.
3. Gain a greater perspective of accounting, economic and financial principles in an equine business operation.

ANSC 2130. Western Equitation II

Course Description

Intermediate principles of Western riding, including reading horse behavior, limbering-up exercises, and developing riding skills. Introduction to rollbacks, turnarounds and stops.

Student Learning Outcomes

1. Increasing the understanding of the student relative to equitation practices.
2. Increase the students' ability to apply principles of Western Equitation to applied settings across a broad spectrum of outlets.
3. Prepare the student to engage equine in a professional manner.

ANSC 2140. Introduction to Companion Animal Science

Course Description
Introduction to the care of common companion animal species. Species specific housing and nutrition are covered in the context of maximizing animal health and well-being and reducing disease
Student Learning Outcomes
Upon successfully completing this course, students will be able to:

1. Accurately use scientific terminology common to the companion animal discipline.
2. Compare and contrast the physiological similarities and differences between the various companion animal species studied in class.
3. Create dietary plans based on the nutritional needs of different companion animal species to optimize animal health and lifespan.
4. Identify symptoms of disease/injury at the early stages of illness in order to obtain Veterinary care and treatment as quickly as possible.
5. Design and construct species specific cages/vivarium to maximize animal well-being and health.
6. Educate others regarding providing the best possible care for a variety of companion animal species.

ANSC 2150. Management of Equine Operations
Course Description
Introduction and application of business skills necessary to effectively manage the equine operation. Students will learn how to use strategic thinking and sound business management practices to succeed in the demanding equine industry.
Student Learning Outcomes

1. Acquire a working knowledge of different sectors of the equine industry, including business practices, management and marketing skills.

ANSC 2160. Team Competition in Animal Science
Course Description
Training in team competition in the animal sciences. May be repeated for a maximum of 6 credits. May be repeated up to 6 credits. Consent of Instructor required.
Student Learning Outcomes

1. Evaluate market and breeding cattle, swine, sheep, horses, and goats using visual appraisal and performance records.
2. Refine the decision-making process through making logical, rational decisions based on information gathered.
3. Defend decisions and improve communication skills by presenting accurate, clear and concise oral and/or written reasons.

ANSC 2310. Introduction to Meat Science
Course Description
Fundamental aspects of the red meat industry. Lecture topics and laboratory exercises include the nutrient value of meat, meat preservation, meat safety, muscle structure and contraction, slaughter and processing of beef, lamb and pork, sausage manufacture, meat curing, meat cookery, and muscle and bone anatomy.
Student Learning Outcomes

1. Increasing the understanding of meat science applications across animal agriculture.
2. Increase the students' ability to apply principles of production to the industry perspective.
3. Apply the increased knowledge of meat science in a global situation.
4. Gain an understanding of the components involved in the development and processing of the red meat industry.

ANSC 2320. Principles of Animal Nutrition
Course Description

This course is designed to provide an introduction to nutrients and their function in livestock animals. Basic feed identification, evaluation, and diet formulation will be discussed. The anatomy of the digestive tract of animals and their ability to utilize feedstuffs is presented. Classification, digestion, absorption, transport and metabolism of major nutrients required by animals are studied.

Student Learning Outcomes

Successful completion of the course implies the student should be able to:

1. Identify conventional and non-conventional feedstuffs that are fed to livestock animals.
2. Describe various methods for feed processing and storage.
3. Assess the nutritional value of a ration or feed ingredients.
4. Interpret the NRC (Nutrient Requirement Council) guidelines for feeding livestock.
5. List the basic digestive anatomy for all classes of livestock.
6. Describe nutritional deficiencies and digestive disorders common to livestock animals.

ANSC 2330. Animal Production

Course Description

Production and utilization of beef cattle, sheep, and swine; emphasis on feeding, breeding, management problems and marketing; selection of animals for breeding and market.

Student Learning Outcomes

1. Increasing the understanding of meat animal production.
2. Increase the students' ability to apply principles of production to the industry perspective.
3. Apply the increased knowledge of meat animal production to global situations.
4. Gain a broader understanding of the importance of meat animals in the global food system.

ANSC 2340. Genetics in Animal Science

Course Description

Introduction to genetics and inheritance relative to livestock production. Introduction to procedures for collection and use of performance information in livestock improvement programs**.**

Student Learning Outcomes

1. Gain a broader understanding of the role genetic impacts in the livestock industry.
2. Employ an increased knowledge of impact of genetics in the food animal industry and the production and economic principles that apply.
3. Recognition of the global impacts of genetics in the food animal industry in a global setting.

ANSC 2350. Applied Animal Breeding

Course Description

This course presents the fundamental principles of reproduction, breeding systems and their application to domestic species. Reproductive anatomy and physiology will be covered. Proficiency in applied reproductive technologies including estrus/ovulation synchronization, artificial insemination, and pregnancy diagnosis will be developed.

Student Learning Outcomes

Upon completion of this course, students will:

1. Identify the primary parts of the female reproductive tract and their role in reproduction.
2. Describe the hormonal regulation of the female estrus cycle.
3. Describe timing and events associated with ovulation.
4. Implement estrus/ovulation synchronization protocols.
5. Understand the process and techniques of artificial insemination, embryo transfer, and pregnancy determination.

ANSC 2996. Topics in Animal Science
Course Description
Varies
Student Learning Outcomes
Varies

Anthropology (ANTH)

ANTH 1115. Introduction to Anthropology
Course Description
Anthropology is the systematic study of the humanity both past and present. The course introduces students to the four subfields of anthropology, which include archaeology, biological, linguistic and cultural anthropology. Students will learn about the concepts and methods that anthropologists use to study our species and gain a broader perspective on the human experience.
Student Learning Outcomes
1. Describe and summarize terms, approaches, and cultural and biological adaptations in the four subfields of anthropology.
2. Explain and analyze conceptual and ethical arguments in the four subfields of anthropology.
3. Effectively communicate content, perspectives, and ideas in four subfields of anthropology.
4. Critically evaluate sources, approaches, and arguments in the four subfields of anthropology.

ANTH 1120C. Introduction to Archaeology Lecture & Lab
Course Description
Archaeology is the study of the human past through the analysis of material remains humans have left behind. This course explores the basic theoretical and methodological underpinnings of the discipline, as well as the techniques that archaeologists employ to describe the empirical world, produce data, and interpret how people lived in the past. Examples of archaeological research from around the world will be used to increase students' understanding of concepts presented in lecture. Students will also apply the archeological principles in the laboratory portion of the course.
Student Learning Outcomes
1. Understand the history of archaeology, with an emphasis on processual archaeology.
2. Understand and apply fundamental theoretical and methodological concepts of the archaeology discipline.
3. Provide hands-on experience with archaeological data collection and analysis methods.
4. Develop skills that will enable students to serve as crew members for supervised archaeological field and laboratory work.
5. Provide students with the tools to describe the nature of archaeological remains.
6. Synthesize archaeological data to make informed and educated interpretations.
7. Effectively comprehend and communicate knowledge about archaeological ethics and contemporary heritage management efforts and organizations.

ANTH 1135. Introduction to Biological Anthropology
Course Description
This course provides a basic introduction to the broad field of biological anthropology. The research interests of biological anthropologists include the history and development of modern evolutionary biology, molecular and population genetics, modern primates, the primate and human fossil record, and modern human biological diversity.
Student Learning Outcomes
1. Summarize the basic principles of evolution and recognize how they apply to the human species.
2. Recognize the biological and behavioral continuity of humans with all life, and especially other modern primate species.

3. Identify ways in which the human species is biologically and behaviorally unique.
4. Summarize fossil evidence for human evolution.
5. Distinguish the major Paleolithic industries and outline the behavioral and cognitive changes indicated by the fossil and archeological evidence.
6. Critically evaluate popular accounts of human variation and human evolution.
7. Interpret modern human dilemmas (e.g., overpopulation, co-evolution of disease, and genetic engineering) from an evolutionary perspective.
8. Discuss in class and analyze in writing scholarly arguments concerning course concepts.

ANTH 1135L. Introduction to Biological Anthropology Lab

Course Description

This laboratory course expands on the topics covered in lecture course and uses scientific methods and principles to examine evidence for the process of evolution, the nature of heredity, human evolutionary history and family tree relationships, primate ecology and behavior, and modern human diversity. Hands-on experience with fossil and skeletal material will be an important part of the learning process.

Student Learning Outcomes

1. Demonstrate an understanding of the scientific method.
2. Employ principles of Mendelian genetics to determine genotype and phenotype probabilities, and calculate gene, genotype, and phenotype frequencies using the Hardy-Weinberg Equilibrium formula.
3. Demonstrate an understanding of cell structure and functions.
4. Use common lab and anthropometric equipment such as a compound microscope and calipers.
5. Discuss primate evolution and compare and contrast members of the Primate order in terms of structure, behavior, and phylogeny.
6. Classify hominid species based upon selected traits such as anatomical changes associated with bipedalism, changes in the size and structure of the brain, and the development of culture.
7. Locate and describe the major bones of the human skeleton and identify characteristics of human skeletons or skulls such as gender, age, and ancestry.
8. Discuss current research in genome analysis of various hominid populations.

ANTH 1135C. Introduction to Biological Anthropology Lecture and Lab

Course Description

This course provides a basic introduction to the broad field of biological anthropology. The research interests of biological anthropologists include history and development of modern evolutionary biology, molecular and population genetics, modern primates, the primate and human fossil record, and modern human biological diversity.

Student Learning Outcomes

Students will accomplish at least 3 of the Common Student Learning Outcomes set forth by San Juan College. The CSLOs covered in this class include Broad and Specialized Learning, Critical Thinking, and Effective Communication.

1. Broad and Specialized Thinking
   a. Through course readings and lectures, students will acquire basic knowledge of the concepts and terminology in biological anthropology.
   b. Students will gain an understanding of the biological development of both humans and nonhuman primates.
2. Critical Thinking
   a. Through reflective thought, class projects, and class discussions, students will use the basic concepts of biological anthropology and apply them in different contexts.
   b. Many areas of anthropology provide no right and wrong answers, and students will learn to evaluate concepts and draw conclusions based on their own reasoning.

3. Effective Communication
   a. Students will research a topic of their choosing for their final paper.
   b. Students will explore different fields of biological anthropology and present their findings to the class using visual aids.
   c. Students will also participate in class discussions that require use of class concepts and their own ideas.

Course Description for Lab

The laboratory portion of the course expands on the topics covered in the lecture course and uses scientific methods and principles to examine evidence for the process of evolution, the nature of heredity, human evolutionary history and family tree relationships, primate ecology, behavior, and modern human diversity. Hands-on experience with fossil and skeletal material will be an important part of the learning process.

Student Learning Outcomes

1. Broad and Specialized Learning
   a. Through course readings and lectures, students will acquire basic knowledge of the concepts and terminology in biological anthropology.
   b. Students will gain an understanding of the biological development of both humans and nonhuman primates.
2. Critical Thinking
   a. Through reflective thought, class projects, and class discussions, students will use the basic concepts of biological anthropology and apply them in different contexts.
   b. Many areas of anthropology provide no right and wrong answers, and students will learn to evaluate concepts and draw conclusions based on their own reasoning.
3. Effective Communication
   a. Students will research a topic of their choosing for their final paper.
   b. Students will explore different fields of biological anthropology and present their findings to the class using visual aids.
   c. Students will also participate in class discussions that require use of class concepts and their own ideas.

ANTH 1136. Introduction to Historic Preservation

Course Description

Introduction to historic preservation, its history, goals, methods, legal basis, and economic importance. Explores public role in decision-making.

Student Learning Outcomes

Upon successful completion of this course students will:

1. Understand **WHY** historic preservation is important.
2. Be familiar with **WHAT** is important to preserve.
3. Know **WHO** among the general public, state, and federal governments is responsible for preserving the past.
4. Have gained experience in **HOW** we all preserve.

ANTH 1137. Human Ancestors

Course Description

Evolutionary history of the human species from its origin in the primate order, with primary emphasis on the evolution of humankind during the past three million years. Examination of the social lives of apes and consideration of similarities to and differences from them. Biological foundations of human behavior, emphasizing thought, movement, and interaction.

Student Learning Outcomes

1. Describe the evolution of the human species, from its origin in the primate order to the emergence of Homo sapiens, and to the present-day.

2. Describe the social lives of apes and identify similarities to and differences between apes and humans.
3. Explain the biological foundations of human behavior.

ANTH 1140. Introduction to Cultural Anthropology

Course Description

This is an introductory course that provides an overview of cultural anthropology as a subfield within the broader discipline of anthropology and as a research approach within the social sciences more generally. The course presents core concepts and methods of cultural anthropology that are used to understand the ways in which human beings organize and experience their lives through distinctive cultural practices. More specifically, this course explores social and cultural differences and similarities around the world through a variety of topics such as language and communication, economics, ways of making a living, marriage and family, kinship and descent, race, ethnicity, political organization, supernatural beliefs, sex and gender, and globalization. This course ultimately aims to present a broad range of perspectives and practices of various cultural groups from across the globe.

Student Learning Outcomes

1. Introduce students to the basic concepts and research methods of cultural anthropology as one of the disciplines of social science, including fundamental concepts, such as culture and society, which form the pillars of the discipline (e.g., cultural relativism, cultural persistence and change, worldview and enculturation).
2. Comprehend the importance of studying cultural anthropology.
3. Demonstrate knowledge of the practice of anthropological research in the modern world that is increasingly multicultural, transnational and globally interconnected (e.g., globalization and modern world system).
4. Demonstrate an awareness of how students' own cultures shape their experiences and the way they see the world, as well as help them understand and interact with other cultures.
5. Understand how beliefs, values and assumptions are influenced by culture, biology, history, economic, and social structures.
6. Gain a sense of relationship with people possessing different experiences from their own.
7. Gain a deeper understanding and appreciation for cultural anthropology as a broad discipline through learning about its practices and differentiating cultural anthropology from other disciplines that study people.
8. Become more sensitive and engaged global citizens from culturally relative perspectives.

ANTH 1141. Cultures of the World

Course Description

This course introduces students to the study of culture and its role in shaping human behavior across societies. Students explore global cultural diversity, examine relationships between cultures, and develop foundational skills for analyzing cultural perspectives and practices. Emphasis is placed on fostering respectful engagement with diverse communities, applying critical thinking to unfamiliar cultural contexts, and reflecting on personal growth in cultural awareness. Through comparative and evidence-based inquiry, students gain a broader understanding of how and why people live as they do in different parts of the world.

Student Learning Outcomes

1. Identify, describe, and compare characteristics of a wide variety of global cultures to explain how and why people live as they do.
2. Explain and demonstrate attitudes and behaviors that reflect respect for diverse peoples and cultures.
3. Analyze and contrast their own cultural beliefs, values, and practices with those of other cultures using evidence from course materials.
4. Examine, interpret, and evaluate historic and contemporary relationships between cultures, including examples of exchange, conflict, or collaboration.

5. Apply critical thinking skills to interpret, assess, and formulate informed explanations of unfamiliar cultural practices or perspectives.
6. Reflect on, articulate, and evaluate their personal growth and increased self-awareness resulting from course learning experiences.

ANTH 1155. Introduction to Linguistic Anthropology

Course Description

This is an introductory course, which provides an overview of the discipline of Linguistic Anthropology. The course will discuss the implications of language within anthropology, as well as within the sciences and social sciences more generally. The course explores the core concepts and methods of linguistic anthropology, such as the basic structure of language, first and second language acquisition, bilingualism, and social and regional variations that are used to help students understand what it means to be human and the role of language in human societies.

Student Learning Outcomes

1. Understand the nature, properties, and functions of language and its relations to anthropology.
2. Explain the basic principles of the following areas of linguistic study: phonetics, phonology, morphology, grammar, syntax, and semantics.
3. Understand the basic issues of other areas of linguistic study including language acquisition, pragmatics, discourse analysis, and sociolinguistics.
4. Understand the diversity of languages and their fundamental similarities.
5. Use basic terminology and notational conventions associated with linguistic study.
6. Think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems related to language and language learning.
7. Examine and critically evaluate common assumptions and attitudes about language and language use.
8. Apply concepts learned in this course to students' personal and professional lives.

ANTH 1160. World Archaeology

Course Description

Not Available

Student Learning Outcomes

Not Available

ANTH 1170. Human Life

Course Description

Biology and behavior of the human life course, including the evolution of the life history patterns specific to humans and the impact of population growth and of adaptation to local conditions in promoting human diversity.

Student Learning Outcomes

1. Basic overview and understanding of evolutionary theory.
2. Understanding of how evolution by natural selection may affect human behavior.
3. Understand the factors that led to the evolution of the human life course.
4. Understand what features of the human life course are unique among primates.
5. Appreciate how contemporary and historical variation in individual and social behaviors vary with each stage of the life course.

ANTH 1170L. Computer Laboratory in Human Evolutionary Ecology

Course Description

Introduces the computer as a tool in biological and social science research, provides first-hand experience in data collection, analysis and modeling behavior. No prior computer experience required.

Student Learning Outcomes

1. Understanding research study design as it applies to testing hypotheses in human evolutionary ecology.
2. Learn statistical techniques to test hypotheses.
3. Learn how to use MS Excel® and SPSS to perform a variety of tasks related to data entry, analysis, and graphic display of results.
4. Learn how to interpret study results.
5. Learn how to write research reports.

ANTH 1175. Evolution and Human Emergence

Course Description

Evolution over the last several million years has resulted in modern humans – Homo sapiens. Amazing things occurred during this lengthy process, resulting in us – big brained, handy, upright, and lightly hair-covered primates. In this class, we'll track the phenomenal course of human development, beginning with our distant hominid ancestor Aridipithecus (more than 4 million years ago), through the various species of Australopithecus, Homo habilis, Home erectus, Neanderthals, and finally arriving at modern humans. During this class, we'll learn what makes humans unique as a species and how closely related we are to our primate cousins.

Student Learning Outcomes

Not Available

ANTH 1175L. Evolution and Human Emergence Lab

Course Description

Not Available

Student Learning Outcomes

Not Available

ANTH 1180. The Dawn of Humanity

Course Description

This is an introductory course in which students will be given a brief overview of the four branches of anthropology: socio-cultural anthropology, physical anthropology, archaeology, and linguistics. The focus of this class will be primarily in the archaeological and physical branches of anthropology, and we will examine key concepts important to the study of the past. While examining diverse cultures throughout this course, we will cover key anthropological concepts including: 1) Physical and cultural characteristics of the human being; 2) Human origins until the close of the last ice age; 3) Changing views of evolutionary theory and adaptation; 4) Evolution of disease and humans; 5) Evolution of technology and humans; 6) Comparative artistic and religious practices, and the role of religion in cultural change; 7) Understanding how modern archaeologists uncover information regarding our early ancestors and people in the past.

Student Learning Outcomes

1. For students to understand and be able to apply the concepts of deep time.
2. To promote a greater understanding of human evolution and humankind's early journey across the globe.
3. For students to gain experience doing an individual research project with a corresponding presentation.
4. To gain a deeper understanding and appreciation for anthropology as a broad discipline through learning about its practice.

ANTH 1190C. Survey of Forensic Science

Course Description

This course is an introduction to the field of forensic science. The goal of this course is to provide an overview of three of the specialized branches of forensic science offered at ENMU: forensic anthropology, forensic biology and forensic chemistry.

Within these topics, students will be exposed to a range of different types of evidence, evidence collection methods, and evidence processing protocols.
The course will be composed of a lecture and laboratory section. You are expected to understand and apply the material covered in both the lectures and the reading assignments. Online quizzes on the readings will be available prior covering the material in class, in order to help you to gauge your knowledge and improve your retention before you come to class. The labs are a supplement to the lecture topics. They will provide hands-on experience in a variety of forensic methods.

Student Learning Outcomes

By the end of the course, students will have understood and applied the following concepts:

1. The range of forensic science specialties.
2. Crime scene reconstruction.
3. Types of evidence.
4. Analytical methods and Interpretation of test results.

ANTH 1210. Introduction to Archaeology

Course Description

Introduction to Archaeology provides students with an overview of archeological fundamentals and how these can be utilized to understand ancient societies. The course emphasizes the analysis of modern societies as a method of reconstructing the past. There is a detailed case study of the Maya site of Copan.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Scope of archeology:
    a. Define anthropology and archaeology
    b. Understand the development of anthropology and archaeology
2. Methodology of archaeology:
    a. Gain an introduction to archaeological methods
    b. Understand conceptual frameworks
    c. Analyze human habitats
3. Fundamentals of societal reconstruction:
    a. Examine domestic issues and society
    b. Explore artisans and traders
    c. Learn signs and symbols
    d. Understand power, prestige and wealth
    e. Become familiar with realms
    f. Discuss religion and ideology
4. Archaeology of ancient civilizations:
    a. Examine the rise of civilization in the Old World
    b. Explore the rise of civilizations in the New World
5. Archaeological explanation:
    a. Discuss the fall of civilizations
    b. Understand explanation and archeology

ANTH 1211. Archaeology in Practice

Course Description

This class explores different ways of studying and interpreting the past through a survey of archaeology's historical, theoretical, and methodological development. If you are interested in archaeology as a career (or even just trying out an archaeological field school), this course is critical: it will provide you with the basic tools for conducting archaeological

research and with an understanding of the background of the discipline. For this reason, this course is required for anthropology majors with an archaeology concentration.
Even if you know you don't want to be an archaeologist, though, this class may interest you. Have you ever wondered how archaeologists know what they know about the past? Are you skeptical about some archaeological claims? Have you ever read a statement about the past and thought, "is this really true?" This class will provide you with the skills, both conceptual and practical, to answer those questions.

Student Learning Outcomes

Students will:

1. Understand the basics of the science of archaeology, including goals, methods, theory, terminology, and ethics.
2. Identify and evaluate archaeological objects, data, and evidence in order to understand the human past.
3. Discuss impacts of archaeological research on the archaeological record and on contemporary people and cultures.
4. Understand current legal protections and restrictions involving archaeology.

ANTH 1211L. Archaeology in Practice Laboratory

Course Description

This course introduces students to a variety of archaeological field and laboratory methods.

Student Learning Outcomes

1. Apply basic measurement and descriptive techniques to evaluate archaeological data.
2. Apply field and laboratory skills to the collection and analysis of archaeological materials

ANTH 1215. Introduction to Physical Anthropology & Archaeology

Course Description

Introduction to physical anthropology and archaeology in the investigation of the possible origins, distribution, adaptation, and evolution of early humans, up to the rise of civilization in the Old and New Worlds. Beginning today we will embark upon a study of the principles of physical anthropology and archaeology, with a specific focus on our human origins. We will work our way from the earliest possible human ancestors through the development of modern humans and the practices that make us unique among the primates.

Student Learning Outcomes

Not Available

ANTH 1330. Navajo Culture

Course Description

Introduces the basic values of Diné society, past and present, including the clan system, the philosophy of duality, rites and passages, and the Navajo creation story.

Student Learning Outcomes

Upon completion of the course, the student will be able to:

1. Demonstrate knowledge of Diné cosmology and world order and their relationship to the Diné way of life.
    a. Discuss the concept of male-female duality.
    b. Describe how all creations within the earth and sky are recognized according to the duality principle.
    c. Explain the holistic nature of Diné philosophy; that is, discuss how Nits1h1kees, Nahat'1, Iin1, and Sihasin are processes found in all aspects of nature.
    d. Trace the history and cultural development of the Diné using the chronological order of the narratives that developed into ceremonies.
2. Demonstrate knowledge of Diné history using linguistics, oral narratives, and Athapaskan migration theories based on evidence from physical anthropology and archaeology.
    a. Describe the meanings behind traditional ceremonies and the role these ceremonies play in modern society.

b. Describe the changes that have occurred through time in Diné ceremonies as a result of contact with other cultures.
c. Describe cultural differences and similarities between Athapaskan groups: Northern, Pacific, and Southern.
d. Describe conflicts and changes which have taken place in Diné society as a result of contact with Plain, Puebloan, and European cultures.

3. Demonstrate analytical research skills in ethnography and folklore as they relate to Diné culture.
    a. Conduct research on topic(s) relevant to objectives in the course
    b. Submit academic quality research papers that are thoughtful and thorough in nature.
4. Develop an understanding of the need for protection and maintenance of natural resources, the environment, and traditional Diné sacred places.
    a. Discuss the cultural meaning of Diné terms such as Mother Earth, Father Sky, Mountain Woman, Water Woman, Dawn Boy, and so on.
    b. Explain how these terms are interconnected to human life, life processes, and the natural world.
    c. Discuss what is meant by a sacred place.
    d. Explain why sacred places should be reserved and protected.
5. Draw upon the values derived from Diné culture to function successfully as citizens of the Diné community and of the world at large.
    a. Describe the Diné clan system and explain how it is used as a means of social control within Diné society.
    b. Identify who they are and where they come from in terms of the Diné clan system.
    c. Identify their relationship to others within the Diné community and the world at large.

ANTH 1993. Workshop in Anthropology
Course Description
Varies
Student Learning Outcomes
Varies

ANTH 1996. Topics in Anthropology
Course Description
Varies
Student Learning Outcomes
Varies

ANTH 1998. Internship
Course Description
Varies
Student Learning Outcomes
Varies

ANTH 2120. Introduction to Archaeological Field Methods
Course Description
This course introduces students to field and laboratory methods and techniques in archeology. Students learn the standards of archeological field recording, excavation techniques and field-related laboratory skills. Fieldwork is required.
Student Learning Outcomes
1. Describe procedures that must be followed prior to excavation of an archaeological site.
2. Identify archaeological remains.
3. Define various excavation and recording techniques.

4. Describe various types of samples that are collected during excavation.
5. Draw plan and profile maps of archaeological features.
6. Explain laboratory procedures utilized for dealing with collected artifacts and samples.
7. Identify various archaeological dating techniques.
8. Survey and identify archaeological sites, as well as record and map archaeological sites discovered during survey.

ANTH 2130. Introduction to Forensic Anthropology

Course Description

This course will introduce you to the field of forensic anthropology, its main concepts, and their application in the broader medico legal system. This will include discussion of the structure of the medico legal system, the organizational hierarchy of death investigation, the role and ethical responsibilities of the forensic anthropologist, an introduction to the information that is provided by anthropological analysis and the methods used to obtain this information, the importance of the chain of evidence, the role of expert testimony, the importance of research, and the steps of designing effective research projects.

Student Learning Outcomes

1. Learn the fundamental principles underlying the discipline of forensic anthropology.
2. Review and enhance understanding of the human skeletal system to understand basic terminology of the field.
3. Gain factual knowledge about the role of forensic anthropologists in the medico legal system, as well as the many lines of evidence on which they draw in order to reach their conclusions.
4. Understand the skills and competencies relied upon by professionals in the field, as well as their responsibilities.
5. Understand and be able to apply the ethical responsibility of working with human skeletal remains.
6. Apply anthropological knowledge through supervised research on a topic relevant to forensic anthropology.
7. Gain an understanding of current and potential future directions in forensic anthropology, both within the United States and internationally.

ANTH 2140. Indigenous Peoples of North America

Course Description

This course is a general survey of the history and ethnology of indigenous groups in North America. The course is designed to give students a comprehensive view of major issues pertaining to the indigenous cultures of North America, such as family structure, social organization, subsistence and contemporary economies, environmental adaptation, Indian-White relations, religious practices, and contemporary issues.

Student Learning Outcomes

1. Demonstrate familiarity with common elements pertaining to the languages and social organization of indigenous peoples in North America.
2. Recognize fundamental differences and similarities among traditional indigenous cultures.
3. Describe social relations of indigenous peoples in relationship to other ethnic groups.
4. Identify and analyze important ways that European societies and cultures and indigenous societies and cultures interacted from the time of Columbus to the present.
5. Evaluate the impacts of Euromerican policies and programs on indigenous cultures.
6. Distinguish major social issues facing contemporary indigenous communities in North America.
7. Understand objectives and limitations of cross-cultural analysis in anthropology as they relate to the study of indigenous peoples in North America.
8. Demonstrate research and communication skills as they relate to the study of indigenous peoples in North America.

ANTH 2150. Indigenous Peoples of the American Southwest

Course Description

This course is a study of indigenous cultural groups of the American Southwest. Students will explore historical and contemporary cultural and social patterns of American Indian, Hispanic and Anglo-American groups.

Student Learning Outcomes

1. Describe socio-cultural developments, geographic environments, and characteristics of major cultural groups that currently inhabit the American Southwest.
2. Recognize underlying similarities as well as the wide range of variability of the cultural groups in the American Southwest.
3. Recognize the impacts and effects of Euromerican colonization on indigenous cultural groups in the American Southwest.
4. Describe the historical interactions and accommodations among indigenous cultural groups in the American Southwest.
5. Examine the processes of cultural change within major cultural groups in the American Southwest.
6. Identify and analyze some of the contemporary issues faced by major cultural groups in the American Southwest.

ANTH 2160. Prehistoric Peoples of the American Southwest

Course Description

This course will explore many aspects of prehistoric peoples in the American Southwest. Beginning with the populating of the Southwest, this course will discuss interactions between these populations and their environment, as well as technological advances, subsistence practices, social structures, and settlement patterns. The course will also explore the processes of change and how prehistoric populations compare with modern ones.

Student Learning Outcomes

1. Identify major prehistoric populations of the American Southwest.
2. Describe the roles of anthropology and its sub-fields, especially archeology, in studying prehistoric populations of the American Southwest.
3. Explain the importance of geography, environment, technological advances, subsistence practices, social structures, and settlement patterns on cultural developments among prehistoric southwestern populations.
4. Analyze and evaluate theoretical explanations for cultural developments among prehistoric Southwestern populations.
5. Compare and contrast similarities and differences between prehistoric Southwestern populations.
6. Apply and communicate course concepts pertaining to prehistoric populations of the American Southwest through modes such as archeological projects/experiments, discussions, and writing assignments.
7. Develop a nuanced understanding of the prehistoric American Southwest and how they interacted.
8. Gain an understanding of the diversity of human behavior in the past and learn about commonalities, which unite humans across time and space.

ANTH 2165. Music in Culture

Course Description

Not Available

Student Learning Outcomes

Not Available

ANTH 2170. Human Evolutionary Biology

Course Description

A study of the basic principles of evolution applied to the human species. This class explores the principles of heredity and organic evolution, the principles and methods of biological anthropology, the evolutionary context and fossil record of primate and human emergence, the characteristics and behavior of non-human primates, and the origins and significance of modern human biological variation.

Student Learning Outcomes

1. Summarize the principles of modern evolutionary theory, including genetic mechanisms and population genetics.

2. Interpret elementary statistical analyses if intra-specific and inter-specific variation.
3. Outline the taxonomic position of modern humans.
4. Identify and describe the non-human primates most closely related to humans.
5. Differentiate characteristics of important anthropoid, hominoid and hominid fossil groups.
6. Critically evaluate new discoveries in biological anthropology in the light of the methods and principles of biological anthropology.

ANTH 2170L. Human Evolutionary Biology Lab

Course Description

A practical experience in the study and analysis of ancient and modern humans in comparison with other primates. Principles of human genetics, primate identification and taxonomic analysis, anthropometry, human osteology and introductory anthropological forensics are examined in a laboratory setting.

Student Learning Outcomes

1. Summarize the principles of modern evolutionary theory, including genetic mechanisms and population genetics.
2. Interpret elementary statistical analyses if intra-specific and inter-specific variation.
3. Outline the taxonomic position of modern humans.
4. Identify and describe the non-human primates most closely related to humans.
5. Differentiate characteristics of important anthropoid, hominoid and hominid fossil groups.
6. Critically evaluate new discoveries in biological anthropology in the light of the methods and principles of biological anthropology.

ANTH 2175. World Archaeology

Course Description

Archaeology is the systematic study of the human past through material remains. This course introduces students to the physical remains of past societies and compares and contrasts archaeological development in different regions. Students will explore the dynamics of the human past and its influences on contemporary society.

Student Learning Outcomes

1. Identify and describe terms, approaches, and material evidence in archaeology.
2. Compare and contrast archaeological development in different regions.
3. Explain and analyze conceptual and ethical arguments in archaeology.
4. Critically evaluate sources, approaches, and arguments in archaeology.
5. Effectively communicate content, perspectives, and ideas in archaeology.

ANTH 2190C. Forensic Anthropology

Course Description

This course is designed to introduce students to the forensic investigation of death. Emphasis will be on current methods and techniques and include the role of the anthropologist as an integral member of the investigation process.

Student Learning Outcomes

1. Students will gain factual knowledge about the role of forensic anthropologists in the medico legal system as well as the many lines of evidence on which they draw in order to reach their conclusions.
2. Students will learn the fundamental principles underlying the discipline of forensic anthropology.
3. While this is not a training course, students will understand the skills and competencies relied upon by professionals in the field, as well as their responsibilities.

ANTH 2210. Introduction to Archaeology

Course Description

Introduces students to the basic concepts, methods, and theories of archaeology with particular emphasis on the nature of archaeological evidence and its interpretation.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to

1. Distinguish archaeological remains from natural manifestations.
2. Prepare a survey map (field sketch).
3. Prepare excavation maps: site map, feature map, and profile map.
4. Understand the site grid and elevation system.
5. Set up excavation unit within a site grid.
6. Classify different types of artifacts.

ANTH 2222. Ancient Mesoamerica

Course Description

Traces Mesoamerican archaeology from the earliest inhabitants through the Aztec period. Emphasizes cultural processes and dynamics of cultural evolution.

Student Learning Outcomes

1. Discuss and understand the history of archaeology in the Mesoamerican region.
2. Explain the specific archaeological techniques used and preservation issues in data recovery of the various regions.
3. Describe the culture history and archaeological evidence of the varied Mesoamerican cultural developments.
4. Explain the development of stratified society and describe the various roles that are integral to that stratification.
5. Demonstrate understanding of the concept of religion and the Mesoamerican worldview.
6. Discuss the development of writing and historical records.
7. Define and explain the economic systems and means of production in the various regions.
8. Cite several examples of the above-mentioned objectives using real archaeological data.
9. Present an overview of Mesoamerican archaeology.

ANTH 2265. Anthropology of Drugs

Course Description

This survey course explores the nature and use of mind-altering drugs from a cross-cultural perspective. Topics covered in this class include the varieties and effects of mind-altering drugs around the world, socio-cultural contexts and functions of drugs such as religious, medicinal, and recreational usages, varieties of social control of drugs, and the political economy of world trade in both licit and illicit drugs.

Student Learning Outcomes

After taking this course, students will be able to

1. Identify the primary mind-altering drugs used around the world and understand their physical and psychological effects.
2. Understand the socio-cultural contexts and functions of how these drugs are used, how different societies deal with both licit and illicit drug use, and how world trade in these substances affects political and economic systems around the globe.

ANTH 2290. Anthropology Practicum

Course Description

Provides opportunities for students in anthropology practice by working with professionals conducting theoretical, laboratory, and/or field research in cultural, linguistic, physical/biological anthropology and archaeology.

Student Learning Outcomes

To be determined on an individualized basis.

ANTH 2310. Anthropology of Food

Course Description

An exploration of the complex interrelationships among people, culture, society, and their food. Students will examine the connection between food and cultural practices from many perspectives, including historical, societal, anthropological, culinary, and scientific.

Student Learning Outcomes

1. Explain the importance of food rituals from different world cultures.
2. Describe the origins of important cultural feast days and fiestas.
3. Outline the dynamics of spice trade, its history, and effects on world commerce, both culturally and economically.
4. Explain the importance of key foods to distinct/discrete cultures.
5. Describe cultural practices in food preparation, including the culture history of why or how such practices emerged.
6. Outline the cultural reasons behind certain food aversions in some societies.
7. Explain key differences in food preferences around the world as affected by such factors as environment, economics, status and religion, among other things.

ANTH 2335. Anthropology of Religion

Course Description

Provides a cross-cultural inquiry into the spiritual and religious belief systems of diverse peoples from around the world and investigates the practices and symbols through which these beliefs are expressed and enacted. Emphasis is on non-Western cultures.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to

1. Understand the basic vocabulary used by anthropologists to describe and discuss the belief systems of various cultures.
2. Understand and appreciate the range of variation within belief systems of peoples around the world, particularly those of non-Western cultures.
3. Apply anthropology's holistic approach to cross-cultural research on belief systems of various cultures.
4. Recognize how the field of anthropology has changed over time and how these changes have affected the way that religion has been studied cross-culturally since its inception as a formal discipline.

ANTH 2340. Cultural Ecology

Course Description

Examines the relationship of humans to their environments using archaeology and ethnographic data from around the world. Particular focus on the social and technological adaptations of human groups to desert environments.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

Students will accomplish at least 3 of the Common Student Learning Outcomes set forth by San Juan College. The CSLOs covered in this class include Broad and Specialized Learning, Critical Thinking, and Effective Communication.

1. Broad and Specialized Learning
    a. Through course readings and lectures, students will acquire basic knowledge of the concepts in cultural ecology.
    b. Students will gain an understanding of human diversity as well as what we all have in common.
    c. Students will gain an understanding of the relationship between humans and their environment.
2. Critical Thinking
    a. Through reflective thought, class projects, and class discussions, students will use the basic concepts apply them in different contexts.

b. Many areas of anthropology provide no right and wrong answers, and students will learn to evaluate concepts and draw conclusions based on their own reasoning.

3. Effective Communication
    a. Students will research a topic of their choosing for their final paper.
    b. Students will also participate in class discussions that require use of class concepts and their own ideas.

ANTH 2345. Peoples of Latin America

Course Description

Explores the various cultures and peoples of Latin America, concentrating on one region or culture at any given time. Offered as an interdisciplinary field-based intensive study experience.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to… Students will accomplish at least 3 of the Common Student Learning Outcomes set forth by San Juan College. The CSLOs covered in this class include Broad and Specialized Learning, Critical Thinking, and Effective Communication.

1. Broad and Specialized Learning
    a. Through course readings and lectures, students will acquire basic knowledge of the various cultures and peoples of Latin America.
    b. Students will gain an understanding of human diversity as well as what we all have in common.
2. Critical Thinking
    a. Through reflective thought, class projects, and class discussions, students will use the basic concepts apply them in different contexts.
    b. Many areas of anthropology provide no right and wrong answers, and students will learn to evaluate concepts and draw conclusions based on their own reasoning.
3. Effective Communication
    a. Students will research a topic of their choosing for their final paper.
    b. Students will also participate in class discussions that require use of class concepts and their own ideas.

ANTH 2355. Creating a Sustainable Future

Course Description

Not Available

Student Learning Outcomes

Not Available

ANTH 2360. Cultures of the Southwest

Course Description

A study of the contemporary cultural and ethnic groups of the Southwest. Students explore the cultural and social patterns of American Indian, Hispanic and Anglo-American groups and their historical /relationships.

Student Learning Outcomes

1. Identify and describe, in writing, the contemporary cultures of the Southwest United States.
2. Discuss why and how those cultures have persevered in the face of political, social and demographic changes.
3. Describe, in writing, the characteristics of each culture.
4. Examine the processes of cultural change which each culture is undergoing.
5. Differentiate these cultures from one another.
6. Describe, in writing, the historical interactions and accommodations among these cultures.
7. Identify some contemporary problems confronting the indigenous cultures of the Southwest.

ANTH 2990. Anthropology Practicum

Course Description
Varies
Student Learning Outcomes
Varies

ANTH 2993. Anthropology Workshop
Course Description
Varies
Student Learning Outcomes
Varies

ANTH 2996. Anthropology Topics
Course Description
Varies
Student Learning Outcomes
Varies

ANTH 2998. Anthropology Internship
Course Description
Varies
Student Learning Outcomes
Varies

Applied Liberal Arts and Sciences (ALAS)

ALAS 1810. Applied Liberal Arts & Sciences – Humanities
Course Description
Interdisciplinary examination of the origins of the planet, life on earth, and humanity up to the Renaissance. Students will engage in all five essential skills as they explore the big ideas and milestones of our human past: Communication, Quantitative Reasoning, Critical Thinking, Personal and Social Responsibility, and Information Literacy.
Student Learning Outcomes
Students will practice, apply, and improve the 5 essential skills assessed in this course, demonstrating basic competency as follows:
Communication:
Consistently demonstrates the ability to

1. Explain content thoroughly
2. Use a logical structure to convey content
3. Follow standard English conventions, though there may be grammar/punctuation errors.

Critical Thinking:

1. Consistently demonstrates critical thinking skills by showing understanding of course content, asking thoughtful questions, and engaging with the course material.

Quantitative Reasoning:

1. Consistently demonstrates the ability to interpret basic data and apply it within another context.

Information Literacy:

1. Consistently demonstrates ability to conduct and evaluate basic research, understand and explain the research material, and apply that research within another context.

Personal and Social Responsibility:

1. Consistently meets course requirements for attendance, meeting deadlines, and being a respectful and active class participant.

ALAS 1820. Applied Liberal Arts – Social and Behavioral Sciences

Course Description

This course explores social responsibility and civic engagement as some of the most dynamic and formidable subjects facing our contemporary world. We largely accomplish this by examining the behavioral, economic, political, and societal contexts in which social issues and civic engagement and social responsibility manifest. We will grapple with grand questions like: What does it mean to be human?; What does it mean to be an individual living in society?; and How do we work towards better possibilities for all?

To promote personal and social responsibility and a deeper understanding of the topics under scrutiny in this course; we will explore issues contextually, using quantitative and qualitative case studies. Because social responsibility and civic engagement is really the capacity to organize with others, we will work together to develop ideas in action prescriptions that address issues and aim to benefit the whole society. The interdisciplinary, inquiry-based, and collaborative approach that constitutes the foundation of the Social & Behavioral Science ALAS course will challenge you to think imaginatively about complex problems, relate better to your peers by appreciating diverse points of view, and teach you how to be better engaged citizens.

Student Learning Outcomes

Upon completion of this course, you will be able to:

1. describe social and behavioral scientific bases and approaches for investigating and analyzing facts and truth about behavioral, institutional, and societal contexts – what is Truth?
2. creatively examine inequality, and personal and social responsibility from multiple disciplinary perspectives – what is Justice?
3. critically examine what it means to be human through the lens of personal and social identities including: social class, gender, race and ethnicity, political, and sexual identity – what is it to be Human?
4. devise civic engagement strategies that work toward developing better possibilities to improve societal conditions for the common good – what is the Good Life?
5. effectively collaborate and communicate with peers in both small and large group contexts to apply solutions to complex societal issues.
6. exhibit effective oral and written communication skills related to the four BIG QUESTIONS in the context of social & behavioral sciences.

ALAS 1825. Career Exploration and Financial Independence

Course Description

The course combines Financial Literacy with Entrepreneurship to offer career exploration and financial knowledge to students from all disciplines. The course is designed with two areas in mind, financial literacy, and entrepreneurship as a way of making a living. Financial literacy allows the student to be financially well informed when choosing careers, jobs, loans, housing, etc. In the modern world, Entrepreneurship offers an avenue to progress as far as entrepreneur skills and creativity can take them. Students in this class will gain basic hands-on, real-time experience on how to evaluate financial scenarios (personal and professional), and also will be faced with the challenge of evaluating if they want to start their own business.

Many young professionals can benefit from exploring career options, including the idea of owning and operating their own business. Innovative individuals naturally see opportunities. Entrepreneurs have been creating new generations of profitable

businesses, while also providing solutions to some of the most difficult societal challenges. These social experiments (later businesses) help in understanding alternative solutions creating sustainable global scale industries and pave the way to the next generation of human living standards (i.e. the world wide web). The course will be interactive, using team exercises, and real-life examples. Emphasis will be given to collaborating and organizing creative ways to maximize innovation, self-achievement, and financially sound decisions.

Student Learning Outcomes

At the end of the class, the students should be able to:

1. Prepare a personal financial statement.
2. Analyze personal debt and develop a debt elimination plan.
3. Analyze and make purchase decisions for home and auto.
4. Analyze risk management needs in the areas of home, health, auto, life, and disability.
5. Analyze and develop a personal investment plan.
6. Analyze and develop a tax plan.
7. Develop a family educational plan.
8. Analyze retirement needs and develop a retirement plan.
9. Identify fundamental drivers creating opportunities for entrepreneurs and new ventures in the sustainable innovation arena.
10. Identify the constituent elements of the entrepreneurial process and Identify the necessary steps to start a business.
11. Adapt business responses to emerging opportunities. (Using real life cases and practice).
12. Analyze the value of collaborations for innovation.
13. Create an elevator pitch for the business plan.

ALAS 1830. Applied Liberal Arts and Sciences – STEM

Course Description

This course provides the knowledge and framework that will allow students to develop the quantitative skills necessary to be an active participant in shaping the future of our community and world. It contains an exploration from the perspectives of STEM disciplines to the questions: What is it to be human? What is a good life? What is truth? What is justice? Topics include surveys of biology, chemistry, computer science, environmental science and ecology, and mathematics to equip students with the knowledge to grasp today's important problems of pollution, population growth, conservation, climate change, impacts of artificial intelligence, global health and sustainability from the viewpoint of STEM disciplines.

Student Learning Outcomes

1. Explain the roles of STEM in society.
2. Explain the value of the scientific method, observation and experimentation as a means for understanding the natural world.
3. Understand basic biology and have a basic knowledge of origins of life, diversity of plants and animals, ecology of populations and communities, ecosystems and environmental concerns.
4. Understand the mechanisms of evolution by means of natural selection explaining the diversity of life.
5. Explain how the knowledge of human health and physiology has affected history, engagement in health practices and development of therapies for disease.
6. Understand basic chemistry and explain basic chemical terms, principles and concepts.
7. Describe the basic structure of an atom and molecules.
8. Understand forms of energy and energy conservation.
9. Using the Periodic Table of elements, distinguish between metals, non-metals and metalloids.
10. Distinguish between logical and non-logical axioms and formal systems in mathematics.

11. Define truth of a mathematical axiom.
12. Demonstrate knowledge of basic arithmetic, conversions, scientific notation, percent, ratios and proportions and draw informal comparative inferences about measurements.
13. Use SI system of units to solve quantitative calculations in science.
14. Understand graphical representations of data including pie charts, bar graphs, histograms and pictograms.
15. Define algorithm and give examples of algorithms in STEM.
16. Understand current state and future potential states of artificial intelligence.
17. Demonstrate awareness of potential impacts of artificial intelligence on human intelligence and the job market.
18. Demonstrate awareness in deep learning frameworks available today in computer science such as Python and Java.
19. Define sustainable development and describe its importance to natural resources in a global context.
20. Understand the basic causes of ecological concerns: population growth, global warming, ozone depletion, organic chemicals, pollution.
21. Demonstrate a basic knowledge of how the universe works, the basic structure of earth, and how it functions as a planet in our solar system.
22. Demonstrate a basic knowledge of how the Gila National Forest (located within the student community) functions, its endangered and threatened species, its use as an important source of ecological services to the community.
23. Quantify and demonstrate understanding of the impact of individuals and society on habitat and climate.
24. Make an informed argument about competing scientific, technological, economic, political and social priorities.
25. Communicate effectively about scientific ideas and topics; critically assess information from all sides of a scientific issue; choose a side and defend the choice.

ALAS 1835. Applied Liberal Arts and Sciences – Creativity

Course Description

Creativity is an essential skill for success in the 21st Century. This course will tap into and nurture the creativity that is innate in all of us. Students will explore the creative thinking process and idea generation methods that can be applies to any career path, or for personal life enrichment.

Student Learning Outcomes

1. Students will critically examine aspects of creativity:
    a. Cultural and personal; in the arts, sciences, and business
    b. How to apply creativity
    c. Critical examination of the formal elements of creativity
2. Examination of creativity in light of ALAS's Four questions:
    a. What is Truth - Is there a universal truth in art and music? In science? In business?
    b. What is Justice as found in literature and art, also in issues of censorship and social justice revolution
    c. What does it mean to be Human - how creativity drives human evolution, and creative collaboration
    d. What is the Good Life - Identifying a personal passion and purpose in life
3 Students will engage in a team project that will challenge the student's creativity, critical thinking collaboration, communication and innovation skills.

ALAS 1840. Ethnic Studies

Course Description

This course explores the diversity of experiences and relations among racial and ethnic groups. The course engages with some of the most pressing and challenging racial and ethnic issues facing the United States and the globe. The content includes critical assessment of the economic, political, societal, and historical contexts in which race and ethnicity have been

constituted and reproduced. Because race and ethnicity do not exist in isolation, the course materials raise questions and discussions about how intersections with class, gender, and sexuality have produced enduring—but continually evolving—patterns of privilege and inequality, marginalization and dominance, and oppression and empowerment. You will grapple with questions explored in all ALAS coursework, including: What does it mean to be human? What is the "good life"? What is truth? What is justice? You will also grapple with questions such as: What is the racial social hierarchy? How did/does it come to be? Who benefits from status quo power relations? How can human relations be more equitable and just? What does freedom for everyone look like? How is it achieved? The course embraces an interdisciplinary, inquiry-based approach. By developing and leveraging information literacy and social responsibility, it compels students to think imaginatively about complex problems, to appreciate diverse viewpoints, and to consider active engagement toward a freer, more just, and more equitable world.

Student Learning Outcomes

1. Learn the complexity of race and ethnic relations in the U.S. and globally.
2. Understand the most pressing challenges in regard to race and ethnic relations.
3. Analyze the historical, political, societal, literary, and economic contexts in which race and ethnic relations have been created.
4. Apprehend how intersecting identities such as gender and sexuality influence lived experiences of inequality, oppression, and marginalization.
5. Recognize the importance of equity, freedom, and justice as guiding principles in activism and social movement(s).
6. Practice interdisciplinarity, collaboration, and sustained inquiry in the pursuit of knowledge and truth.

Arabic (ARBC)

ARBC 1110. Arabic I

Course Description

Introduction to Arabic for students with no prior exposure. Following this class, students will be able to perform in specific situations at the Novice level on the American Council on the Teaching of Foreign Languages (ACTFL) proficiency scale. All five modes of communication are addressed (interpersonal, presentational speaking, presentational writing, interpretive reading, and interpretive listening). Modern Standard Arabic (MSA) and an Arabic dialect are taught using an integrated approach. Students will also develop their understanding of Arabic speaking cultures.

Student Learning Outcomes

At the conclusion of this course, the student should be able to do all of the following as described by these NCSSFL-ACTFL CAN-DO statements:

Interpersonal Communication

1. Greet and leave people in a polite way.
2. Introduce myself and others.
3. Answer a variety of simple questions.
4. Make some simple statements in a conversation.
5. Ask some simple questions.
6. Communicate basic information about myself and people I know.
7. Communicate some basic information about my everyday life.
8. Exchange some personal information.
9. Exchange information using texts, graphs, or pictures.
10. Interact with others in everyday situations.

Presentational Speaking

1. Present information about myself and others using words and phrases.

2. Express my likes and dislikes using words, phrases, and memorized expressions.
3. Present information about familiar items in my immediate environment.
4. Talk about my daily activities using words, phrases, and memorized expressions.
5. Present simple information about something I learned using words, phrases, and memorized expressions.
6. Present basic information about a familiar person, place, or thing using phrases and simple sentences.
7. Present information about others using phrases and simple sentences.

Presentational Writing

1. Fill out a simple form with some basic personal information.
2. Write about myself using learned phrases and memorized expressions.
3. List my daily activities and write lists that help me in my day-to-day life.

Interpretive Listening

1. Understand a few courtesy phrases.
2. Recognize and sometimes understand basic information in words and phrases that I have memorized.
3. Recognize and sometimes understand words and phrases that I have learned for specific purposes.
4. Sometimes understand simple questions or statements on familiar topics.

Interpretive Reading

1. Recognize words, phrases, and characters with the help of visuals.
2. Recognize words, phrases, and characters when I associate them with things I already know.
3. Usually understand short simple messages on familiar topics.
4. Sometimes understand short, simple descriptions with the help of pictures or graphs.
5. Sometimes understand the main idea of published materials.

ARBC 1110L. Arabic I

Course Description

Not Available

Student Learning Outcomes

Not Available

ARBC 1120. Arabic II

Course Description

Continuation of Arabic I, ARBC 1110. Following this class, students will be able to perform in specific situations at the Novice High to Intermediate Low level on the American Council on the Teaching of Foreign Languages (ACTFL) proficiency scale. All five modes of communication are addressed (interpersonal, presentational speaking, presentational writing, interpretive reading, and interpretive listening). Modern Standard Arabic (MSA) and an Arabic dialect are taught using an integrated approach. Students will continue to develop their understanding of Arabic-speaking cultures.

Student Learning Outcomes

At the conclusion of this course, the student should be able to do all of the following as described by these NCSSFL-ACTFL CAN-DO statements:

Interpersonal Communication

1. Exchange some personal information.
2. Exchange information using texts, graphs, or pictures.
3. Ask for and give simple directions.
4. Interact with others in everyday situations.
5. Have a simple conversation on a number of everyday topics.

Presentational speaking

1. Express my likes and dislikes using words, phrases, and memorized expressions.
2. Present information about familiar items in my immediate environment.

3. Talk about my daily activities using words, phrases, and memorized expressions.
4. Present information about my life using phrases and simple sentences.
5. Tell about a familiar experience or event using phrases and simple sentences.
6. Talk about people, activities, events, and experiences.

Presentational writing

1. Write notes about something I have learned using lists, phrases, and memorized expressions.
2. Write information about my daily life in a letter, blog, discussion board, or email message.
3. Write short notes using phrases and simple sentences.
4. Write about a familiar experience or event using practiced material.

Interpretive listening

1. Sometimes understand simple questions or statements on familiar topics.
2. Understand simple information when presented with pictures and graphs.
3. Sometimes understand the main topic of conversations that I overhear.
4. Understand the basic purpose of a message.
5. Understand messages related to my basic needs.
6. Understand questions and simple statements on everyday topics when I am part of the conversation.

Interpretive reading

1. Understand simple everyday notices in public places on topics that are familiar to me.
2. Understand messages in which the writer tells or asks me about topics of personal interest.
3. Identify some simple information needed on forms.

ARBC 1120L. Arabic I
Course Description
Not Available
Student Learning Outcomes
Not Available

ARBC 1130. Arabic I Intensive
Course Description
Following this class, students will be able to perform in specific situations at the Novice High to Intermediate Low level on the American Council on the Teaching of Foreign Languages (ACTFL) proficiency scale. All five modes of communication are addressed (interpersonal, presentational speaking, presentational writing, interpretive reading, and interpretive listening). Modern Standard Arabic (MSA) and an Arabic dialect are taught using an integrated approach. Students will continue to develop their understanding of Arabic-speaking cultures.
Student Learning Outcomes
At the conclusion of this course, the student should be able to do all of the following as described by these NCSSFLACTFL CAN-DO statements:
Interpersonal Communication

1. Greet and leave people in a polite way.
2. Introduce myself and others.
3. Answer a variety of simple questions.
4. Make some simple statements in a conversation.
5. Ask some simple questions.
6. Communicate basic information about myself and people I know.
7. Communicate some basic information about my everyday life.
8. Exchange some personal information.
9. Exchange information using texts, graphs, or pictures.

10. Ask for and give simple directions.
11. Interact with others in everyday situations.
12. Have a simple conversation on a number of everyday topics.

Presentational speaking

1. Present information about myself and others using words and phrases.
2. Express my likes and dislikes using words, phrases, and memorized expressions.
3. Present information about familiar items in my immediate environment.
4. Talk about my daily activities using words, phrases, and memorized expressions.
5. Present simple information about something I learned using words, phrases, and memorized expressions.
6. Present information about my life using phrases and simple sentences.
7. Tell about a familiar experience or event using phrases and simple sentences.
8. Present basic information about a familiar person, place, or thing using phrases and simple sentences.
9. Present information about others using phrases and simple sentences.
10. Talk about people, activities, events, and experiences.

Presentational writing

1. Fill out a simple form with some basic personal information.
2. Write about myself using learned phrases and memorized expressions.
3. List my daily activities and write lists that help me in my day-to-day life.
4. Write notes about something I have learned using lists, phrases, and memorized expressions.
5. Write information about my daily life in a letter, blog, discussion board, or email message.
6. Write short notes using phrases and simple sentences.
7. Write about a familiar experience or event using practiced material.

Interpretive listening

1. Understand a few courtesy phrases.
2. Recognize and sometimes understand basic information in words and phrases that I have memorized.
3. Recognize and sometimes understand words and phrases that I have learned for specific purposes.
4. Sometimes understand simple questions or statements on familiar topics.
5. Understand simple information when presented with pictures and graphs.
6. Sometimes understand the main topic of conversations that I overhear.
7. Understand the basic purpose of a message.
8. Understand messages related to my basic needs.
9. Understand questions and simple statements on everyday topics when I am part of the conversation.

Interpretive reading

1. Recognize words, phrases, and characters with the help of visuals.
2. Recognize words, phrases, and characters when I associate them with things I already know.
3. Usually understand short simple messages on familiar topics.
4. Sometimes understand short, simple descriptions with the help of pictures or graphs.
5. Sometimes understand the main idea of published materials.
6. Understand simple everyday notices in public places on topics that are familiar to me.
7. Understand messages in which the writer tells or asks me about topics of personal interest.
8. Identify some simple information needed on forms.

ARBC 1140L. Arabic Language Lab

Course Description

Not Available

Student Learning Outcomes

Not Available

ARBC 2110. Arabic III

Course Description

Continuation of Arabic II ARBC 1120. Following this class, students will be able to perform in specific situations at the Novice High to Intermediate Mid-level on the American Council on the Teaching of Foreign Languages (ACTFL) proficiency scale. All five modes of communication are addressed (interpersonal, presentational speaking, presentational writing, interpretive reading, and interpretive listening). Modern Standard Arabic (MSA) and an Arabic dialect are taught using an integrated approach. Students will continue to develop their understanding of Arabic-speaking cultures.

Student Learning Outcomes

At the conclusion of this course, the student should be able to do all of the following as described by these NCSSFL-ACTFL CAN-DO statements:

Interpersonal Communication

1. Make plans with others.
2. Use the language to meet my basic needs in familiar situations.
3. Start, maintain, and end a conversation on a variety of familiar topics.
4. Talk about my daily activities and personal preferences.
5. Use my language to handle tasks related to my personal needs.
6. Exchange information about subjects of special interest to me.
7. Exchange information related to areas of mutual interest.

Presentational speaking

1. Give basic instructions on how to make or do something using phrases and simple sentences.
2. Present basic information about things I have learned using phrases and simple sentences.
3. Talk about people, activities, events, and experiences.
4. Express my needs and wants.
5. Present information on plans, instructions, and directions.
6. Present songs, short skits, or dramatic readings.
7. Express my preferences on topics of interest.
8. Make a presentation about my personal and social experiences.
9. Make a presentation on something I have learned or researched.
10. Make a presentation about common interests and issues and state my viewpoint.
11. Make a presentation on events, activities, and topics of particular interest.

Presentational writing

1. Write basic information about things I have learned.
2. Ask for information in writing.
3. Write about people, activities, events, and experiences.
4. Prepare materials for a presentation.
5. Write about topics of interest.
6. Write basic instructions on how to make or do something.
7. Write questions to obtain information.
8. Write messages and announcements.
9. Write short reports about something I have learned or researched.

Interpretive listening

1. Understand basic information in ads, announcements, and other simple recordings.
2. Understand the main idea of what I listen to for personal enjoyment.
3. Understand messages related to my everyday life.
4. Easily understand straightforward information or interactions.
5. Understand a few details in ads, announcements, and other simple recordings.

Interpretive reading

1. Identify some information from news media.
2. Understand simple personal questions.
3. Understand basic information in ads, announcements, and other simple texts.
4. Understand the main idea of what I read for personal enjoyment.
5. Read simple written exchanges between other people.

ARBC 2120. Arabic IV

Course Description

Continuation of ARBC 2120 Arabic III. Following this class, students will be able to perform in specific situations at the Intermediate level on the American Council on the Teaching of Foreign Languages (ACTFL) proficiency scale. All five modes of communication are addressed (interpersonal, presentational speaking, presentational writing, interpretive reading, and interpretive listening). Modern Standard Arabic (MSA) and an Arabic dialect are taught using an integrated approach. Students will continue to develop their understanding of Arabic-speaking cultures.

Student Learning Outcomes

At the conclusion of this course, the student should be able to do all of the following as described by these NCSSFL-ACTFL CAN-DO statements:

Interpersonal Communication

1. Ask and answer questions on factual information that is familiar to me.
2. Use my language to do a task that requires multiple steps.

Presentational speaking

1. Present songs, short skits, or dramatic readings.
2. Express my preferences on topics of interest.
3. Make a presentation on something I have learned or researched.
4. Make a presentation about common interests and issues and state my viewpoint.
5. Present information on academic and work topics.

Presentational writing

1. Write about topics of interest.
2. Write short reports about something I have learned or researched.

Interpretive listening

1. Understand the main idea of what I listen to for personal enjoyment.
2. Easily understand straightforward information or interactions.
3. Understand a few details in ads, announcements, and other simple recordings.

Interpretive reading

1. Identify some information from news media.
2. Understand the main idea of what I read for personal enjoyment.
3. Understand accounts of personal events or experiences.
4. Sometimes follow short, written instructions when supported by visuals.
5. Understand the main idea of and a few supporting facts about famous people and historic events.

ARBC 2130. Arabic II intensive

Course Description

Continuation of ARBC 1130 Arabic I intensive. Following this class, students will be able to perform in specific situations at the intermediate level on the American Council on the Teaching of Foreign Languages (ACTFL) proficiency scale. All five modes of communication are addressed (interpersonal, presentational speaking, presentational writing, interpretive reading, and interpretive listening). Modern Standard Arabic (MSA) and an Arabic dialect are taught using an integrated approach. Students will continue to develop their understanding of Arabic-speaking cultures.

Student Learning Outcomes

At the conclusion of this course, the student should be able to do all of the following as described by these NCSSFL-ACTFL can-do statements:

Interpersonal communication

1. Make plans with others.
2. Ask and answer questions on factual information that is familiar to me.
3. Use the language to meet my basic needs in familiar situations.
4. Start, maintain, and end a conversation on a variety of familiar topics.
5. Talk about my daily activities and personal preferences.
6. Use my language to handle tasks related to my personal needs.
7. Exchange information about subjects of special interest to me.
8. Exchange information related to areas of mutual interest.
9. Use my language to do a task that requires multiple steps.

Presentational speaking

1. Give basic instructions on how to make or do something using phrases and simple sentences.
2. Present basic information about things I have learned using phrases and simple sentences.
3. Talk about people, activities, events, and experiences.
4. Express my needs and wants.
5. Present information on plans, instructions, and directions.
6. Present songs, short skits, or dramatic readings.
7. Express my preferences on topics of interest.
8. Make a presentation about my personal and social experiences.
9. Make a presentation on something I have learned or researched.
10. Make a presentation about common interests and issues and state my viewpoint.
11. Present information on academic and work topics.
12. Make a presentation on events, activities, and topics of particular interest.

Presentational writing

1. Write basic information about things I have learned.
2. Ask for information in writing.
3. Write about people, activities, events, and experiences.
4. Prepare materials for a presentation.
5. Write about topics of interest.
6. Write basic instructions on how to make or do something.
7. Write questions to obtain information.
8. Write messages and announcements.
9. Write short reports about something I have learned or researched.

Interpretive listening

1. Understand basic information in ads, announcements, and other simple recordings.
2. Understand the main idea of what I listen to for personal enjoyment.
3. Understand messages related to my everyday life.
4. Easily understand straightforward information or interactions.
5. Understand a few details in ads, announcements, and other simple recordings.

Interpretive reading

1. Identify some information from news media.
2. Understand simple personal questions.
3. Understand basic information in ads, announcements, and other simple texts.
4. Understand the main idea of what I read for personal enjoyment.
5. Read simple written exchanges between other people.

6. Understand accounts of personal events or experiences.
7. Sometimes follow short, written instructions when supported by visuals.
8. Understand the main idea of and a few supporting facts about famous people and historic events.

ARBC 2140. Intensive Intermediate Arabic I
Course Description
Intensive Arabic language course that develops students' Arabic skills to the ACTFL Intermediate Mid-level and expands their cultural knowledge of the Arab world.
Student Learning Outcomes
By the end of Intensive Intermediate Arabic I, you will,

1. Be able to develop Arabic skills to the ACTFL Intermediate-mid level in presentational speaking, listening, reading and writing.
2. Be able to develop Arabic skills to the ACTFL Intermediate-high level in interpersonal communication.
3. Be able to discuss cultural questions and issues involving the Arab world.

ARBC 2150. Intensive Intermediate Arabic II
Courses Description
Intensive Arabic language course that develops students' Arabic skills to the ACTFL Intermediate High level and expands their cultural knowledge of the Arab world.
Student Learning Outcomes
The goal of this class is to develop your Arabic skills to the ACTFL Inte1mediate High level in interpersonal communication, presentational speaking, listening, reading, and writing, and to expand your cultural knowledge of the Arab world.

ARBC 2996. Arabic Topics
Course Description
Varies
Student Learning Outcomes
Varies

Architecture (ARCH)

ARCH 1105. Orientation and Mentoring in Architecture-Construction Engineering (ACE)
Course Description
This course is intended for high school dual credit students and college/university students wishing to explore careers in Architecture, Construction, and Engineering (ACE), which includes the specific fields of Architectural, Civil, Mechanical, Structural, Interior, Landscape, Sustainability, and Environmental. Students receive one-on-one mentoring, attend field trips, and engage in hands-on activities.
Student Learning Outcomes
Not Available

ARCH 1110. Architectural Drawing
Course Description
This course is designed as an introduction to architectural drawing and design for students without prior experience in the fine arts. Students are guided through a series of spatial and analytical exercises that focus attention on not only how architects draw, but also the reasoning and processes embedded within the technique. Students are provided exposure to a wide range of interconnected architectural concepts and to manual and digital drawing, as well as modeling techniques for architectural and interior design. Students will learn how to represent composition, form, and space by orthographic

drawing, paraline and perspective views, and freehand sketching. Three-dimensional model building techniques will also be introduced.

Student Learning Outcomes

1. Gain understanding of basic methods of architectural drawing.
2. Explore and gain understanding of concepts of spatial design and its representation through exercises that stress analytical ability and an awareness of rational design process.
3. Gain an understanding of the design process with practice and various exercises.
4. Gain exposure to architectural delineation.
5. Demonstrate an understanding of specific skills and concepts related to architectural drawing.
6. Create and modify architectural models through various phases of a project.
7. Demonstrate a knowledge of graphic standards according to industry conventions.
8. Identify the various phases of work with regard to the architectural and interior design professions.
9. Develop analytical and critical thinking skills.

ARCH 1112. Global Issues and Sustainability

Course Description

Introduction to global environmental issues (historic, present, and future), and the impact on tomorrow's design and construction professions. Issues will include, but shall not be limited to global warming, energy consumption, population, natural resource consumption, air and water quality, waste management, facilities operation management, politics, and facilities design & construction. The impact on the design and construction industry, including 'Green Building' and 'LEED Accreditation and Certification/Criteria' will also be addressed.

Student Learning Outcomes

1. Discover global environmental history to better understand sustainable topics and change your behavior in the future.
2. Expand your knowledge on environment, natural resource consumption, human intervention, politics, and design and construction industry to support your education and future careers.
3. Learn how the US Green Building Council LEED (Leadership in Energy and Environmental Design) certification and Accredited Professional training expands your knowledge on green building design criteria; will help you determine whether you want to take the LEED exam.
4. Examine the many sides of climate change and its effects on the globe as well as our individual microclimate and personal lives to learn how to adapt to the current changes
5. Learn how to effectively research, report, present, and debate environmental topics to help you in your education and future careers.

ARCH 1114. Introduction to Architectural Design

Course Description

This course provides students who possess a basic background in architecture and architectural drawing with an introduction to architectural design. Students are guided through a series of spatial and analytical exercises that focus attention on two dimensional, three dimensional, and four-dimensional design. This course will build on direct linkages to ARCH 1120 and ARCH 1110 to further students' exposure to interconnected architectural concepts of process, organizational strategies, and analysis of material methodology while utilizing abstract and practiced graphical architectural conventions.

Student Learning Outcomes

1. Develop critical thinking strategies through a series of connected exercises in order to explain, demonstrate, categorize, compare, contrast and assess information/evidence.
2. Explore concepts of design through spatial design and apply these concepts through a series of progressive representational exercises that stress analytical ability and an awareness of rational design process.
3. Gain skills in the application of graphical communication in a range of media.

4. Enhance abilities in selecting specific information and applying that information to problem solve issues/concerns required to complete a task, while considering other implications.
5. Develop skill sin writing and speaking effectively and use representational media appropriate for both within the profession and with the public.
6. Gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.
7. Utilize basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design.
8. Apply fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design.
9. Demonstrate basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system.

ARCH 1115. Introduction to Architectural Graphics

Course Description

Introduction to manual and digital drawing as well as modeling techniques for architectural and interior design. Students will learn how to represent composition, form and space by orthographic drawing, paraline and perspective views, and freehand sketching. Three-dimensional model building techniques will also be introduced.

Student Learning Outcomes

1. Demonstrate an understanding of orthographic projection, multi-view drawings, plan, section, and elevation.
2. Demonstrate a knowledge of graphic standards such as line types, line weights, hatch/poche, symbols, dimensioning, annotation, key noting, cross-referencing, according to industry conventions.
3. Draw from observation and perform conceptual sketching and diagramming.

ARCH 1120. Introduction to Architecture

Course Description

This course provides students the tools and vocabulary to analyze, interpret and discuss the built environment from the social, historical, perceptual and technical determinants. Students are introduced to elements, principles, and theories of architecture through their social, historical, and technical determinants. The course seeks to lay a foundation in architectural studies, including introducing students to fundamental vocabulary and concepts.

Student Learning Outcomes

1. Identify and describe significant architects and iconic buildings.
2. Discuss social, cultural, and aesthetic contributions of specific architects and projects.
3. Explain architectural concepts via written and graphic communication.
4. Recall basic processes and vocabulary of architectural professional practice.
5. Understand our built environment and the language of design and architecture.
6. Understand how buildings are constructed and explain the process of development.
7. Describe and discuss design elements, principles, and theories.
8. Understand the relationships among owner, surveyors, designers, architects, engineers, and contractors.
9. Research design texts and analyze buildings, landscapes, interiors, sustainability, and products to increase knowledge of important elements of architecture and design.
10. Identify the various styles, periods, and movements and their social, historical, and technical impacts on architecture.

ARCH 1121. Computers in Architecture

Course Description

Explore various software and photography techniques widely used in the architectural field. In addition to using industry standard CAD program as primary 2-d drafting tool, focus is to produce digital architectural models and renderings, presentation boards, and animations. Digital images will be produced and enhanced through basic techniques in photography and integration of various software. Both individual and group work will be required.

Student Learning Outcomes

1. Demonstrate the use of the computer and plotters/printers
2. Define and understand different terminologies
3. Demonstrate the understanding of different files using windows operating system
4. Understanding the appropriate use of the software in order to produce necessary drafting outcomes
5. Use proper plotting and printing procedures in order to increase efficiency and minimize paper waste
6. Demonstrating the use of different line types as the relate to drafting

ARCH 1122. Architectural Design Studio I

Course Description

Enhancement of general graphic communication skills and introduction to fundamental design including exploration, development and defense of design concepts; structural order; 2-D and 3-D processes in manual and digital architectural graphic expression; model building; general communication and presentation techniques; and development of course portfolio. Course is Studio/critique-based with a considerable amount of work/hours required. This course is designed to be taken during student's last year in the Pre-Architecture program.

Student Learning Outcomes

1. Write and speak effectively and use representational media appropriate for both within the profession and with the general public.
2. Raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards
3. Gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.
4. Effectively use basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design.
5. Apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design.
6. Examine and comprehend the fundamental principles present in relevant precedents and to make informed choices about the incorporation of such principles into architecture and urban design projects.
7. Prepare a comprehensive program for an architectural project that includes an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and an assessment of their implications for the project; and a definition of site selection and design assessment criteria.
8. Respond to site characteristics, including its context and developmental patterning, the fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design.
9. Design sites, facilities, and systems that are responsive to relevant codes and regulations and include the principles of life-safety and accessibility standards.
10. Demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system.
11. Understand the basic principles involved in the appropriate selection and application of building envelope systems relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.

ARCH 1125. Design Fundamentals

Course Description

Introduces fundamental principles and processes of two-, three-, and four-dimensional design. Design aesthetics, perception, technique, composition, evaluation of materials and methods, practicing design methodologies, exploring design principles and theories, and graphic authorship are explored through various types of assignments.

Student Learning Outcomes

1. Demonstrate design solutions using the elements and principles of design and planning process to satisfy aesthetic and sustainable design criteria.
2. Furnish spaces by picture/sample of furniture, flooring, fabric, and finish samples.
3. Demonstrate the ability to use subtractive color theories and how color relates to space.
4. Demonstrate the ability to create basic lighting solutions.
5. Demonstrate the ability to perform space planning principles.

ARCH 1130. Building Materials and Methods

Course Description

An examination of common building systems and subsystems. Topics include structural materials, thermal and moisture protection, roofing, glazing, finish systems, and equipment systems that are in common use within the industry.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Draw a complete wall section that clearly conveys how a wall system is to be built.
2. Identify and define various types of structural systems.
3. Identify basic types of mechanical and electrical systems.
4. Implement sustainable materials and methods in technical drawings.
5. Use technical vocabulary to describe various building systems, subsystems, and components.

ARCH 1133. Physics and Math for Design

Course Description

Physics and Math for Design is a lecture/demonstration course for students who need scientific and mathematical concepts for their future design work. The course aims at a largely descriptive and qualitative introduction of selected (based on the needs and objectives of the future career in the field of design) topics of math and physics. No previous knowledge of physics is assumed: practicing the introduced topics (solving/discussing/analyzing problems) is scheduled based on (already) known elementary math and on the introduced concepts of math and physics. Emphasis is given to conceptual understanding of chosen topics related to future professional work areas with numerical application where it is important and useful. Topics as follows: Elements of Statistics, Elements of Geometry (in one- (x), two- (x, y), and three- (x, y, z → u, v, normal, dimensions), Elements of Trigonometry, Vectors, Statics, Kinematics and Dynamics (including Loads), Energy, Elements of Thermodynamics, Waves and Acoustics plus selected topics of geology/astronomy like Earthquakes or the Greenhouse Effect, are covered in the one semester introductory course. The International Units System and the fundamental rules related to the mathematical and physical formulas and units will be introduced at the beginning of the semester.

Student Learning Outcomes

The overall objective is that the students are introduced to scientific and mathematical concepts. By the end of the course, the student will be able to:

1. Freely handle mathematical and scientific formulas and units.
2. Perform the measurements, collect data, analyze data and results, graph the results, and discuss the errors of measurements and of the results.
3. Successfully apply geometry in all (1-3) dimensions.
4. Apply useful and helpful trigonometric functions to their future work area.
5. Understand the difference between scalar and vector quantities and to operate them.

6. Describe the concepts of Kinematics: differentiate between speed, velocity and acceleration, differentiate between linear and non-linear motion.
7. Understand the foundation of Statics and Dynamics (Newton's Laws of Motion): mass of the object and inertia concepts, identify common forces such as elastic, friction, normal (support), tension forces and recognize the condition for mechanical equilibrium.
8. State and apply Newton's Laws of Motion to simple problems involving forces and study the effect of forces on motion.
9. Analyze Dynamics of linear and non-linear motion.
10. Understand and apply the Universal Law of Gravity (ULG) to problems solving, use proportional reasoning for ULG to discuss the problems.
11. Describe and differentiate the concepts of mass and weight, center of mass and center of gravity.
12. Graphically illustrate applied forces and conclude the results based on them (free-body diagram: static load, dynamic load).
13. Summarize the concept of elasticity (stress and strain) and deformations in the structures.
14. Define conservation laws in relation to momentum (linear and angular) and energy.
15. Explain the mechanical and thermal properties of solids, liquids, gases and plasma on the basis of the atomic nature of matter.
16. Understand temperature as a measure of the level of kinetic energy (of the atoms or molecules) of a system and use the different temperature scales in practice (conversion formulas).
17. Identify heat as a form of energy and describe thermal expansion and phase change.
18. Summarize Thermodynamics applied to the architectonic structures.
19. Describe periodic motion and the propagation of mechanical waves.
20. Explain acoustics parameters and the properties of sound and apply them in design of architectonic structures.
21. Analyze geological/astronomical phenomena (Earthquakes, the Greenhouse Effect) in Designing and Architecture.

ARCH 1135. Technical Documentation with Auto CAD I

Course Description

An introduction to basic computer-aided drafting concepts using AutoCAD. Students will learn drafting techniques that are in common use within industry. Emphasis is placed on drawing setup, creating and modifying geometry, storing and retrieving files, placing, rotating, and scaling objects, adding text and dimensions, using layers, creating blocks, and interpreting and constructing plans, elevation, and section views.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Execute commands that are used in the creation of a drawing file.
2. Create geometry that represents building objects.
3. Execute modified commands to manipulate user-generated geometry.
4. Create and manage multiple annotation objects within a drawing file.
5. Create, modify, and export blocks in a drawing file.
6. Create and analyze plan, elevation, and section views.

ARCH 1140. Building Information Modeling with Revit I

Course Description

Introduction to Revit, Building Information Modeling (BIM), fundamental concepts. Students learn how to place, manipulate, and create intelligent building components that are fully parametric. In Revit, students create and manage various views, manage and place annotative objects to create construction documents, and use nonnative files to create 3-D site

information. This course will also demonstrate how BIM is becoming an indust1y standard due to its ability to connect architects/ interior designers, consultants, and contractors to create beautiful, functional, and sustainable buildings.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Place, modify, and create building components in multiple views within a project.
2. Create and manage elevations, sections, and other views at various scales within a project.
3. Modify, manage, and place annotative objects in a project.
4. lmport and manipulate non-native site files into a 3-D model.
5. Create and manage construction documents.

ARCH 1145. Building Information Modeling with ArchiCAD I

Course Description

Introduction to ArchiCAD, Building Information Modeling (BIM], fundamental concepts. Students learn how to place, manipulate, and create intelligent building components that are fully parametric. In ArchiCAD, students create and manage various views, manage and place annotative objects1 create construction documents, and use non-native files to create 3-D site information. This course explores how BIM is becoming an industry standard due to its ability to connect architects, interior designers, consultants, and contractors to create beautiful, functional, and sustainable buildings.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Place, modify, and create building components in multiple views ~within a project.
2. Create and manage elevations, sections, and other views at various scales within a project.
3. Modify, manage, and place annotative objects in a project.
4. Import and manipulate non-native site files into a 3-D model.
5. Create and manage construction documents.

ARCH 1150. Interior Design I

Course Description

An introduction to the basic principles of interior design: materials, lighting, color theory, space planning, and sustainable design. Students will integrate these basic principles into project-based assignments.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate design solutions using the elements and principles of design and planning process to satisfy aesthetic and sustainable design criteria
2. Furnish spaces by picture/sample of furniture, flooring, fabric, and finish samples
3. Demonstrate the ability to use subtractive color theories and how color relates to space
4. Demonstrate the ability to create basic lighting solutions
5. Demonstrate the ability to perform space planning principles

ARCH 1155. Sustainable Design Studio

Course Description

Introduction to sustainable design concepts. Lectures and assignments will present the framework for creative analysis, including systems thinking and synergistic integration of the three pillars of sustainability, environments, equity, and economy, and their relationship to building systems.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Understand how the environment, equity, and the economy impact sustainability.
2. Perform and present sustainable design research.

3. Assess, analyze comparatively, and choose between multiple sustainable design and construction options.
4. Understand the key components of the integrated design process.

ARCH 1160. Building Information Modeling with Revit II

Course Description

Focuses on the more advanced operations of Revit, Building Information Modeling (BIM). Topics include how to place, manipulate, and create intelligent building components that are fully parametric, create and manage various 2-D and 3-D views, create and manage building component content, create construction documents, and create site and terrain models.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Place, modify, and create advanced building components.
2. Place cameras to create views and movies within a project.
3. Create and manage project content.
4. Create and manipulate 3-D site models.
5. Create and manage construction documents.
6. Import and manipulate non-native file formats within a project.

ARCH 1165. Building Information Modeling with ArchiCAD II

Course Description

Focuses on the more advanced operations of ArchiCAD, a type of Building Information Modeling (BIM). Topics include how to place, manipulate, and create intelligent building components that are fully parametric, create and manage various 2-D and 3-D views, create and manage building component content, create construction documents, and create site and terrain models.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Place, modify, and create advanced building components.
2. Place cameras to create views and movies within a project.
3. Create and manage project content.
4. Create and manipulate 3-D site models.
5. Create and manage construction documents.

ARCH 1170. Technical Documentation with AutoCAD II

Course Description

Expands on the introduction to computer-aided drafting concepts using AutoCAD. Emphasis is placed on content management, creating blocks, and managing external references, annotation objects, and CAD standards. Students work with non-native imported objects, advanced modify commands, and expanding on the creation and analysis of plan, elevation, and section views.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Create and manage blocks and external blocks.
2. Explain the procedure of using external references.
3. Manage multiple annotation objects in a drawing file.
4. Implement CAD standards.
5. Scale, trace, and manage non-native imported objects.
6. Create and manage multiple layouts in a drawing file.
7. Execute advanced modify commands on user-generated geometry.
8. Manage and analyze plan, elevation, and section views.

ARCH 1175. Interior Design II

Course Description

An expansion on the principles of interior design: materials, lighting, color theory, space planning, and sustainable design. Students deepen their understanding of these principles and apply them to project based assignments, working in a collaborative environment.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate design solutions using the elements and principles of design and the planning process to satisfy aesthetic and sustainable design criteria.
2. Furnish a variety of spaces by picture/sample of furniture, accessories, flooring, fabric, and finish samples.
3. Use color of light and surfaces in relation to spatial design.
4. Create advanced lighting solutions.

ARCH 1180. Sketching Workshop

Course Description

An introduction to sketching strategies and techniques using various media through instructor demonstration, experimentation, and coaching. Students first meet in the studio and then meet on location to practice sketching and review and assess together while enjoying the sights and sounds of Santa Fe. Students plan and prepare for a group gallery show /exhibit as the last meeting.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Create graphics of multi-discipline teamwork project production.
2. Describe building technology, construction, systems, sub-systems, and components.
3. Demonstrate professional communication, problem solving, record keeping, planning, and assessment of projects.

ARCH 1210. Introduction to Environmental Planning

Course Description

Development of the major issues, concepts and methods emerging from the relationship of social systems and the natural environment.

Student Learning Outcomes

By the end of this course you should:

1. Have an understanding of some of the environmental problems/issues facing the world today, from the local to the global.
2. Be able ask not only the “what” questions, but the “how,” “where,” “when” and “why” questions through written work, class discussion, and oral presentation. That is, you should be able to express reasoned opinions and engage in critical debate that is necessary to being an environmental citizen in the 21st century.
3. Be able to explain (or at least further explore in a critical manner) the social dimensions and interdisciplinary challenges associated with pressing environmental issues; and
4. Understand the ethical dimensions of human-environment decision making.

ARCH 1215. Introduction to Environmental Problems

Course Description

Examination of the fundamental concepts and issues related to the natural environment that planners face. Focus on land use and open space planning, planning and use of resources, interactions of urban residents and the physical environment, and the role of government in formulating appropriate policies and strategies.

Student Learning Outcomes

At the conclusion of this course, students should be able to:

1. Identify underlying factors that shape environmental planning and policy.
2. Identify the major governmental planning-related issues associated with specific environmental topics such as: environmental justice, air quality, water quality and wastewater management, climate change, disaster planning, energy planning, the built and natural environment, conservation development, low impact and green development.
3. Describe, analyze and evaluate policies and programs used by planners to address environmental challenges and promote sustainable development.

ARCH 1220. Architecture World History I

Course Description

A survey of the development of world architecture from the ancient era to the advent of the enlightenment in Europe. Major emphasis is on the visual, intellectual, cultural and technological aspects of the ancient and indigenous cultures of the classical and pre-modern world.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1 Identify major architectural monuments from prehistory to the Renaissance (1400's) in the Western world.
2 Demonstrate an understanding of major monuments, styles of architecture and building traditions of non-Western cultures.
3 Recognize the relationship of movements and styles in Western architecture to their counterparts in painting and sculpture from the various historical periods.
4 Describe the basic principles of urban design.
5 Express an appreciation of architectural achievements and the ways in which the elements of art {line, form, color, texture, light, etc.) combine to produce objects of beauty in the built environment.
6 Describe basic engineering concerns and achievements in architecture.

ARCH 1310. Introduction to Architecture, Engineering & Construction

Course Description

Introduction to and exploration of careers in the fields of architecture, engineering, and construction. Specific fields to include: architecture, civil engineering, mechanical engineering, structural engineering, engineering technology, residential construction, commercial construction, geographical information systems (GIS), surveying, sustainable design, and green building

Student Learning Outcomes

1. Prepare accurate written technical documents, Produce drawing documents that are technically sound.
2. Develop and practice productive work skills.
3. Upgrade technical knowledge and skills to keep pace with real-world changes ARCT 100 Course Competencies.
4. Describe different career options in architecture, engineering, and construction.
5. Define the roles of different design professionals and support staff.
6. Explain related educational and professional licensing requirements.
7. Articulate employer expectations, Explore related courses and programs of study at community colleges and universities.
8. Develop good workplace skills and professional, productive work habits.

ARCH 2110. Architectural Design Studio II

Course Description

Provides an intermediate design studio format focused on the development of student-lead projects coupled with critical evaluation of graphic skills and architectural intent.

Student Learning Outcomes

1. Explore and develop an understanding of concepts in architectural aesthetics.

2. Develop understanding of design methods such as diagramming, brainstorming, and graphic authorship.
3. Apply fundamental design methodology to solve design problems, including diagramming, modeling, prototyping, illustrating, and presenting.
4. Develop critical thinking strategies using a series of connected exercises in order to explain, demonstrate, categorize, compare, contrast and assess information and evidence.
5. Explore concepts of design thinking through spatial design and apply these concepts through a series of progressive representational exercises that stress analytical ability and an awareness of rational design process.
6. Gain skills in the application of graphical communication in a range of media.
7. Apply fundamental design elements, principles, and theories to create visual solutions.
8. Research and incorporate design precedents into design projects

ARCH 2111. Architectural Delineation I

Course Description

Introduction to visual literacy, architectural graphic communication, & basic analytical skills. Architectural concepts primarily explored through the application of technical drawing, descriptive geometry, & material manipulation, primarily black & white media. Use of digital tools and media as applicable.

Student Learning Outcomes

1. Develop and utilize visual observation skills.
2. Translate visual observations into graphical information.
3. Develop and utilize critical thinking in the development of projects.
4. Develop effective line drawing techniques.
5. Produce graphical representations using various shading techniques.
6. Communicate design concepts and ideas clearly.

ARCH 2112. Architectural Visualization I

Course Description

Introduction to the history, theory, and emerging practices of architectural drawing. Students will learn technical workflows for 3-D digital modeling, 2-D digital drawing, and fabrication. This course will cover strategies for prescribing drawing conventions and modes of representation, including measured drawings, diagrams, orthographic views, perspectives, image-making, and rendering.

Student Learning Outcomes (required):

Through project exercises, students will demonstrate a working understanding of the following objectives and skills.

1. Architectural drawing conventions, such as line weights, line styles, composition, scale, notations, and orientation.
2. Graphic and compositional strategies for drawing and perspective making.
3. Conventional and unconventional approaches to modeling and drawing and the appropriate context for both.
4. Productive use and workflow of 2-D and 3-D digital software to construct architectural drawings and images.
5. Situate questions of representation within the historical and contemporary discourse on architectural environments.

ARCH 2113. Sustainable Design in Architecture

Course Description

This course provides students with hands-on opportunity to increase their awareness in and respond to the issues of responsible environmentally friendly building design by engaging in an integrated design process combining 'Traditional Design Process' with 'Sustainable Environmental Design' strategies. Students will expand their awareness of global environmental impacts due to design and construction, and gain knowledge in the industry's leading design 'tool' LEED (Leadership in Energy and Environmental Design) green building design rating system. LEED strategies will be utilized in the design of individual projects apply LEED in practical, individual design development, and develop an integrated building model utilizing the concept of BIM (Building Information Modeling). Such project development will require learning a basic

design process and specific sequence including conceptual design, schematic design, design development and BIM (utilizing a BIM software such as REVIT, or AutoCAD Architecture).

Student Learning Outcomes

1. Understand Global Issues that impact sustainability of resources and quality of/equity in life.
2. Understand the impact of buildings on the environment.
3. Identify the basic principles of 'green' design and construction.
4. Identify and Interpret basic principles of the LEED green building rating system.
5. Engage in research of green technologies and design practices.
6. Understand the essential steps of the design process.
7. Develop a basic building design which qualifies for at least LEED Certified rating.
8. Utilize a BIM integrated software package to develop a virtual Building Information Models.
9. Develop presentation posters and slideshow of design work.
10. Conduct project presentations, and critique work of peers in a clear, concise manner.

ARCH 2114. Construction Documents

Course Description

Basic use of CAD and Building Information Modeling (BIM) to produce residential, commercial, and industrial architectural working drawings, including floor plans, sections, foundation plans and details, exterior and interior elevations, framing plans, and site plans. Use and application of building and zoning codes, typical construction methods and materials, and accessibility requirements. Basic 3-D modeling, AIA layering standards, sheet layout, and construction document coordination.

Student Learning Outcomes

1. Create full 3-D architectural project models, both via tutorials, and independently.
2. Set models up as working drawings.
3. Have a working knowledge of the tools that the majority of users will use to work with Revit Architecture.
4. Project File management skills.

ARCH 2115. Architecture Design Studio II

Course Description

Advanced graphic communication, design and 3-D physical model representation. Focus on site analysis, programing and fundamental design issues of context, environment, program development and space planning, 2-D and 3-D design and presentation techniques. The Course is 'Studio/critique-based' with considerable number of outside work/hours required.

Student Learning Outcomes

1. Write and speak effectively and use representational media appropriate for both within the profession and with the general public.
2. Raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards.
3. Gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.
4. Effectively use basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design.
5. Apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design.
6. Examine and comprehend the fundamental principles present in relevant precedents and to make informed choices about the incorporation of such principles into architecture and urban design projects.
7. Prepare a comprehensive program for an architectural project that includes an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review

of the relevant building codes and standards, including relevant sustainability requirements, and an assessment of their implications for the project; and a definition of site selection and design assessment criteria.
8. Respond to site characteristics, including its context and developmental patterning, the fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design.
9. Design sites, facilities, and systems that are responsive to relevant codes and regulations and include the principles of life-safety and accessibility standards.
10. Demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system.
11. Understand the basic principles involved in the appropriate selection and application of building envelope systems relative to fundamental performance, aesthetics, moisture transfer, durability, and energy and material resources.

ARCH 2116. Architectural Delineation

Course Description

Continuation of ARCH 2111 with an emphasis in color media.

Student Learning Outcomes

1. Develop and utilize visual observation skills.
2. Translate visual observations into graphical information.
3. Develop and utilize critical thinking in the development of projects.
4. Develop effective line drawing techniques.
5. Produce graphical representations using various shading techniques.
6. Communicate design concepts and ideas clearly.

ARCH 2117. Architectural Visualization II

Course Description

Students will advance on technical skills and workflows obtained in Architectural Visualization I to observe, document, transform and create multi-scalar ideas into irresistible visual expressions. This course will cover architectural drawing conventions of plan, section, elevation, axonometric projection, perspective construction, diagramming, mapping and imaging to effectively communicate design ideas through visual means.

Student Learning Outcomes Through project exercises, students will demonstrate a working understanding of the following objectives and skills.

1. Identify architectural conventions in orthographic projections.
2. Emphasize Architectural properties through the strategic use of drawing conventions.
3. Graphic and compositional strategies for drawing and perspective making.
4. Develop a process that transitions 2-dimensional drawings into 3-dimensional visual graphic forms.
5. Conventional and unconventional approaches to modeling and drawing and the appropriate context for both.

ARCH 2120. World Architecture I

Course Description

Lecture survey of the architectural and urban traditions of world cultures from prehistory to the Enlightenment.

Student Learning Outcomes

1. A.1 Professional Communication Skills: Ability to write and speak effectively and use representational media appropriate for both within the profession and with the general public.
2. A.3 Investigative Skills: Ability to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.
3. A.7 History and Global Culture: Understanding of the parallel and divergent histories of architecture and the cultural norms of a variety of indigenous, vernacular, local, and regional settings in terms of their political, social, ecological, and technological factors.

4. A.8 Cultural Diversity and Social Equity: Understanding of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to sites, buildings, and structures.

ARCH 2122. LEED Accreditation Exam Prep

Course Description

This course is intended for anyone in the construction or architectural design fields who is interested in learning more about green building and the LEED (Leadership in Energy and Environmental Design) strategies and are also interested in learning about how to become LEED accredited. Overview of the LEED rating systems utilized in the design and operation of buildings, the various LEED building certifications, and accreditation requirements for professionals. Highlights include interpretation of the LEED Reference Guides, accepted strategies for meeting LEED certification, sample practice exams, integrated project delivery methods, and a practical approach to problem solving through the use of design problems.

Student Learning Outcomes

1. The student completing this course should gain knowledge and skills for each of the topics covered in the Course Outline.
2. Successful completion of this course should give each student a working knowledge of various LEED Rating Systems, and LEED GA Study Guides.
3. Students will develop critical thinking strategies to enable them to develop preliminary design and plan checking for code compliance.
4. Students should develop acceptable and productive work habits.

ARCH 2124. Professional Development and Leadership

Course Description

As members and/or officers of student professional organizations, architecture students gain experience through undertaking leadership roles, participating in team building, and becoming involved in service to the community. Students can also gain actual work experience involving skills related to their field of study.

Student Learning Outcomes

1. Leadership skills.
2. Presentation techniques and public speaking.
3. Organizational and teambuilding skills.
4. Architecture-related skills.
5. Community organizations and service.

ARCH 2125. World Architecture II

Course Description

A survey of modern architectural and urban traditions from 1700 to present.

Student Learning Outcomes

1. Identify key characteristics of the built environment from different time periods (post-1700) and explain the events that influenced them.
2. Describe how architectural ideas, materials, and labor circulate globally.
3. Understand how one's own life compares/contrasts with those of others around the globe at different time periods.
4. Identify how architects and architecture participate within broader social, cultural, and economic systems.
5. Differentiate between claims backed by research and those not backed by research.
6. Conduct original architectural research using historical methods.

ARCH 2135. Commercial Environmental Design

Course Description

Introduction to commercial space design. This course will include space planning, color selections, textile and furniture selection, lighting requirements, building materials and methods, and building codes for a commercial design project.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate knowledge of planning a commercial space.
2. Demonstrate knowledge of selecting furniture to meet the client's needs.
3. Demonstrate knowledge of selecting lighting to meet the client's needs.
4. Demonstrate knowledge of commercial building codes and materials and methods in a commercial space.

ARCH 2140. Professional Practices and Portfolio Assessment

Course Description

An opportunity to plan and deliver presentations on design projects to the class and a design jury. Students assemble a portfolio of selected work and learn interviewing strategies through lecture and mock interviews with industry professionals. Professionalism within a design studio is examined and practiced through lectures and group assignments.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Assemble a portfolio for future employment or higher education.
2. Create and deliver a presentation on a design project.
3. Demonstrate how to perform during an interview.
4. Demonstrate professionalism in a design studio.

ARCH 2151. Design Thinking

Course Description

This course introduces an approach to design as critical engagement. This course develops a critical engagement with architectural and design production, through the mechanisms of diagramming and writing. The goal of the course is to foster an approach to writing as learning and drawing as design.

Student Learning Outcomes

1. Read, write, speak and listen effectively.
2. Raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards.
3. Use appropriate representational media, such as traditional graphic and digital technology skills, to convey essential formal elements at various stages of the design process.
4. Understand the designer’s responsibility to work in the public interest, to respect historic resources, and to improve the quality of life for local and global neighbors.

ARCH 2155. Architectural Design Studio III

Course Description

Lecture survey of the architectural and urban traditions of world cultures from prehistory to the Enlightenment.

Student Learning Outcomes

1. A.1 Professional Communication Skills: Ability to write and speak effectively and use representational media appropriate for both within the profession and with the general public.
2. A.3 Investigative Skills: Ability to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.
3. A.7 History and Global Culture: Understanding of the parallel and divergent histories of architecture and the cultural norms of a variety of indigenous, vernacular, local, and regional settings in terms of their political, social, ecological, and technological factors.

4. A.8 Cultural Diversity and Social Equity: Understanding of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to sites, buildings, and structures.

ARCH 2220. Architectural World History II

Course Description

A survey of the development of world architecture from the enlightenment in Europe to the present.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify major architectural monuments from 1400 to the present in the Western world.
2. Recognize the relationship of movements and styles in Western architecture to their counterparts in design, painting, and sculpture from the various historical periods.
3. Describe the basic principles of urban design.
4. Express an appreciation of architectural achievements and the ways in which the elements of art (line, form, color, texture, light, etc.) combine to produce objects of beauty in the built environment.
5. Analyze basic engineering concerns and achievements in architecture.

ARCH 2223. World Architecture I: History of the Built Environment from Pre-history to 1400 C.E.

Course Description

Not Available

Student Learning Outcomes

Not Available

ARCH 2224. World Architecture II: History of the Built Environment from 1400 CE to Present

Course Description

Survey of the architectural and urban traditions of the modern world from the Enlightenment to the present.

Student Learning Outcomes

1. A.1 Professional Communication Skills: Ability to write and speak effectively and use representational media appropriate for both within the profession and with the general public.
2. A.3 Investigative Skills: Ability to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.
3. A.7 History and Global Culture: Understanding of the parallel and divergent histories of architecture and the cultural norms of a variety of indigenous, vernacular, local, and regional settings in terms of their political, social, ecological, and technological factors.
4. A.8 Cultural Diversity and Social Equity: Understanding of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to sites, buildings, and structures.

ARCH 2315. Architectural Design I

Course Description

This course introduces fundamental principles and processes of architectural design. Students will explore topics such as design aesthetics, perception, technique, composition, evaluation of materials and methods, design methodologies, design principles and theories, and graphic authorship. Students will be exposed to interconnected architectural concepts of process, organizational strategies, and analysis of material methodology, while critically utilizing abstract and practiced graphical architectural conventions.

Student Learning Outcomes:

1. Explore and develop an understanding of concepts in architectural aesthetics.

2. Develop understanding of design methods such as diagramming, brainstorming, and graphic authorship.
3. Apply fundamental design methodology to solve design problems, including diagramming, modeling, prototyping, illustrating, and presenting.
4. Develop critical thinking strategies using a series of connected exercises in order to explain, demonstrate, categorize, compare, contrast and assess information and evidence.
5. Explore concepts of design thinking through spatial design and apply these concepts through a series of progressive representational exercises that stress analytical ability and an awareness of rational design process.
6. Gain skills in the application of graphical communication in a range of media.
7. Apply fundamental design elements, principles, and theories to create visual solutions.
8 Research and incorporate design precedents into design projects.

ARCH 2325. Architectural Design II
Course Description
Studio introduces principles of urban design and planning through an exploration of a series of multi-scaled architectural projects that examine public goals and constraints, urban infrastructure and fabric, sustainability, historical and socio-cultural issues.
Student Learning Outcomes (required):
1. To establish and develop understanding and use of foundational architectural systems including form, geometry, and space.
2. To develop methods of precedent analysis and expand methods for looking at, measuring, and evaluating space and architecture.
3. To develop strategies for designing and building in relation to the environment.
4. To introduce technologies of description and develop skills and comfort with new technologies.
5. To develop craft as a productive process of architectural translation.

ARCH 2333. Sustainability I
Course Description
Lectures present the framework for creative analysis, including systems thinking and synergistic integration of the three pillars of sustainability, environments, equity, and economy, and their relationship to building systems.
Student Learning Outcomes (required):
1. Students will learn through critical thinking and reviewing each other's assignments in classroom discussions be able to offer appropriate and alternate solutions.
2. Students will be able to document their findings through research and case.
3. Precedents will be used to assess students' research and integration skills.
4. Students will be aware of USGBC's LEED principles.
5. Students will be able to define architectural sustainability.

ARCH 2994. Portfolio
Course Description
Varies
Student Learning Outcomes
Varies.

ARCH 2995. Cooperative Experience
Course Description

Supervised cooperative work program. Student employed in approved occupation; supervised and evaluated by employer and instructor.
Student Learning Outcomes
Varies

ARCH 2996. Topics in Architecture
Course Description
Topics subtitled in the Schedule of Classes.
Student Learning Outcomes
Varies

Arts and Science (ARSC)

ARSC 1198. Freshmen Seminar Topics
Course Description
Variable content in an academic discipline. Through study of topic, develops academic skills including scholarship, research, comprehension, analysis, synthesis, evaluation, application, critical thinking, and communication of ideas. Most sections require coregistration in a specified "linked" course.
Student Learning Outcomes
Ex: “Student Success in A&S”. (This topics course is specifically designed for second semester freshmen that earn below a 2.0 GPA in their first semester at UNM)

1. Learning Strategies and Metacognitive Knowledge: Through this class you will gain a better understanding of your strengths as a student and the different ways learning occurs. You will be able to adapt learning strategies and create tools for your learning across new contexts, subjects, and tasks.
2. Self-Management, Growth, and Goal Setting: By the end of the course, you will be able to create a learning plan, create action steps, and evaluate/assess how effective your learning plan is. You will leave with a better understanding and tools for managing your time, regulating your learning, and making adjustments along the way.
3. Hidden Curriculum: Through this class, you will learn how the formal curriculum differs from the hidden curriculum. We will explore the norms, values, and processes that make up the hidden curriculum.

Art Education (ARTE)

ARTE 1996. Art Education Topics
Course Description
Varies
Student Learning Outcomes
Varies

ARTE 2110. Arts & Crafts for the Elementary Teacher
Course Description
Application of techniques, methods, and materials of arts and crafts in the teaching of subject matter by the elementary class-room teacher. Additional art supplies will be required.
Student Learning Outcomes
Not Available

ARTE 2214. Art in Elementary and Special Classrooms
Course Description

This course is designed to introduce elementary education majors to the teaching of visual art. Students will study art, art history; childhood art developmental stages and will write a research paper on an artist and prepare an art lesson plan inspired by that artist. Students will create art projects using various materials and methods and learn about the integration of the arts into other core subjects.

Student Learning Outcomes

1. Understand the importance of art in education.
2. Recognize and implement the elements of art and the principles of design in their own artwork.
3. Understand the artistic cognitive, affective, motor, and sensorial development of children.
4. Prepare and present an integrated art lesson.
5. Understand the scope of art history and utilize examples in lesson plan.
6. Learn effective teaching techniques in handling art materials, classroom management, and classroom procedures.
7. Develop personal creative growth teaching art by reflecting on the readings in their journals.
8. Learn how to relate the visual arts to music, drama, dance, language arts, math, social studies, and science.

ARTE 2996. Art Education Topics

Course Description

Varies

Student Learning Outcomes

Varies

Art History (ARTH)

ARTH 1110. Art Appreciation

Course Description

This course introduces and explores visual arts, providing an awareness of the significance of the arts at personal, societal and historical levels including both fine and applied arts.

Student Learning Outcomes

1. Trace the development of diverse art and architecture styles.
2. Compare and contrast the major art and architectural styles.
3. Use art terms and explain basic art concepts.
4. Analyze the visual elements and design principles in masterworks of art.
5. Describe masterpieces objectively, with emphasis on contemporary works.
6. Gain general knowledge of the history of artistic production.
7. Understand how both art and the study of art relates to other disciplines, such as philosophy, history, archeology, theater, and music.
8. Distinguish the elements and principles of design and explain how they are being used in a given piece of art.

ARTH 1115. Orientation in Art

Course Description

A multicultural examination of the principles and philosophies of the visual arts and the ideas expressed through them.

Student Learning Outcomes

The student who successfully completes this class will be able to:

1. Identify elements of art & principles of design.
2. Articulate the relationship of art to the human experience.
3. Write and discuss critically using the vocabulary of art.
4. Interpret art within cultural, social, personal, and historical contexts.
5. Critically analyze an original work of art.

ARTH 1116. History of Design

Course Description

This course introduces significant developments in the history of design as situated within its sociopolitical, cultural, and economic contexts. Design types ranging from furniture, interiors, products, and commercial to graphic design will be examined. The evolution of design will be traced in regards to materials, technology, social taste, and the effects of the shifting patterns of production and consumption. This course will also consider how issues of gender, race, and class influence design.

Student Learning Outcomes

Students will be able to:

1. Demonstrate a chronological understanding of various design types.
2. Recognize and correctly identify major works of design from various cultures.
3. Develop a vocabulary necessary to discussing works of design within the discipline of art history.
4. Discuss (written/oral) a given work of design in terms of its form, contextual history, function, and iconographic meaning.
5. Compare and contrast works of design from a range of periods and cultures using the various modes of art criticism.

ARTH 1120. Introduction to Art

Course Description

In this class, students will be introduced to the nature, vocabulary, media and history of the visual arts, illustrated by examples drawn from many cultures, both Western and non-Western and across many centuries. We will begin with a general overview of the subject, including basic concepts and themes that shed light on the continuity of the artistic enterprise across the span of human experience. We will study the visual elements from which art is made, including how artists use these elements and how the artists' use of visual elements affects our experience of looking at art. We will examine both two-dimensional and three-dimensional media including drawing, painting, printmaking, camera and computer arts, graphic design, sculpture, installation, crafts and architecture. Selected works will be examined in context, including the history of the time and place in which they were created, as well as their function, patronage, and the character and intent of individual artists.

Student Learning Outcomes

1. Students will learn the terminology that we use to talk about art.
2. Students will learn about the elements from which art is made including line, shape, mass, color, light, texture and pattern, space, time and motion.
3. Students will learn about the principles of design including unity and variety, balance, emphasis and subordination, scale and proportion, rhythm.
4. Students will become proficient in understanding and identifying a wide variety of techniques and materials that artists use to make art
5. Students will become proficient at seeing and analyzing individual works of art, evaluating criteria such as the artist's intention, the formal visual elements and media used.
6. Students will learn to look at and think about art in new ways.
7. Students will develop an understanding of the cultures and individuals that produced various artworks and art traditions.
8. Students will acquire a basic understanding of a wide variety of artistic traditions including when and where they developed, and the basic style characteristics that identify those traditions.
9. Students will develop a familiarity with controversies surrounding restoration, censorship, public art, and the removal and display of artworks from tombs.
10. Students will improve their study, research, reading and writing skills.
11. Students will view artworks with increased confidence and a broader understanding of what they see.

ARTH 1122. Survey of Native American Art

Course Description

Provides an overview of Native American art from earliest cultures to contemporary. Emphasizes tribal perspectives on aesthetics, resources, and innovations.

Student Learning Outcomes

1. Prepare a correct indigenous art history of a North American region.
2. Discuss and identify influences upon the development of artistic expression, including natural environment, eco and social systems, and contemporary life.
3. Use terminology related to indigenous people, their art and history.
4. Connect creative processes and developments in indigenous art expression in the American Southwest to creative processes and developments in other parts of the world.
5. Document research for semester project.
6. Strengthen speaking skills through class presentations.

ARTH 1125. Innovation in Modern Art and Science

Course Description

Not Available

Student Learning Outcomes

In this course, students will learn to:

1. Analyze and critically interpret texts, data, or other sources of information.
2. State a primary purpose in a written or oral statement appropriate for target audience.
3. Order and order supporting points logically and convincingly, individually or collaboratively for the target audience.
4. Identify, describe, explain, or express human behaviors and actions in the context of any of the following: literature and/or other art forms, history, culture, philosophy, technology, politics, geography, economics, sciences, social structures.
5. Compare art forms, modes of thought, modes of expression or processes across a range of historical periods and/or structures or disciplines (such as political, geographical, scientific, technological, economic, social, cultural, religious and intellectual).
6. Identify and critically evaluate ethical dilemmas or arguments.
7. Conduct research or design technology correctly, ethically, and responsibly.

ARTH 1130. Art Foundations

Course Description

Introduces hands-on art experience to include techniques of drawing pencil and charcoal to basic principles of using color.

Student Learning Outcomes

After successfully completing this course the student should be able to:

1. Describe, analyze, and demonstrate techniques of drawing, including figure studies and still-life drawings.
2. Define and demonstrate the basic principles of working with color.

ARTH 1140. The History of Graffiti: From Glyph to Graff

Course Description

A survey of the origins and growth of cultural markings in the forms of imagery and language. Topics will include: the origins of the term graffiti, a survey of graffiti as cultural markings from earliest art to contemporary expressions, the reasons make such markings, and the social context in which graffiti is created. Students will photograph examples of rock art and contemporary graffiti in their communities.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Define the term "graffiti."
2. Contextualize works of earliest examples of cultural markings and contemporary graffiti.
3. Describe the intrinsic qualities of individual works.
4. Identify/analyze the social impact and significance of graffiti.
5. Compare and contrast works from different locales, cultures, and periods of history.
6. Add to the scholarship of graffiti by documenting examples in their communities.

ARTH 1141. Art of the Comics

Course Description

With the combination of words and imagery, comics have developed a language of fine art and visual culture within context of visual art. We will study the evolution of this three to four panel comic to trade paper backs and graphic novels, and place the development of the comics in its social context. Distinctive focuses of the course will be the expansion of comic strips in late nineteenth to twenty-first century America; the birth of the comic book in the 1930s with the concept of the superhero, and the rise of underground (or indy) and alternative graphic culture. We will also investigate the semantics of word and image as well as many post-modern theories which attempt to unravel the imagery in the graphic novels from the 1930s to the present.

Student Learning Outcomes

1. To comprehend the evolution and history of comics and graphic novels.
2. To obtain extensive knowledge of the creation of comics from the written story to the colorist.
3. To delve deeply into the artist's works selected above allowing for breathe and depth of art from this period.
4. To acquire an understanding of correlation of word and image along with the historical context surrounding each work.
5. To strengthen abilities of writing about art with greater understanding of aesthetic questioning with a critical lens as well as a methodology of comparing and contrasting works of art.
6. To become familiar with traditional and digital forms of resources available to them.
7. To discuss current research in the field of comics and graphic novels.
8. Ability to recognize the significance in the developments of art history in regard to sequential art.
9. Identify artwork from major and minor writers and artists of sequential art.
10. Further develop a critical lens in viewing, discussing, and writing about art history.

ARTH 1996. Art Studio Topics

Course Description

Varies

Student Learning Outcomes

Varies

ARTH 2110. History of Art I

Course Description

This survey course explores the art and architecture of ancient pre-historic cultures through the end of the fourteenth century. While focused primarily on the art of the Western civilizations, this course will also provide insights into the works of other major cultures in order to provide alternate views of art and history. Emphasis will be placed on the relationship of artworks to political, social, spiritual, intellectual, and cultural movements that affect and are affected by their creation and development.

Student Learning Outcomes

1. Identify major artworks from a variety of regions and time periods.
2. Investigate the methods of producing various works of art.

3. Articulate an understanding and appreciation for the political, social, spiritual, intellectual, and cultural contexts of art forms.
4. Comprehend and apply terms, methodologies and concepts common to studies of art history, developing a language to further understanding of art.
5. Compare works across a range of historical styles and periods.

ARTH 2120. History of Art II

Course Description

This survey course will explore the architecture, sculpture, ceramics, paintings, drawings, and glass objects from the 14th century to the modern era. While focused primarily on the art of the Western civilizations, this course will also provide insights into the works of other major cultures in order to provide alternate views of art and history. Emphasis will be placed on the relationship of artworks to political, social, spiritual, intellectual, and cultural movements that affect and are affected by their creation and development.

Student Learning Outcomes

1. Identify major artworks from a variety of regions and time periods.
2. Investigate the methods of producing various works of art.
3. Articulate an understanding and appreciation for the political, social, spiritual, intellectual, and cultural contexts of art forms.
4. Comprehend and apply terms, methodologies and concepts common to studies of art history, developing a language to further understanding of art.
5. Compare works across a range of historical styles and periods.

ARTH 2130. Modern Art

Course Description

This course is an overview of European and American art and architecture during the Modern era.
Students will analyze the various movements in art as they relate to the historical settings in which the works were created. Emphasis will be placed on the relationship of artworks to political, social, spiritual, intellectual and cultural movements as they affected and were affected by their creation and development.

Student Learning Outcomes

1. Recognize and identify works of art, including painting, sculpture, and architecture created in Europe and America during the Modern and Contemporary periods.
2. Comprehend and apply terms, methodologies and concepts common to studies of art created during the Modern and Contemporary periods.
3. Compare and contrast stylistic aspects of works created in different time periods of the Modern era and/or locations in terms of their form, contextual history, function, and iconographic meaning.
4. Describe and discuss orally and in writing the political, social, spiritual, intellectual and cultural movements that shaped artistic thinking and creation during the Modern period.
5. Describe the various techniques employed in the creation of art and architecture during the Modern and Contemporary periods.
6. Comprehend the particular emphasis on personality and innovation inherent within the Modern period in relationship to institutions and movements.
7. Describe the impacts of Modern and Contemporary art on works created in subsequent time periods to the present.
8. Recognize and appreciate art in new ways from a range of periods and cultures using various modes of art criticism.

ARTH 2136. Writing in Art

Course Description

This class looks at the variety of writings associated with art history and studio art practice. It explores the discipline of art history itself, and introduces students to the specific ways in which art historians study art. Within a workshop setting, students will practice approaches to research, understanding art and writing about art. Students will also be introduced to professional writing practices, including digital formats, relating to studio art.

Student Learning Outcomes

1. Develop visual literacy in looking at art.
2. Analyze a complex art historical argument.
3. Apply art specific vocabulary to critically based writings and discussions of art
4. Develop writing skills to articulate the relationship of art to the human experience.

ARTH 2140. Art of the American Southwest

Course Description

This course examines the major cultures and artistic traditions of the southwest and their historical bases from prehistoric times to the present.

Student Learning Outcomes

Students will:

1. Recognize and identify the major Southwestern artistic traditions from prehistoric times to the present.
2. Recognize the cultural context of these traditions.
3. Distinguish the formal characteristics of a particular tradition.
4. Identify cross-cultural influences and correlations in the arts of the southwest.
5. Develop a vocabulary necessary to discuss (oral and/or written) a given work of art from a variety of different media.

ARTH 2145. Contemporary Art

Course Description

This course is a survey of the movements in European and American painting, sculpture, and architecture from the second half of the 20'" century to contemporary times. The course will begin with an explanation of changes in European and American culture as a direct result of global conflict and the effects of these changes on movements in art. The main focus of the course however will be the postmodern era and its new genres, such as performance art, installation art, and the impact of multiculturalism, the feminist movement, and new technologies on the visual arts and culture.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Recognize and identify major works of painting, sculpture, and architecture form the mid 20'" century to the present.
2. Be able to discuss the dematerialization of the art object in 20'" century and contemporary times.
3. Define the philosophical, social, and cultural underpinnings of the postmodern era.
4. Evaluate the influence of technology on the evolution of contemporary art.

ARTH 2150. Censorship and the Visual Arts

Course Description

Seminar course exploring historical and contemporary examples of censorship in the visual arts. Conflicts around artistic expression and the responses of institutions and the state are examined, including social pressures on the visual arts stemming from racial, cultural, sexual, and religious sources.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Cite examples of artistic repression by the state or institutions.
2. Explain the role of censorship of the visual arts.
3. Explain the sources of conflict between the state and artistic expression.

4. Analyze the restraints placed on the visual arts from religious, cultural and social sources.
5. Analyze complex issues of censorship from multiple points of view.

ARTH 2165. Study Abroad: Images & Insights

Course Description

A study abroad class in which students visit ancient sites in Greece. The influence of the classical Greek archetypes and their mythic patterns on human experience and behavior will be studied. The powerful inner forces of the archetypes personified by Greek gods, goddesses, and heroes will be explored.

The Archaic, Classical, and Hellenistic images of the gods, goddesses, heroes, and mythological stories as they are represented on architecture and in sculpture and painting will be examined from an art historical perspective. Art from the Byzantine period including Christian archetypal imagery in the form of icon painting will be introduced in both an historical and contemporary context.

Students will be responsible for additional costs for this course which will include airfare, travel costs while abroad, hotel, food, and miscellaneous expenditures.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify the concepts of archetypal psychology and symbolism found in mythology and ancient Greek art history.
2. Apply the concepts of archetypal psychology as they are relevant to one's personal experience and consciousness.
3. Demonstrate the ability to be a culturally competent and responsible traveler with an expanded world view.
4. Articulate some of the major stylistic trends and concepts behind artworks from ancient Greece.
5. Develop a basic knowledge and appreciation for Byzantine iconography as it relates to archetypal ideals in an historical and contemporary context.

ARTH 2200. History of Women Artists: Renaissance to 21st Century

Course Description

This course examines the creative achievements of women artists within the art-historical continuum with focus on the changing role of women in the evolution of art.

Student Learning Outcomes

Students will be able to:

1. Recognize and describe, orally and in writing, the changing roles of women in the evolution of art as makers, patrons, collectors, and critics of art and how these changing roles effect self-expression.
2. Identify and describe, orally and in writing, individual women artist's achievements within the art-historical continuum.
3. Appraise, orally and in writing, the significance of women artist’s work and the impact that this work has, and will have, on the future of visual art.
4. Examine the social and cultural dynamics affecting the perceptions of women's art and the role of feminism in art and art criticism.

ARTH 2201. History of Women Artists

Course Description

This course examines the creative achievements of women artists within the art-historical continuum with focus on the changing role of women in the evolution of art.

Student Learning Outcomes

1. Recognize and describe, orally and in writing, the changing roles of women in the evolution of art as makers, patrons, collectors, and critics of art and how these changing roles effect self-expression.
2. Identify and describe, orally and in writing, individual women artist's achievements within the art-historical continuum.

3. Appraise, orally and in writing, the significance of women artist's work and the impact that this work has, and will have, on the future of visual art.
4. Examine the social and cultural dynamics affecting the perceptions of women's art and the role of feminism in art and art criticism.

ARTH 2210. Art History
Course Description
Survey of art of the western hemisphere from prehistory to the 21st century. May incorporate an interdisciplinary approach.
Student Learning Outcomes
Students will:
1. Analyze and critically interpret significant primary texts and/or works of art (this includes fine art, literature, music, theatre, and film).
2. Compare art forms, modes of thought and expression, and processes across a range of historical periods and/or structures (such as political, geographic, economic, social, cultural, religious, intellectual).
3. Recognize and articulate the diversity of human experience across a range of historical periods and/or cultural perspectives.
4. Draw on historical and/or cultural perspectives to evaluate any or all of the following: contemporary problems/issues, contemporary modes of expression, and contemporary thought.

ARTH 2220. History of 19th Century Photography
Course Description
This course centers on the study of the aesthetic evolution of photography. Topics and readings cover the predictions of photography beginning in the late Renaissance, which culminated with the 1839 invention of photography, up to the end of the 19th century. Periodic field trips to special collections and libraries offer an opportunity for firsthand viewing of early photographs.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Identify and describe, orally and in writing, 19th century practitioners and their aesthetic concerns.
2. Describe, orally and in writing, how photography has been used to address social, political and aesthetic needs.
3. Describe and discuss, orally and in writing, major trends in photography.

ARTH 2230. History of 20th Century Photography
Course Description
This course emphasizes modern photography within and outside mainstream art movements, from the late 19th century to the present. Lectures focus on modernism, site-specific works, multi-material approaches and new digital technologies. Field trips to local archives and collections supplement course work.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Recognize and describe, orally and in writing, the various inventive traditions that established photography as a modern art form in the 20th century.
2. Distinguish the visual and technological innovators that created the foundation for the history of photography.
3. Relate photographic innovators to other visual arts traditions within modern art history.
4. Research resulting in either a written paper or a portfolio of photographs "in the manner of' a 20th century photographer.
5. Read one additional book concerning 20th century photography and write one page about it.

ARTH 2245. History of Photography

Course Description
This course is designed to provide students with a fundamental working knowledge of the major trends in the aesthetic, conceptual, and technical aspects of photography from its beginnings in the 1830s to the recent practices of photographers and artists working with photographic technologies. Together we will investigate photography's role as an artistic medium as a central focus, as well as its broader role in our visual, political, and social culture. Textbook readings, online lectures, discussions boards, exams, and other activities will assist students in gaining a critical understanding of photography.
Student Learning Outcomes

1. To identify significant people and events in the development of photography.
2. To develop visual literacy: To begin building a vocabulary for analyzing photography in terms of form and style.
3. Recognize the various uses that have been considered appropriate for photography.
4. Evaluate the photographs of individuals who have set new trends in the art of photography.
5. Analyze and compare the work of significant photographic practitioners.
6. Describe the relationship between photography and other contemporary events that have shaped the nation and the world.
7. To enjoy the art of photography!

ARTH 2310. Art History Careers
Course Description
Students will utilize art historical perspectives and fundamental skills derived from prior art historical course work to make connections on how art is critical to shaping worldview. Students will engage in various career oriented and pre-research activities to prepare them to achieve their future transfer or employment goals. Students will deliberate on what they intend to do with their degree with focus on how they plan to use their Art history coursework.
Student Learning Outcomes

1. Propose a research project focusing on a particular artist, period, or theoretical problem in the field of Art History.
2. Recognize different forms of art theory and criticism in art historical writing.
3. Utilize proper research citation methods.
4. Effectively employ visual vocabulary.
5. Develop a professional writing sample in the field of Art History.
6. Present the writing sample in a formal scholarly setting and contemporary thought.

ARTH 2996. Art History Topics
Course Description
Varies
Student Learning Outcomes
Varies

Art Studio (ARTS)

ARTS 1110. Arts and Design Survey
Course Description
An introduction to disciplines within Arts and Design encompassing two-dimensional, and three-dimensional studies. Projects will be based on a common conceptual theme for the semester. Students will gain a fundamental understanding of

issues of aesthetics, innovation, critical interpretation and col1aboration central to arts and design studies. Discussions and assigned readings will provide a critical overview of historical and cross-cultural examples.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate an aesthetic understanding of design disciplines through the completion of a project in 2-D and 3-D studies.
2. Successfully participate in Arts and Design critique and describe their conceptual process.
3. Articulate an understanding of aesthetics in a variety of art forms and modes of expression within historical and cross-cultural perspectives.
4. Successfully participate in presentation and exhibition of work.
5. Articulate a critical interpretation of and comparison of significant works of art, across a range of historic periods.
6. Discuss potential career path in arts and design.

ARTS 1111. Introduction to Studio Art

Course Description

Introduction to Studio Arts is a hands on studio course, for non - art majors. Students will cover the techniques, materials, and terminology in both 2-Dimensional and 3-Dimensional image and form making. Major studio concepts are covered in Drawing, Design, Painting, Printmaking, Ceramics, Photography and Sculpture. Emphasis is placed in “Hands on” problem solving and includes historic overview where applicable.

Student Learning Outcomes

Students will be able to:

1. Utilize the visual elements and principles of design in the making of various works of art.
2. Utilize appropriate use of art terminology in the classroom.
3. Recognize historical modes of art making.
4. Produce art projects in Drawing, Design, Painting, Printmaking, Craft, Photography, Ceramics, and Sculpture.

ARTS 1112. Introduction to Interior Design

Course Description

An introduction to basic interior design, to include color coordination, furniture arrangement, unusual window treatments, choice of fabric and floor coverings, and accessories. This course will help participants in understanding the overall concept of design and will help students develop skills associated with design projects.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to

1. Create and design a room with furniture, including colors and products.
2. Use realistic proportion and balance in furniture layouts and drawings.
3. Understand the concept and procedure of putting together color boards and designing rooms.

ARTS 1115. Explore Arts & Design

Course Description

Hands-on introduction to many aspects of art careers and disciplines including two and three- dimensional compositional fundamentals, and entrepreneurship. Students will gain a fundamental understanding of issues of aesthetics, innovation, critical interpretation, and collaboration which form the basis of arts and design studies. Central to the class will be a collaborative exhibition featuring students and programs from northern New Mexico in one or more of the many SFCC exhibition spaces.

Student Learning Outcomes

1. Demonstrate a basic aesthetic understanding of design disciplines through the completion of a project in 2-D and 3-D studies

2. Demonstrate an understanding of the basic aspects of a juried visual art exhibition.
3. Successfully participate in arts and design critique and describe their own conceptual process.
4. Demonstrate the ability to think critically and to work collaboratively in the development of a project.
5. Demonstrate basic principles related to installation and design of an exhibition
6. Demonstrate an understanding of the entrepreneurial skills related to the project.

ARTS 1120. Introduction to Art

Course Description

In this class, students will be introduced to the nature, vocabulary, media and history of the visual arts, illustrated by examples drawn from many cultures, both Western and non-Western and across many centuries. We will begin with a general overview of the subject, including basic concepts and themes that shed light on the continuity of the artistic enterprise across the span of human experience. We will study the visual elements from which art is made, including how artists use these elements and how the artists' use of visual elements affects our experience of looking at art. We will examine both two-dimensional and three-dimensional media including drawing, painting, printmaking, camera and computer arts, graphic design, sculpture, installation, crafts and architecture. Selected works will be examined in context, including the history of the time and place in which they were created, as well as their function, patronage, and the character and intent of individual artists.

Student Learning Outcomes

1. Students will learn the terminology that we use to talk about art.
2. Students will learn about the elements from which art is made including line, shape, mass, color, light, texture and pattern, space, time and motion.
3. Students will learn about the principles of design including unity and variety, balance, emphasis and subordination, scale and proportion, rhythm.
4. Students will become proficient in understanding and identifying a wide variety of techniques and materials that artists use to make art.
5. Students will become proficient at seeing and analyzing individual works of art, evaluating criteria such as the artist's intention, the formal visual elements and media used.
6. Students will learn to look at and think about art in new ways.
7. Students will develop an understanding of the cultures and individuals that produced various artworks and art traditions.
8. Students will acquire a basic understanding of a wide variety of artistic traditions including when and where they developed, and the basic style characteristics that identify those traditions.
9. Students will develop a familiarity with controversies surrounding restoration, censorship, public art, and the removal and display of artworks from tombs.
10. Students will improve their study, research, reading and writing skills.
11. Students will view artworks with increased confidence and a broader understanding of what they see.

ARTS 1121. Studio Core I: Concept Development-Process and Play

Course Description

The Foundations course will focus on a deceptively simple question. "What is Contemporary Art, and how can we make it?" Through the exploration of basic visual design concepts, collaborative learning, and interdisciplinary studio production, this course will help us to discover what it means to be an artist in the 21st century.

Student Learning Outcomes

1. Cultivate creative thinking by developing and enhancing the ability to think creatively and generate original ideas through the embracing of divergent thinking and exploration of the artistic process.
2. Apply creative problem-solving to address artistic challenges and demonstrate the capacity to find innovative solutions.

3. Demonstrate ability to integrate multidisciplinary strategies to enhance creative expression.
4. Use creative thinking to explore and express emotional experiences and cultural perspectives.
5. Engage in reflective practices to analyze and understand one's own creative process and critically assess its effectiveness.

ARTS 1122. Studio Core II: Formal Structure Tools and Techniques

Course Description

Introduce students to formal design concepts as well as to various technical skills and tools in order to explore and develop innovative forms of artistic expression.

Student Learning Outcomes

1. Analyze and interpret visual elements within artworks, recognizing the application of formal design concepts.
2. Demonstrate an understanding of how formal design concepts contribute to effective visual communication and apply an understanding of how aesthetics enhances the overall impact and quality of artistic creation.
3. Explore and apply technical skills across a range of artistic mediums, including traditional and digital formats.

ARTS 1123L. Book Arts

Course Description

The study and exploration of a variety of book structures, including pamphlets, accordion and multiple-signature books. Japanese side-sewn, paper decoration, and altered books are also introduced. Development of technical skill, craftsmanship and knowledge of book history are emphasized.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Make a variety of book structures.
2. Integrate a book's content with an appropriate structure.
3. Recognize and appreciate a well-made book.
4. Analyze an artist's book with critical knowledge of technique, craftsmanship and history.

ARTS 1124L. Pleasures of Papermaking

Course Description

This course emphasizes traditional European and Asian styles of making paper by hand. Cotton, abaca, kozo, flax and locally found plant fibers will be investigated. Pulp coloring methods, watermarks, embedding, collage, paper casting to three dimensional sculptural uses of paper are introduced.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Gain a working knowledge of papermaking equipment.
2. Design and develop original three-dimensional paper pieces.
3. Explore the techniques of paper-sheet production.
4. Integrate process and content.

ARTS 1141. Color and Culture

Course Description

Color usage and meaning in different cultural, social and historic contexts. Use color effectively as an extraordinary visual and sensual stimulus, while gaining a fundamental understanding of color and culture. This course will focus on the potential of color to effect mood, product sales, and home environments, within diverse cultural contexts.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe, compare and contrast color models from diverse historical and cultural perspectives.

2. Describe, compare and contrast different uses and understanding of color from diverse social, religious and historic contexts.
3. Describe, compare and contrast the psychological effects of color in diverse cultural contexts.
4. Describe, compare and contrast the uses of color in the marketplace, within diverse cultural contexts.

ARTS 1142L. Creative Expression

Course Description

This course provides students with an opportunity to explore and discover their creativity through various techniques and media such as writing, sculpture, collage and printmaking. The course is designed for beginners as well as for experienced artists and writers.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify stages in the creative process.
2. Work in a variety of expressive mediums.
3. Identify internal and external factors that block creativity.
4. Demonstrate ability to work alone and in teams and groups.
5. Utilize strategies to overcome creative blocks.

ARTS 1143. Introduction to Arts and Ecology

Course Description

This course is an introduction to the history and practice of the interdisciplinary field of art and ecology. Students will investigate artistic practice, political ecology, environmental justice, and the interrelationships between cultural and ecological systems.

Through readings, discussion, lectures, and projects, we will explore how art can respond to–and make meaning within–the context of climate crises, mass extinction, colonialism, extractivism, and beyond. In order to expand the space of possibilities for thinking/feeling/making, this course aims to identify and to challenge distinctions between art and science, theory and practice, knowledge and affect.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Gain an introduction to the history and practice of the interdisciplinary field of art & ecology.
2. Critically discuss and analyze issues surrounding art and ecology through reading discussions, lectures, and course presentations.
3. Develop skills of embodied research to investigate ecological relationships of the self, community, interspecies kin, the built environment, and landscape.
4. Develop skills for translating research into artistic forms.

ARTS 1145. Visual Concepts

Course Description

Visual Concepts is an introduction to the philosophies of art, visual thinking, and principles of visual organization. Designed to give students a broad view of aesthetic traditions, ideologies, and techniques basic to the creation and evaluation of art. Principles and concepts are taught in a common lecture and applied in parallel small studio sections.

Student Learning Outcomes

Upon completion of the course, the student will be able to:

1. Develop understanding of history, major styles and contemporary issues in art.
2. Introduce students to the language of visual perception and aesthetic evaluation.
3. Introduce students to the fundamental processes of visual perception and artistic expression.
4. Develop students' confidence in using various art materials for artistic expression.

5. Develop students' ability to verbalize ideas and processes in art making.
6. Develop student's ability to communicate through writing about art and art experiences.

ARTS 1150. Visual Communication Design

Course Description

Lecture and studio-based art course focused on print design with Adobe® InDesign®. The program enables students to create print and packaging materials while they learn the technical aspects of the software. This course is geared for certification in Adobe® InDesign®.

Student Learning Outcomes

Students will be able to use Adobe® InDesign's® available tools to design professional and print-ready letterhead, posters, newsletters and booklets.

ARTS 1152L. Intaglio I

Course Description

Fundamental techniques for using the unique qualities of intaglio processes to create single prints and editions that express aesthetic concerns. Students will work primarily in black and white. This course will focus on technical and aesthetic considerations of development of intaglio plates, intaglio printing and an introduction to the history of intaglio as a fine art discipline.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Create an aesthetically resolved, content-based image using acid etching and/or engraving and/or dry point.
2. Use an etching press to create a sharp and well inked black and white print.
3. Create an image using aquatint.
4. Create an edition of consistent inking, registration and clarity using an Intaglio press.

ARTS 1153L. Relief Printmaking

Course Description

In this course the student will learn about the origins and development of relief printmaking, including linocut, woodcut. The student will produce a portfolio of original prints and make a presentation on the historical and contemporary approaches to this art.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Produce a high-quality print using linocut as a print vehicle.
2. Produce a high-quality print using wood block as a print vehicle.
3. Discuss the origins and development of relief printmaking.
4. Produce a high-quality print using one of the contemporary methods.

ARTS 1160L. Letterpress

Course Description

Introduction to printmaking: Basics of typesetting and printing on a cylinder press and platen press with metal type, wood type, relief and contemporary printmaking methods. Students will work on independent and collaborative projects and learn press lockup, ink mixing, multiple-color registration, editions, and the basics of press mechanics using good studio practice.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate competent use of cylinder and platen letterpress equipment and manual typesetting.
2. Problem solve letterpress printing projects.
3. Explain the use and practice of printing varied surfaces applicable to letterpress.

4. Produce quality prints using letterpress methods and equipment.
5. Understand history and the value of letterpress in contemporary design, art and craft.

ARTS 1165L. Monotype Printmaking

Course Description

This class explores the addition and subtraction methods of monotype printmaking to produce exciting images. Monotype is an old method that has received new attention in today's society. Students explore its relationship to other contemporary forms of art and develop a personal direction in their work.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Incorporate the following techniques in their work: layering; building textured surfaces, additive and subtractive methods; the use of stencils, masking, stamping, collage and mixed media using oil-based ink. Student will utilize the differing properties of various printmaking papers and alternative printing surfaces.
2. Articulate their goals and working approach; assess the strengths and limitations of their work and the work of others.
3. Complete a final project or series that shows a personal direction and demonstrates the exploration, thinking and planning that informs their work.

ARTS 1170. Site and Environmental Art

Course Description

This course introduces students to the history of earthworks created throughout the world by numerous cultures. It includes the role of environmental art in contemporary art and its applications to environmental issues. Studio projects include the construction of site-specific sculpture.

Student Learning Outcomes

1. Create meaningful work of art in the genre of environmental art.
2. Work collectively on large-scale projects.
3. Plan a large-scale project.
4. Develop a critical ability to decode the many layers of meaning in environmental works of art.
5. Develop a relationship with various materials and how they create meaning in works of art.

ARTS 1210. Color Theory I

Course Description

The study of subtractive and additive modes of color mixing, and the psychological effects and popular understanding of color usage and it's meaning in different cultural, social and historical contexts in relation to fine art and commercial contexts.

Student Learning Outcomes

1. Apply the subtractive color wheel and color harmonies effectively in art and design.
2. Demonstrate the ability to mix and match hue and value.
3. Demonstrate an understanding of additive and subtractive color models.
4. Analyze the use of color historically and in diverse cultural contexts.
5. Distinguish the emotional and psychological meanings of color.

ARTS 1211. Color Theory II

Course Description

Study and application of the objective principles of color and its psychological, emotional, and symbolic effects.

Student Learning Outcomes

1. Through the study of color theory and projects completed, the students will develop an intuitive use of color.

2. Be familiar with other color systems.
3. Learn about color harmonies, form, spatial effect, composition, impression and expression.
4. Understand the creative process as it involves a willingness to explore and go beyond first attempts and to take an idea all the way.
5. Awareness of universal communication through the visual arts and the role of artists and art in the development of humankind.

ARTS 1212. Color Theory

Course Description

Various color theories as they relate to compositional organization. Required for art education majors.

Student Learning Outcomes

1. Explain and utilize the principles of two-dimensional design and color.
2. Demonstrate the principles of design and color using various media to create effective 2-D designs.
3. Use the principles of design and color to communicate complex issues in a simple and understandable manor.

ARTS 1220. Art Practices I

Course Description

This course introduces the exploration of processes, ideas, and diverse media of visual arts. It addresses the thematic concepts that are central to the nature of art making today, with emphasis given to issues of LIGHT, FRAME, and MARK while developing an understanding of the elements and principles of design.

Student Learning Outcomes

1. Produce create works that explore, interpret, and/or question LIGHT, FRAME, and MARK in relation to the creative arts
2. Apply and organize the elements of 2-D, 3-D, and 4-D form.
3. Incorporate various materials, processes, and spatial concepts into the creation of objects.
4. Integrate research into content-based reasoning during the development of creative works.
5. Produce creative works using time-based mediums such as performance, experimental film and video, sound art, and/or installations.
6. Critically analyze personal, contemporary, and historical works of art as well as the artwork created by peers for both aesthetic and conceptual quality.
7. Revise personal creative works in response to constructive critique by instructors and/or students.

ARTS 1230. Art Practices II

Course Description

This course introduces the exploration of processes, ideas, and diverse media of visual arts. It addresses the thematic concepts that are central to the nature of art making today, with emphasis given to issues of MOTIVE and CHANGE while developing concepts, techniques, and processes involved in working in the third dimension.

Student Learning Outcomes

1. Produce creative works that explore, interpret, and/or question issues of ethics, audience, identity, sustainability, invention, time, and change in relation to creative arts.
2. Employ materials that reinforce their conceptual goals in each project.
3. Integrate research into content-based reasoning during the development of creative works, taking into consideration global and multi-cultural influences in contemporary art practices.
4. Identify, analyze, and apply the artistic qualities of 3-D design.
5. Critically analyze personal, contemporary, and historical works of art, as well as the artwork created by peers for both aesthetic and conceptual quality.
6. Revise personal creative works in response to constructive critique by instructors and/or students.

7. Promote personal and group welfare by using safe work procedures and maintaining a safe working environment.

ARTS 1240. Design I

Course Description

This course introduces the fundamentals of two-dimensional design as it applies to fine art and commercial contexts. Emphasis will be on basic color theory, elements of dynamic composition, vocabulary of visual arts and design, and development of visual conceptual skills. Students will use a variety of materials and techniques.

Student Learning Outcomes

1. Produce art works that apply and organize the elements of two-dimensional form (line, shape, value, texture, color and space).
2. Produce artworks that apply the principles of two-dimensional design (harmony, variety, repetition, balance, rhythm, proportion, dominance, movement, and economy).
3. Demonstrate effective use of materials and techniques with consideration for craftsmanship and presentation.
4. Use visual art vocabulary in the development and critique of work.
5. Explore concepts and ideas: from conceptual, realistic/referential to non-representational.

ARTS 1250. Design II

Course Description

This course introduces the basic formal (aesthetic), spatial, and physical aspects of 3-D form as they can be applied to sculptural and functional design. Techniques that explore structure, mass, volume, scale, surface, form, and function are covered, along with various media, which may include paper, wood, clay, and/or metal.

Student Learning Outcomes

1. Apply the artistic qualities of the elements of art and principles of design to three-dimensional form.
2. Create 3-dimensional form using varied sculptural methods, construction techniques and media.
3. Produce 3 D design projects safely with proper use of equipment and materials.
4. Apply realistic, referential, and abstract concepts and ideas to projects.
5. Demonstrate knowledge of 3-D related art vocabulary, origin and trends in sculpture, and 3-D design fundamentals.

ARTS 1270. Navajo Rug Weaving I

Course Description

Introduction to the processes and techniques of Navajo weaving, including preparation of the wool, setting up the loom and warp, weaving techniques, and design elements. Basic origin stories and the history of Navajo rug weaving will also be covered.

Student Learning Outcomes

Upon completion of the course, the student will be able to:

1. Understand the oral tradition and the history of Navajo weaving. Identify the significance of the upright loom and weaving tools, and identify traditional, regional, and non-regional Navajo rug styles.
    a. Understand the oral history of Navajo weaving.
    b. Know the historical background of Navajo rugs.
    c. Identify the different names and types of Navajo rugs.
2. Gain a basic understanding of Navajo weaving by preparing the wool, dying wool, and setting up the loom and the warp.
    a. Learn vocabulary words used with weaving and naming tools.
    b. Prepare, gather, process, and spin the wool.
    c. Dye wool.
    d. Prepare the loom and warp.
    e. Spin the side-string and spacing string.

3. Learn the basic weaving techniques and designs.
    a. The weaving process:
        i. Warping and twining
        ii. Mounting the bound warp on the dowel
        iii. Mounting the warp on the loom
        iv. Making the heddles and shed rod
        v. Holding the batten and comb
        vi. Weaving the first rows
        vii. Using the heddle and shed rod
        viii. Adding new wool (string)
        ix. Repairing a broken warp
        x. Learning hooked joint, square, and diamond shapes
    b. Create a basic rug design using the three (3) basic designs.
    c. Learn the "Finishing Technique" of traditional Navajo Rug Weaving.

ARTS 1272. Introduction to Fibers
Course Description
Introduction to fiber/fabric materials, processes and approaches including dyeing, sewing, basket-making, embroidery, netting, weaving, and hand construction.
Student Learning Outcomes
1. Manipulate fibers via coiling and plating basketry, yarn netting, basic machine and hand- sewing, small-scale tapestry weaving.
2. Demonstrate basics of fiber-reactive dyeing (including safety precautions).
3. Synthesize these craft techniques into personalized conceptual projects.

ARTS 1275. Art Garment
Course Description
Introduction to textile properties, dyeing, hand, and machine sewing. Introduction to conceptual fashion and artists who employ clothing as sculpture. Students design and construct 2 sculptures that relate to a body. Sculptures are finished objects or are utilized in performance art.
Student Learning Outcomes
1. Manipulate textiles to create garments.
2. Demonstrate hand and machine sewing techniques.
3. Demonstrate the basics of fiber-reactive dyeing.
4. Synthesize sewing, sculpting, dyeing techniques into personalized conceptual projects.

ARTS 1278. Indigo and Solar Dyeing
Course Description
Introduction to indigo dyeing and solar dyeing. Students learn how to make, maintain and dye using an indigo bath. Students harvest and dye with local materials and learn sustainable low-water solar dyeing methods.
Student Learning Outcomes
1. Demonstrate ability to prepare indigo dye bath and successfully dye silk and cotton.
2. Demonstrate ability to collect local plants.
3. Demonstrate ability to prepare solar dye bath with local natural materials and successfully dye silk and cotton.

ARTS 1280. Santeros: Craft and Tradition
Course Description

New Mexican santeros are part of a 400-year-old artistic and religious tradition. In this course, students learn the history, symbolism, and woodcarving and painting techniques associated with diverse styles of ancient and contemporary santero artisans. Students learn to carve bultos and to paint retablos.

Student Learning Outcomes

1. Identify the symbols commonly associated with specific saints.
2. Recognize the historical schools of the santero traditions in New Mexico.
3. Demonstrate carving techniques, including relief and three-dimensional applications.
4. Identify appropriate woods to be used for different applications.
5. Apply appropriate surface finishes to bultos and retablos.

ARTS 1281. Santeros II

Course Description

Builds on acquired skills, experience, and knowledge of the history, symbolism, woodcarving, and painting techniques of the New Mexican folk art of creating santos. Students will concentrate on carving techniques for rendering aesthetically pleasing heads, hands and feet and the process of applying natural pigments to created works.

Student Learning Outcomes

1. Carve aesthetically pleasing heads, hands, and feet in the Santos tradition.
2. Apply advanced processes in using natural pigments on wood carvings.
3. Describe the relationship of their created work with the New Mexican tradition and folk art of creating santos.

ARTS 1282L. Introduction to New Mexico Tinwork

Course Description

Students learn traditional tin working, part of the traditional Hispanic folk art of Northern New Mexico, using fundamental tools, processes and materials. Students fabricate such items as frames, candleholders and objects of utilitarian and artistic purposes. Regional issues and techniques are explored.

Student Learning Outcomes

1. Acquire a general knowledge of basic forms, materials and processes.
2. Learn to use traditional tools in tin working.
3. Develop skills in folding and use of tin stamping and punching.
4. gain knowledge of cultural and historical applications and techniques.

ARTS 1310. Introduction to Ceramics

Course Description

This course introduces the technical processes and conceptual concerns of working with ceramic material. Various methods of forming functional and expressive works out of clay are explored. Methods used include hand building and throwing, basic clay bodies, slip and glaze, and atmospheric firing.

Student Learning Outcomes

1. Explain the transformation of the ceramic material from raw clay form to glazed ceramic object.
2. Demonstrate proficiency of technical ceramic skills.
3. Explain larger concepts and design principles.
4. Apply basic 3-D design principles in the formation of a work of art, as they apply to the ceramic media.
5. Create ceramic works of art based on conceptual prompts.
6. Critically evaluate a variety of artwork.
7. Gain an understanding of the history of ceramic art from a multicultural perspective.

ARTS 1311L. Ceramic Color on Form

Course Description
The process of formulating and applying color on ceramic forms. Engobers, sintered engobes, underglazes, slips, stains, terra sigillatas, and glazes will be explored. Pattern, monochrome, polychrome, abstract application, and other approaches to ceramic painting on a three-dimensional form will also be introduced.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Formulate a slip, in engobe, stains, terra sigillata, and a simple glaze.
2. Demonstrate an understanding of the different surface approaches to color on form.
3. Successfully transform the visual look of a three-dimensional form using applied surface design concepts.
4. Demonstrate an understanding of historical approaches to color on form and how they relate to the student's own colored sculptural works.

ARTS 1312L. Micaceous Pottery I
Course Description
Micaceous Clay is a unique type of clay found in Northern New Mexico. It has been used for centuries by Jicarilla Apache, Pueblo and Hispanic potters to produce cooling vessels. This course presents the history of its traditional use as well as traditional and nontraditional techniques for working with this clay. Students produce a variety of open bowls, closed bowls and lidded forms using hand-building techniques, electric kilns and open-pit firing processes.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Recognize the unique properties of micaceous clay.
2. Clean and prepare a suitable micaceous clay body for hand-building or execute works with commercially produced micaceous clay.
3. Demonstrate a variety of hand-building techniques.
4. Execute the steps in preparing an open pit fire, and successfully fire a variety of micaceous vessel forms and/or using contemporary firing techniques which include electric kilns before the pit firing process.

ARTS 1313L. Pueblo Pottery
Course Description
Offers the student an experience in Elements of the Earth/Pin Kwi yo, the traditional techniques of Pueblo Pottery. The student will learn the traditional approach to respectfully gathering and processing clay along with ancient methods of forming Pueblo Pottery vessels. Surface decoration, including designing, carving, incising, and painting with natural pigments is an integral course element. Ancient firing methods will be used.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Recognize clay in its natural environment and be able to gather and process clay.
2. Hand build, coil, form and shape pots.
3. Design, carve, incise, and paint their pottery with natural pigments.
4. Sand, water wash, slip, and stone polish their pottery.
5. Perform oxidation and reduction firing using natural fuel.
6. Explain the importance of leaving the clay site in a respectful manner.
7. Contrast contemporary ceramics methodology with Pueblo ceramics methodology.

ARTS 1314L. Indigenous Pottery
Course Description
Study of Indigenous Pottery in the American Southwest. This course presents an archaeological anthropology study of traditional pottery making from New Mexico, Arizona and Mexico. The study and making of Indigenous pottery includes

those of the Anasazi, Sinagua, Patayan and Hohokam Indigenous cultures. Using a road map, students are assigned to an area of pottery making that originates from a specific archaeological site. This research is used to create site/specific pottery. Hands on pottery making methods include coil building and old-style surface polishing of functional forms and small sculptures. The contrast between ceremonial as opposed to decorative pottery is discussed.

Student Learning Outcomes

1. Recognize the unique properties of hand harvested clay as it relates to indigenous cultures of the Southwest.
2. Identify pottery forms and building techniques with site/specific southwest indigenous cultures.
3. Prepare a suitable clay body for hand-building pottery using traditional indigenous pottery making techniques.
4. Create functional forms and small sculptures that interface aesthetically with a particular indigenous pottery culture such as Anasazi, Sinagua, Patayan and or Hohokam.
5. Execute the steps in preparing an open pit fire, and successfully fire a variety of vessel forms and/or using contemporary firing techniques which include electric kilns before the pit firing process.
6. Demonstrate traditional approaches to respectfully gather and process clay at the site.

ARTS 1315L. Ceramics: Wheel Throwing

Course Description

An introduction to the fundamental principles of throwing clay forms on a potter's wheel. The course emphasizes functional as well as sculptural aesthetics associated with the potter's wheel.

Student Learning Outcomes

1. Identify and operate equipment associated with the ceramic wheel throwing.
2. Design and create forms using the potter's wheel.
3. Articulate vocabulary and practices specific to ceramic throwing.

ARTS 1320. Ceramics I

Course Description

An introduction to the medium of clay incorporating hand building and wheel throwing to introduce the student to both the sculptural and utilitarian uses of clay. The student will also be introduced to a variety of glazing and firing techniques.

Student Learning Outcomes

1. Demonstrate through critical discourse or writing an introductory knowledge of the history of ceramics, and ceramic language and terminology.
2. Demonstrate through mechanical application an introductory knowledge of the properties of clays, glazes, and a variety firing techniques.
3. Produce a body of work that exemplifies good ceramic design through the effective use of form, surface, and color.
4. Through the production a body of work demonstrate competency in hand building and throwing on the wheel.

ARTS 1330. Clay Handbuilding I

Course Description

An introduction to the aesthetic qualities of ceramics and the material properties of clay via the learning of traditional hand building techniques and a variety of methods of applying finish and color.

Student Learning Outcomes

1. Create clay forms using a variety of traditional hand-building techniques.
2. Demonstrate the ability to apply glazes and other colorants to clay forms.
3. Describe the process of firing a ceramic kiln.
4. Use the vocabulary of ceramic art in the critical evaluation of ceramics.

ARTS 1340. Functional Ceramics I

Course Description

In this course the student is introduced to a variety of techniques used to create hand built and wheel thrown functional ceramics. Specific topics include pinch, slab, and coil hand building, basic wheel throwing, surface finishing, and firing.

Student Learning Outcomes

1. Demonstrate through the creation of a body of work a basic knowledge of ceramic hand forming techniques, the potter's wheel, simple surface finishes, and basic firing techniques.
2. Demonstrate through the proper use of facilities, materials, and personal protective equipment knowledge of safety measures and the safe practices used in the ceramic studio.
3. Demonstrate through writing or other forms of presentation familiarity with the history and terminology of pottery (functional ceramics).
4. Demonstrate through the critical examination of their own and others ceramics a sound judgment of craftsmanship, creativity, and elements of design; while showing respect for the dignity of the individual artist.

ARTS 1410. Introduction to Photography

Course Description

This course introduces the making of photographic images from a broad viewpoint to consider both as an art practice and as a cultural practice. The course covers technical information on camera use and functionality, composition and visual design, digital workflow and editing, professional functions of manipulating and enhancing images, and printing correctly and effectively. The historical aspects of photography are also covered.

Student Learning Outcomes

1. Gain fluency with basic camera function as well as a working knowledge of other photographic equipment and software to produce technically competent photographs.
2. Have a familiarity with current image-editing software to enhance images as well as developing a digital workflow for the management of digital images.
3. Be able to develop creative solutions to visual photographic problems.
4. Gain awareness of contemporary issues in contemporary art photographic practice that can be applied to the one's own individual practice.
5. Develop the ability to critically analyze and discuss photographic images.
6. Print and produce a final project that demonstrates synthesis of ideas presented in the course readings, critiques, and individual research.
7. Demonstrate photographic terminology, and the many ways photographs function in society, both currently and historically.

ARTS 1411. Basic Digital Printing Skills

Course Description

For students with existing familiarity in the digital print environment who seek training on updated hardware and software. Specific coverage of the continuous and sometimes drastic changes in evolving printing technology. Current industry standard software and hardware components are used in a state-of-the-art lab facility. It is recommended that students take a photography class concurrently with this course to maintain continuing access to the digital darkroom.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Competently operate various printer models including loading of sheet and roll paper.
2. Troubleshoot basic printer and print driver problems.
3. Print in the digital darkroom independently of instructor.
4. Soft-proof images to predict intended outcome.
5. Understand the necessity of a calibrated print environment.
6. Describe the differences between manufacturer-provided and custom paper profiles.

ARTS 1412. Alternative Photographic Processes I

Course Description

This is an introductory course in Alternative Photographic Processes, aka Non-silver Photography, or Historic Processes. Areas covered include the production of Digital Negatives and processes such as cyanotype, Van Dyke prints, and platinum/palladium printing. Assignments are designed to familiarize students with basic technical skills, genres and personalities associated with photography.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate competencies in producing digital negatives with predictable exposure characteristics.
2. Demonstrate proficiency in non-silver photographic processes.
3. Develop a working knowledge of non-traditional photographic techniques.
4. Demonstrate an emerging understanding of aesthetic, compositional, conceptual, and communicative tools in photography.
5. Create a final portfolio.

ARTS 1413. Photography and Studio Lighting I

Course Description

An introductory course in the purposeful and creative use of light and shadow in photography. Both natural and artificial light sources are used to illuminate arranged subjects, primarily still-lives, small environments and portraits, lighted in a variety of ways to render desired effects and outcomes.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Produce photographic images that show a high degree of aesthetic and compositional awareness.
2. Produce images that are innovat"1ve and original in approach.
3. Demonstrate the technical skills necessary, to render an intended outcome.
4. Demonstrate an emerging understanding of aesthetic, compositional, conceptual, and communicative tools in photography.
5. Create a final portfolio.

ARTS 1414. Camera Use and the Art of Seeing

Course Description

Focuses on the use of the digital SLR camera and the principles of composition and the art of seeing. Students are required to shoot digital files for their assignments. Students' work is critiqued on the basis of the online presentations or PowerPoint presentations; no printing is part of this course. Designed for the beginning photographers, this course prepares students for subsequent photo courses and review the principles of camera use and composition. Not a darkroom/lab course.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Define the relationship of shutter speeds, f-stops and ISO.
2. Recognize the concepts of depth-of-field and reciprocity failure.
3. Define various focal lens lengths.
4. Identify the properties of film and the characteristics of various film types and the characteristics of different digital file types and resolutions.
5. Demonstrate an evolved "art of seeing" through deliberate use of texture, pattern, shadow, viewpoint, etc.

ARTS 1415. Photographing Artwork

Course Description

This course provides practical skills to artists who need to generate examples of their creative output for documentary and commercial purposes. Students learn to photographically capture images for web, portfolio, gallery and professional presentations. Students learn to stage, light, and photograph artwork such as paintings, drawings, ceramics, jewelry, furniture and photographs to create professional presentations for galleries, museums, collectors, and college applications. Digital cameras are utilized in this course. Students will learn color management and various methods of outputting print and digital files for portfolio, web and marketing activities.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Create hi-quality photographic examples of artwork for portfolio and artistic presentation.
2. Organize photographic presentation with documents for portfolio packet.
3. Exhibit fluency with the criteria for professionally photographing materials for gallery environment and portfolio presentation.
4. Exhibit competency with the necessary skills and requirements for professional presentations.

ARTS 1510. Introduction to Electronic Arts

Course Description

This course will be an introduction to the computer as a medium and fine art tool. The course will explore the history, theory, and contemporary art issues associated with electronic art practice, as well as introduce students to the basic tools and associated technologies. This studio course will introduce simple electronics, software and ideas for working with sound, video, and the internet to create artwork.

Student Learning Outcomes

1. Demonstrate knowledge of simple electronics and circuit building through the construction of simple sensor based circuits.
2. Integrate a knowledge of digital audio recording and analog circuit building with historical concepts from sound art practice to create a simple sound art piece.
3. Create a short video art piece informed by historical and theoretical examples.
4. Develop a project that uses simple web programming (HTML, CSS, and JavaScript) to integrate digital imaging, sound, and video to express conceptual approaches informed by historical examples.

ARTS 1515. Digital Photography

Course Description

The student will learn the techniques and aesthetics of digital imaging using an editing software program. Students will gain an understanding of digital cameras and basic photo enhancement methods. There will be a discussion of output devices for the finished image. Creating artistic visual images within the camera will be emphasized. Students must supply their own digital camera.

Student Learning Outcomes

1. A working knowledge of digital camera operation.
2. A basic understanding of digital imaging.
3. An understanding of input and output sources in digital photography.
4. A basic understanding of image editing.
5. An understanding of photographic design and lighting.
6. An understanding of photographic history.
7. An understanding and ability to use the language of digital imagery.
8. Confidence in visual and written assessment skills.
9. Awareness of visual metaphors in personal artwork and culture.

ARTS 1520. Digital Media I

Course Description
This course introduces two of Adobe®'s major software applications, Illustrator and Photoshop®, which are essential in creating artwork, designing promotional materials, websites and more. Part of the course deals with creating a variety of documents using the major tools of each program and gaining an understanding of the contemporary graphic industry and basic elements and principles of design.
Student Learning Outcomes

1. Demonstrate appropriate skills in configuring and navigating computer systems software applications as appropriate to digital image making needs including organization of files using keywords and running batch processes.
2. Exhibit an understanding of a layer-based bitmap editing program, through photo retouching, precise use of selection tools, and color adjustment techniques.
3. Create imagery using a vector-based illustration program which demonstrates an understanding of vector-based drawing tools.
4. Integrate the use of bitmap and vector images using bitmap and vector-based image making applications to demonstrate a basic understanding of composition, color, and appropriate image size and resolution.

ARTS 1530. Digital Media II
Course Description
This course introduces one of the major software applications in Adobe® Creative Cloud, InDesign, with emphasis on obtaining a working knowledge of this software to create publications and documents of all kinds, promotional materials, press releases, newsletters, website, and more.
Student Learning Outcomes

1. Demonstrate an understanding of the software.
2. Gain knowledge in the main features of the software and how to apply them for different styles of documents.
3. Demonstrate an understanding of what constitutes a press-ready document.

ARTS 1531. Lighting for Digital Photography
Course Description
Students learn how to use lighting techniques and equipment for digital photography. This course offers students an opportunity to use studio lighting equipment to photograph portraits, still life objects, flat and 3-D artwork, and objects and products for web marketing: which will enable them to use this knowledge in the workplace or for personal portfolio use. Students will be shown how photographers use lighting equipment and techniques in the commercial photography field. Students will also be able to assess their own lighting equipment needs and be able to make informed decisions when purchasing lighting equipment.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:

1. Use digital cameras with lighting equipment.
2. Have a working knowledge of the qualities, kinds, and types of light.
3. Make correctly lit photographs for commercial and personal use.
4. Photograph products for web marketing.
5. Knowledgeably purchase and build different types of lighting system.

ARTS 1540. Digital Tools for the Artist
Course Description
This course provides students with the digital skills needed for artists in the modern world. Students will be introduced to relevant software programs, projects, theory, ideas and discussions that will help prepare students to enter a contemporary, digital culture.
Student Learning Outcomes

1. Students will learn modern software programs relevant to the modern artist.
2. Students will understand the ideas involved in contemporary technologies and platforms.
3. Students will develop language to help discuss, utilize and understand the newest digital tools in the art field.

ARTS 1541. Introduction to Digital Fabrication for the Arts

Course Description

This course is a hands-on exploration in the art and process of digital fabrication. The course will assist students in nurturing the ability to efficiently translate ideas and concepts into digitally produced physical objects. Students will be given the opportunity to create objects utilizing industrial laser and waterjet cutters, 3-D printers and a Computer Numerical Control (CNC) mill.

Student Learning Outcomes

1. Learn to use basic prototyping and manufacturing techniques in the production of art objects.
2. Become adept at developing concepts which follow through from the screen to physical form.
3. Develop a hands-on understanding of the multiple functions and processes of a fabrication lab.
4. Learn to measure, print and cut with precision as well as produce error free objects.
5. Apply research and methodologies from other content areas to the making of art works.

ARTS 1542. Digital Art to 3-D CNC Machining

Course Description

This course teaches the general concepts of using CNC machines in the studio arts. Through lecture and lab assignments, the student will learn basic skills necessary to convert two-dimensional digital pictures into three-dimensional Computer Aided Design data for surface machining. Toolpaths will be generated and parts will be machined using CNC Machine Tools. Terminology used in the field of CAD/CAM will be emphasized.

Student Learning Outcomes

1. Students will be able to convert artwork into digital format.
2. Students will learn the basic navigation and user interface of CAD (Computer Aided Design) systems.
3. Students will be able to program basic toolpaths for CNC machining.
4. Upon completion of this course, students will be able to create clean vector data for machining and relief art object.

ARTS 1543. Digital and Analog Drawing Bridging Tradition and Technology

Course Description

An introduction to the historical foundations and contemporary potential of drawing that combines digital and traditional approaches. students will develop their ability to create and manipulate images by hand and with the aid of a computer, and learn to compare, translate, and integrate visuals made by old and new technologies. Students will gain a better understanding of digital tools, their expressive capacities, and their application within the context of drawing.

Student Learning Outcomes

1. Demonstrate proficiency in traditional drawing fundamentals (including line, value, perspective, and proportion) as well as the formal principles of composition.
2. Develop a working knowledge of traditional drawing materials and supports; digital drawing and 3d-modeling software and competency in hardware (including scanners, printers, vinyl/laser cutters, monitors, and projectors.
3. Apply observational drawing skills to digital drawing while demonstrating an understanding of digital drawing's unique materiality.

4. Demonstrate critical thinking and problem-solving skills through the analysis and critique of traditional and digital drawings.
5. Understand historical foundations of drawing and articulate how this intersects with contemporary technologies and approaches.

ARTS 1610. Drawing I

Course Description

This course introduces the basic principles, materials, and skills of observational drawing. Emphasis is placed on rendering a 3-D subject on a 2-D surface with visual accuracy. Other topics include historical and contemporary references as well as an investigation of linear perspective, line, value, shape, space & composition.

Student Learning Outcomes

1. Produce drawings that demonstrate techniques and mechanics of observational drawing.
2. Demonstrate competency in the following practices: measuring and sighting, gesture, contour line, negative space, shape, value, space, volume, plane and texture.
3. Create drawings primarily from observation with black and white traditional drawing media.
4. Demonstrate effective verbal or written response to one's own art and the art of others.

ARTS 1611. Industrial Drawing

Course Description

This course material is designed to give an overview of drawing in perspective and applying it to industrial drawing. Student skill level is not a factor in determining whether a student understands the material. Students will be taught concepts that can be used effectively in developing drawings that can be used in assembly, communication and instruction. The development of an idea, comparing the relationship of concepts and revising with the finished product in mind all create a series of tools in developing the designer's mind. Correct use of concepts in the final project will be emphasized. The course has been designed so that all instruction, assignments, both in and out of the classroom develop better foresight when it comes to product design and development.

Student Learning Outcomes

To teach students basic concepts and techniques to enable them to understand, demonstrate and develop an exploded view which shows some process through words and drawing.

ARTS 1616. Drawing Comics & Sequential Art

Course Description

This studio/history/concept course will explore the role which sequential art and comics play in society and our personal lives. In an increasingly visual culture how does the language of comics help to communicate visual ideas more accurately? This class is designed for the student who wishes to investigate self-expression and storytelling using the narrative form of sequential art. Students will question why we feel the need to tell stories and how our world view is reflected in autobiography. Using the hands-on experience of creating their own comic stories, students learn how to communicate their visual ideas more clearly and accurately. Each class will include a discussion of the concepts of comics using examples and recommended sources of research and inspiration. Topics will include the language of comics, page design, visual thinking strategies, dreaming, memory, wordless comics, writing outlines and wordsmithing. Week by week we will extensively cover an aspect of how and why comics work while students simultaneously create their own sequential art.

Student Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. Demonstrate knowledge of basic character animation layout and design.
2. Utilize the terms native to sequential art.
3. Utilize drawing from life as the basis of sequential art.
4. Comprehend the foundations of underlying shapes, personality, attitude, color, style, and integration with a story.

5. Critically analyze the story elements in sequential art.
6. Apply creatively the principles of design and story for sequential art.

ARTS 1620. Life Drawing I

Course Description

This course introduces the study of the human form as a primary vehicle for addressing formal and conceptual issues in drawing, using a variety of media to master proportion, structure, and visual expression of the figure.

Student Learning Outcomes

1. Apply the proportional canons to draw a human figure in space.
2. Produce drawings that utilize a variety of traditional anatomical rendering concepts, including accurate skeletal and muscular structures of the human form using a variety of drawing media.
3. Employ the figure to visually express ideas or narrative.
4. Use life drawing vocabulary to critique work created by oneself and classmates.

ARTS 1630. Painting I

Course Description

This course introduces the tradition of painting as a medium for artistic expression. Students will investigate materials, tools, techniques, history and concepts of painting. Emphasis is placed on developing descriptive and perceptual skills, color theory, and composition.

Student Learning Outcomes

1. Produce paintings that demonstrate the tradition of methods, techniques, materials, and tools of oil painting.
2. Construct a variety of support structures and grounds on which paintings are created
3. Examine the historical origins and practices of painting from the personal, social and cultural perspective.
4. Identify and apply environmentally safe painting practices, care of tools, equipment, and facilities, as well as disposal of mediums, solvents and paints.
5. Apply basic color theory to representational and non-representational painting.

ARTS 1631L. Painting Media Ancient and Contemporary

Course Description

Students work with bulk powdered pigments and other materials called for in ancient and contemporary recipes to make a variety of painting media. Four to five different media are covered each semester. In addition, students will make their own "grounds" and "supports". A solid understanding of the materials related to painting, health and safety issues, and basic techniques related to each media will be covered in this course.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Solid understanding of the materials used to make a variety of types of paints, grounds, and supports.
2. Gain the ability to problem solve compatibility questions related to the materials used within a painting.
3. Understand through experience, the basic craft issues related to a variety of paint media.
4. Broaden their understanding of what is possible in painting through experience of a variety of paint media and mixed media techniques.

ARTS 1632L. Drawing Space

Course Description

A drawing course focusing on ways to create the illusion of deep and shallow space within a two-dimensional format. Students will work with applied linear perspective, including three-point and creative dynamic perspective, atmospheric perspective, and the use of color to manipulate space. Art historic and culturally specific approaches to visual space will be explored.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Apply one-, two- and three-point linear perspective in drawings from observation and imagination.
2. Understand and apply spatial principles to expand or contract the ground plane in drawings.
3. Use linear perspective to create exaggerated expressive space.
4. Employ color and atmospheric perspective to manipulate space in drawings.
5. Recognize and discuss alternative approaches to rendering space.

ARTS 1633. Painting in Acrylics

Course Description

Students will learn the uses of acrylic paint, care and uses of brushes, what supplies are needed to paint with acrylic. Varnishing, and framing. Learn depth, shading and tones. Different Techniques and steps used to complete a painting. Learn the how to use a color wheel.

Student Learning Outcomes

1. Will form their own, and learn different techniques and styles used with acrylic paint.
2. Will create a color wheel, using primary colors. Use of a color wheel.
3. Will learn to notice their surroundings, look at color and shades, shadows in everyday life.
4. Will learn how art can help the mind and, help relax, let loose of creativity.
5. Will use depth, shadows and shades of color to complete a painting.
6. Will learn to use their own ideas and technique to put onto canvas.

ARTS 1634. Painting with Oils

Course Description

A relaxing approach to the introduction of art, the purpose of this course is to provide simple background for your oil painting experiences in the future and in the meantime serve as an outlet to relax. My objective is to provide a stimulating, relaxing environment where student work is geared toward experimentation with the medium of Oil paint. In this class, you will choose one or more references approved by the instructor, and from that create a work of art. You may create up to 3 paintings in this class, but please pace yourself-no good work of art is done in 3 weeks!

Student Learning Outcomes

Students will learn what makes a successful painting and will be able to confidently begin a work of art and complete on a timely basis. Also, there will be an emphasis on color mixtures-there is no right-from-the-tube green or brown colors. Students will also learn technique and about the various materials/equipment provided by Tech.

ARTS 1640. Watercolor I

Course Description

This course introduces watercolor painting materials and techniques with an emphasis on capturing light, shadow, color and spatial manipulation to describe form. Covers both traditional and contemporary approaches to watercolor painting.

Student Learning Outcomes

1. Compose and paint a series of paintings, demonstrating an understanding of color, composition, space, and fundamental watercolor technique.
2. Distinguish pigments, mix color, identify and prepare varieties of papers for watercolor use.
3. Demonstrate the application of wet in wet, wet on dry, dry brush, back wash, transparent and opaque painting methods.
4. Apply the proper use and maintenance of tools and materials of watercolor painting.

ARTS 1710. Introduction to Printmaking

Course Description

This course provides direct experience of exploring basic printmaking processes, including relief, intaglio, and monoprint processes, as well as the investigation of materials/media, tools, techniques, history, and concepts of printmaking. Emphasis is given to solving problems through thematic development while producing a portfolio of prints.

Student Learning Outcomes

1. Properly operate a printing press and safely handle materials and equipment.
2. Demonstrate an adequate ability to utilize basic historical printmaking techniques that are widely relevant to contemporary, artistic expressions.
3. Utilize formal elements of art and design (line, shape, value, texture, space, and color), to create prints that are formally sophisticated.
4. Create imagery that contains conceptual depth, which can be interpreted by viewers with regard to social, cultural, political, geographical, and/or psychological experiences and relevance.

ARTS 1711. Computer-Based Illustration

Course Description

Introduction to the principles of computerized drawing and design. Using the basic concepts, drawing tools, and vocabulary of Adobe® Illustrator.

Student Learning Outcomes

1. Demonstrate drawing with the pen tool.
2. Demonstrate the use of blending color and creating shapes.
3. Create spot colors and effectively use them in a page layout.
4. Demonstrate formatting and creating typography.
5. Demonstrate the use of layers, effects, graphic styles, symbols, and brushes.
6. Demonstrate competency in creating digital graphics using of Adobe® Illustrator software.

ARTS 1712. Digital Graphics

Course Description

Importing and exporting images and text into various desktop publishing formats. Exploring imaging, drawing, and page layout applications. Introduction to typography.

Student Learning Outcomes

1. Demonstrate competency in the use of InDesign software.
2. Create appropriate visual solutions based on target marketing information.
3. Demonstrate competency in the design and production of advertising and promotional materials.
4. Present ideas and concepts effectively and competently.
5. Visually demonstrate design solutions to be used in a portfolio.

ARTS 1713. Web Page Design

Course Description

Introduction to the creation of well-designed and organized Web sites. Emphasis on building creative but functional user-friendly sites. Introduction to HTML, Flash, Java Script, and Web-authoring software.

Student Learning Outcomes

1. Outline the structure and functionality of a typical website.
2. Demonstrate design and layout skills.
3. Demonstrate competency in the use of Dreamweaver software.
4. Demonstrate competency in the use of photo editing software.
5. Demonstrate skills learned for website functionality.
6. Create an Internet compatible website.

ARTS 1715. Introduction to Graphic Design

Course Description

This course is an introduction to the fundamental concepts of graphic design. Projects will balance the learning of theory, communication, and creativity. It also serves as an introduction to industry-standard digital tools. Through discussion, assignments, and critiques, students will develop the foundational skills needed to communicate via visual language.

Student Learning Outcomes

This course encourages exploration and experimentation into the foundations of graphic design. Upon completion, students will have practical and conceptual knowledge of design principles and will have begun to develop a visual vocabulary demonstrating an understanding of how it is employed in visual form making and communication. Historical, contemporary, and future topics will be discussed providing context for current practices. Students will also gain experience with analog- and computer-based tools used for design creation. By exploring content through presentations, discussions, demonstrations, research, studio work, and critiques, students will achieve the following:

1. The ability to identify foundational principles and elements of graphic design.
2. Build and apply a new visual vocabulary to various compositional assignments.
3. Gain an understanding of typographic form and best practices.
4. Understand how form, images, typography, and stylistic approaches affect the viewer.
5. Be able to apply the core concepts of visual communication to convey content.
6. Gain a working knowledge of the analogue and digital processes of design.
7. Discover and use various resources needed to keep pace with technological growth.
8. Submit and present artwork in a manner suitable for critique.
9. Discuss, defend, and constructively criticize their assignments and those of their peers.

ARTS 1716. Typography and Layout Design

Course Description

Understanding the relationship between text, image, and composition is essential to good design. This course explores design principles and the use of typography, imagery, and graphics in the design of various layouts, from page to poster. It also serves as an introduction to industry-standard digital design tools.

Student Learning Outcomes

In this course, students will develop their compositional layout skills through effective use of the principles and elements of graphic design. This includes developing an understanding of how type is used in practical application and as a means of expression. Through a variety of exercises and projects, they will explore how type, compositional form, images, and graphics unite to create work that is visually compelling. This course also provides an introduction and continued study of the digital tools used in graphic design. By exploring content through presentations, discussions, demonstrations, research, studio work, critiques, and historical context, students will achieve the following:

1. An appreciation for the many ways in which typography and layout are used in graphic design.
2. Be able to successfully unify various design elements in creating compositional forms.
3. Gain an understanding of the many ways in which typography is used in graphic design.
4. The ability to apply principles and elements of design in creating well-composed layouts.
5. Continued experience with the digital tools used in graphic design.
6. Submit and present artwork in a manner suitable for critique.
7. Discuss, defend, and constructively criticize their assignments and those of their peers.

ARTS 1717. Image Making: Graphics and Illustration

Course Description

Image-based graphics and illustrations are as informative as they are expressive. In this course, students will develop and produce imagery that ranges from instructional to artistic while investigating various creative techniques and processes. It also serves as an introduction to industry standard digital graphics tools.

Student Learning Outcomes

This course encourages exploration and experimentation of the foundational principles that guide illustrative and graphic-based image making. Upon completion students will have developed an appreciation for the ways in which these two graphic approaches inform viewers as well as elicit emotional responses. The desire of students to express personal, artistic narratives through visual means will also be explored. In addition, they will learn to differentiate and properly apply vector- and raster-based graphic formats as well as an understating of what makes these two formats unique. This course also provides an introduction and continued study of the digital tools used in graphic creation. By exploring content through presentations, discussions, demonstrations, research, studio work, and critiques, students will achieve the following:

1. A foundation in concepts and techniques used in multiple forms of image making.
2. Methods of illustrating that provides informative content.
3. Approaches to graphic-based imagery that speak to viewers beyond the literal.
4. Exploration of personal expression through graphics and art making.
5. Gain experience with the digital tools and formats used for image making.
6. Submit and present artwork in a manner suitable for critique.
7. Discuss, defend, and constructively criticize their assignments and those of their peers.

ARTS 1720. Stained Glass and Mosaics

Course Description

The purpose of these classes is to help students to develop new skills that assist them to decrease stress through art and at the same time, they will learn to develop their creativity and create skills that can be used outside the classroom. The students can take Stained glass or a Mosaic class. In both classes they will learn by practice sessions and step-by-step instructions the art to work with glass. Also because of the nature of this class; students will receive individualized attention if needed. At the end of the semester the students will be equipped with new skills to work with glass and they will be able to work by their own and supplement their income by doing something that they will love to do. One of the main objectives of these classes is to provide a stimulating, relaxing and pleasant environment where the students would have the opportunity to be in touch with their artistic way.

Student Learning Outcomes

Not Available

ARTS 1750. Papermaking I

Course Description

This course covers the historical styles of making paper by hand, including investigating cotton, abaca, and other exotic indigenous fibers. The course introduces pulp-coloring methods, embedding, embossing, and three-dimensional sculptural uses of paper, as well as students' construction of a mold and deckle, and other basic tools of papermaking.

Student Learning Outcomes

1. Apply a working knowledge of papermaking equipment, its terminology, history, and global cultural contributions.
2. Practice techniques of paper-sheet production.
3. Create works using a mold and deckle method of paper casting.
4. Develop safety and operation skills of papermaking equipment, hand drills with paper pulping extensions, and blender .
5. Explore the historical uses and methods of handmade paper.

ARTS 1810. Jewelry and Small Metal Construction I

Course Description

This course introduces the basic techniques, materials, and tools traditionally used in the creation of jewelry and/or small-scale sculptural objects.

Student Learning Outcomes

1. Apply basic jewelry fabrication techniques (such as: piercing, cold connections, soldering, metal forming, casting and stone setting) to complete projects.
2. Create design sketches of the objects prior to fabrication.
3. Demonstrate knowledge of materials and safe practices for making jewelry, as well as small functional and non-traditional objects.
4. Analyze projects through critiques, oral presentations, and discussions.

ARTS 1811L. Silversmithing I

Course Description

This course is designed for students to gain mastery in fabricating high end silver products. This course will enable students to gain the skills in layout and design, high temp soldering, manufacturing dies to form various silver pieces, placing and soldering of borders. Lab will consist of design and completion of a ranger buckle set.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. High Temperature solder.
2. Fabricate dies to fabricate high end ranger buckle set.
3. Successfully clean and polish silver project.
4. Design and overlay border (berry bead, twisted wire, etc.).

ARTS 1812L. Wax Carving for Jewelry

Course Description

This course is designed to introduce students to the basic techniques, materials and tools used in the wax carving and modeling of jewelry and small-scale sculptural objects. Students develop the tools and techniques necessary to interpret their designs into workable modes. Projects challenge students not only in terms of learning new techniques, but also through specific ideas, themes, or concepts involved in making jewelry and art.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Understand and plan the steps necessary to interpret designs into a workable mode.
2. Demonstrate an understanding of the different types of waxes and their applications.
3. Demonstrate the proper use of tools and finishing processes in preparation for casting.

ARTS 1813. Jewelry Drawing and Rendering

Course Description

Leads students through color based drafting materials and advances rendering processes specific to metal and gems. This course helps student clarify their jewelry and metal designs as well as strategize developing their drawings into 3-dimensional works of are through demonstrations and practice of graphic layouts, multiple views, value study and color rendering of metal, gems and pearls. Students also learn how to professionally present their design to potential clients and to future employees.

Student Learning Outcomes

1. Draw multiple view layouts.
2. Draw value study of objects and metal.
3. Render different metals in color with multi-media.
4. Render colored gems, diamonds and pearls.

5. Create a color rendering including form and value for a "client".
6. Professionally present work.

ARTS 1814L. Beginning Stone Setting

Course Description

Designed to take students through the process of engineering settings for faceted stones. Emphasis is on contemporary setting styles and techniques including graver dressing/sharpening and using the complement of setting furs for a variety of setting styles and building bezels. Students practice settings to develop ""muscle memory"" and skill to prepare them for creating a completed piece of jewelry. Techniques to be explored include, but are not limited to flush setting, bezel setting for round gems, making unique bezels with or without gallery work, prong setting and channel setting.

Student Learning Outcomes

1. Create samples of the following setting techniques: prong setting, flush setting, bezel setting for round faceted gems.
2. Evaluate the appropriate setting style for a specific design.
3. Complete a work using one or more of the setting techniques learned.

ARTS 1820. Introduction to Enameling

Course Description

This course introduces the art of enameling on metal, including powdered enamels, watercolor and liquid (porcelain) enamels. Focus will be on using these materials with the application of drawing and painting techniques, working with textured metal and controlled firing textures. Other topics include basic metalsmithing techniques to integrate enamels into jewelry by use of bezels, prongs, and cold-connections.

Student Learning Outcomes

1. Demonstrate an understanding of the nature and history of enamels including the differences between various enamel types, choice of the correct enamels and the use of alternative enamel types such as watercolor and porcelain enamels.
2. Demonstrate an understanding of how to choose and prepare metals for enameling.
3. Design and create a collection of enamels using the techniques of sifting, stencils, graffito, basse taille, and add variation by the use of controlled firing techniques and enamel additions such as metal foils and underglaze pigments.
4. Create a finished work incorporating enamels into studio jewelry using bezels, prongs, or cold connections .
5. Safely and competently use the studio equipment and processes taught.

ARTS 1830. Shop Foundation

Course Description

This course introduces the proper use of shop facilities with an emphasis on the safety procedures required for their proper use. The course will provide the student with a foundation of technical skills for use in the production of their work in subsequent classes.

Student Learning Outcomes

1. The student shall demonstrate through a series of exercises and prescribed projects the safe and proper use of the tools and machinery in production studios.
2. The student shall demonstrate through a series of exercises and prescribed projects a working knowledge of the hazards associated with the use of materials commonly employed in the production of 2-D and 3-D art, and the proper precautions used to mitigate their negative effects.
3. The student shall demonstrate a working knowledge of the proper use of personal safety equipment by the proper use of such equipment in the execution of their exercises and projects in the class.

ARTS 1840. Sculpture I

Course Description

This course introduces the student to a variety of medium and techniques used in the production of sculpture; along with the historic, conceptual, and esthetic foundations of the sculptural process.

Student Learning Outcomes

1. Create a series of pieces that demonstrate a working knowledge of a variety of materials and techniques used in the creation of sculpture.
2. Demonstrate the ability to experience and analyze a sculpture, and how to communicate those analyses in a comprehensible manner.
3. Produce objects and analysis that demonstrate a cursory knowledge of historic, and contemporary art practices.
4. Through the creation of a body of work begin to define one's own personal vocabulary in the visual language.

ARTS 1850. Metal Sculpture I

Course Description

In this course students create metal sculpture using a variety cutting and welding techniques; the primary metal used is steel. Through learning the use of the equipment required to produce their work, students will become familiar with the correct processes, nomenclature, and safety precautions used in creating welded sculpture. The student will be introduced to the history and cultural framing of fabricated metal sculpture.

Student Learning Outcomes

1. Demonstrate through the creation of a sculpture of their own design, the ability to cut and weld metal.
2. Demonstrate through discussion or text a basic understanding of the history and nature of sculpture as both object, and interactive experience defined by cultures.
3. Demonstrate through the installation of their work the variety of options in the presentation of work, and the installations effect upon the work itself.
4. Describe the safe and effective use of the welding equipment used in the class.

ARTS 1854. Artistic Blacksmithing

Course Description

This course focuses on the fundamental techniques of forging and metalsmithing. It will cover the basics of forging, fabrication and finishing, as well as an introduction to decorative processes, ergonomic and functional problems, and the construction of mechanisms. The class is structured with an emphasis on technique and will include demonstrations each class.

Student Learning Outcomes

1. To explore blacksmith design.
2. To apply blacksmith methods.
3. To learn the use of a variety of forging tools.
4. To understand the use of forging processes.
5. Develop the vocabulary necessary to objectively critique metalwork.

ARTS 1855. Forging for the Sculptor

Course Description

An introduction to the use of traditional forging tools and techniques in the creation of decorative and expressive ironwork

Student Learning Outcomes

1. Use a forge to heat metal to its proper heat to be worked in a variety of manners.
2. Form, forge-weld, fold and Damascus steel and iron.
3. Compose a work of art, functional or pure sculpture, with the use of the skills acquired in the course.

ARTS 1860. Beginning Spur Making

Course Description

This course is designed for introductory level spur making including the overlay of silver. This course will enable students to gain the skills necessary in fabricating the band, shank, hangers and rowels required in making a pair of spurs. Students will also acquire an understanding of the theory and practice of metal cutting, shaping, welding, and finishing of one pair of spurs. Lab will consist of design and completion of a pair of spurs.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Safely operate all shop equipment and tools.
2. Design and layout the various components of a spur-band, shank, hangers, and rowels.
3. Successfully construct a pair of spurs from the above components.
4. Design and overlay silver.

ARTS 1861. Spurmaking I

Course Description

This course presents the principles and techniques of fabricating spurs. Students gain skills in welding, hard and soft soldering, riveting, and overlay. Students also acquire skills necessary in designing spurs along with understanding form and function.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Operate shop equipment such as cutting torch, metal shears, cutoff saw, mig welder, gas welder, and stick welder.
2. Design and layout spur patterns.
3. Cut, bend, and form shanks, bands, and hangers.
4. Weld, solder, and rivet spur parts together.

ARTS 1862. Basic Casting Techniques

Course Description

Basic Casting Techniques is an introduction to fundamental foundry practices. Students will model several small sculpture and reliefs. At least one project may be chosen to be poured in bronze. Elementary wax chasing, sprueing, and metal chasing will be experienced through practical application. Elementary design will be considered.

Student Learning Outcomes

1. Personal responsibilities: AFFECTIVE: Students will develop behavioral skills which help the student acquire a positive attitude toward self, other students, faculty, facilities and equipment, housekeeping in the work areas, and the ability to carry out directions, meet deadlines, meet attendance requirements, etc. with a score of 60% or better using the following concept:
    a. Each student will maintain class attendance.
    b. Each student will observe safe studio and shop practices.
    c. Each student will demonstrate the ability to follow task instructions.
    d. Each student will demonstrate the ability to self-initiate tasks.
    e. Each student will demonstrate the ability to complete tasks.
    f. Each student will demonstrate the ability to focus on group objectives.
    g. Each student will demonstrate the ability to focus on personal objectives.
    h. Each student will demonstrate the ability to comply with due dates.
    i. Each student will demonstrate the ability to contribute to the studio working environment.
    j. Each student will demonstrate the ability to tolerate diverse views.
    k. Each student will participate in group critiques.
    l. Each student will demonstrate the ability to dialogue effectively.

m. Each student will demonstrate the ability to offer and receive constructive criticism.
n. Each student will demonstrate that the discipline focus of class objective can be used as creative stimulus.

2. Theory of casting: COGNITIVE: Students will demonstrate critical thinking skills, conceptual constructs, and specialized vocabulary with a score of 60% or better on a body of work which includes the following:
    a. Each student will be able to demonstrate the principles of relative shop technology and safety.
    b. Each student will be able to design effective technical strategies.
    c. Each student will be able to design shape and scale optimum formats to accommodate individualized expressive concerns.
    d. Each student will develop a sense of form through casting sculptural studies molded into wax and clay.
    e. Each student will be able to employ appropriate technical processes for casting bronze and aluminum as a basis for further research and exploration of form.
    f. Each student will explore determinative relationships between media, technical processes and sculptural products.
    g. Each student will be able to offer an oral critique of finished products.
    h. Each student will be able to participate in group critiques
3. Casting: PSYCHOMOTOR: Students will develop manipulative, work-oriented skills, and demonstration of specific process skills with a score of 60% or better on a body of work which includes the following:
    a. Each student will be able to effectively assemble material.
    b. Each student be able to control form so that a finished presentation is accomplished, including architectural weight/support sufficiency.
    c. Each student will use his/her hands and tactile responsiveness as a perceptive sense in creating sculptural form.
    d. Each student will be able to install works of sculpture for ideal contextual viewing.
    e. Each student will be able to orally critique works of sculpture.

ARTS 1863. Silversmithing for the Artist

Course Description

This laboratory-oriented course is designed for either farriers or artistic blacksmiths who have a desire to enhance their forging skills. Students are allowed to select and practice the forging or blacksmithing skill of their own choosing.

Student Learning Outcomes

1. Successful course completion implies that a student should be able to do the following with at least 70% accuracy:
2. Farriers may choose from any of the following:
3. Forge various toe and heel modifications on machine made shoes.
4. Forge clips.
5. Forge handmade open heeled shoes.
6. Forge therapeutic shoes
7. Forge various competition shoes.
8. Blacksmiths may choose from any of the following:
9. Forge various ornamental pieces from the Blacksmith's Journal.

ARTS 1864. Artistic Silversmithing

Course Description

This course is designed for introductory level engraving on precious and non-precious metals. This course consists of understanding the theory and practice of hand and power assist engraving on spurs and jewelry.

Student Learning Outcomes

Learning activities may include lectures, instructional handouts, videos, class participation, demonstrations, and examinations.

Successful completion of the course implies the student should be able to:

1. Demonstrate safe use of shop equipment and shop tools.
2. Shape and sharpen gravers to correct dimensions.
3. Demonstrate the ability to engrave in the Texas style and beginning bright-cut style.

Students will receive grades on completion of work as defined in the Course Outline and described by the following performance objectives.

1. Safety students will:
    A. Demonstrate their ability to safely operate shop equipment and hand tools.
    B. Demonstrate their ability to use the equipment.
    C. Demonstrate proper setup and shut-off of equipment.
1. Design and Layout students will demonstrate:
    A. Ability to create a pattern and transfer to engraving plate.
    B. Layout a flower and a scroll.
2. Tool sharpening students will demonstrate:
    A. The ability to learn the proper tool angles for different cuts and gravers.
    B. The ability to sharpen your gravers.
3. Students will demonstrate the ability to learn basic cuts.
    A. Straight cut.
    B. Forehand cut.
    C. Backhand cut.
4. Students will demonstrate the ability to learn border cuts
    A. Riggle borders.
    B. Cut borders
5. Students will begin to learn basic bright cut engraving.
    A. Cutting flowers.
    B. Cutting scrolls.

ARTS 1865.Artistic Silversmithing-Bit & Spur Making

Course Description

This course is designed for intermediate level spur making including the overlay and engraving of silver. This course consists of understanding the theory and practice metal cutting, shaping and welding in order to build one pair of spurs. Lab will consist of design and completion of a pair of spurs.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Safety students will:
    a. Demonstrate their ability to safely operate shop equipment and hand tools.
    b. Demonstrate their ability to use the equipment.
    c. Demonstrate proper setup and shut-off of equipment.
2. Spur design and layout students will demonstrate:
    a. The ability to design a balanced spur pattern taking into account the type of riding, size of the user and the dictates of good horsemanship.
    b. Ability to create a pattern and transfer to steel.
    c. Create a silver pattern and transfer to silver.
3. Bit design and layout students will demonstrate:
    a. The ability to design a balanced bit pattern taking into account the type of riding, type of horse and the dictates of good horsemanship.
    b. Ability to create a pattern and transfer to steel.

    c. Create a silver pattern and transfer to silver.
4. Spur component construction students will demonstrate:
    a. The ability to cut out spur shanks with an acetylene torch.
    b. The ability to cut and bend spur bands to fit the rider's heel.
    c. The ability to cut out rowels.
    d. The ability to cut and form spur button hangers.
5. Bit component construction students will demonstrate:
    a. The ability to cut out cheek pieces with an acetylene torch.
    b. The ability to cut and bend mouthpieces.
    c. The ability to cut out silver mounts and attach to cheek piece.
6. Assembly students will demonstrate:
    a. Welding shanks to band and mouthpieces to cheeks.
    b. Soldering button hangers to bands.
    c. Riveting rowels to shank
    d. Cut and solder silver to spur body.

ARTS 1866. Silversmithing

Course Description

This course is designed for students to gain mastery in fabricating high end silver products. This course will enable students to gain the skills in layout and design, high temp soldering, manufacturing dies to form various silver pieces, placing and soldering of borders. Lab will consist of design and completion of a ranger buckle set.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. High Temperature solder.
2. Fabricate dies to fabricate high end ranger buckle set.
3. Successfully clean and polish silver project.
4. Design and overlay border (berry bead, twisted wire, etc.)

ARTS 1867. Bit Making

Course Description

This course is designed for entry level bit making. The following topics will be covered-leverage, purchase, leverage-purchase ratio, Mullen and mouthpiece design and placement. Students will also be introduced to tig welding techniques. By course end students will have made one Bayer's style leverage bit, one loose jaw leverage bit, and one snaffle bit.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Understand leverage, purchase, and how their ratios impact the horse.
2. Communicate how mouthpiece design and placement impacts bit function.
3. Design and fabricate both loose jaw and fixed jaw leverage bits and one snaffle.

ARTS 1869. Signal Bit Design and Fabrication

Course Description

This course is designed for students in their final semester. In this course students will be required to make a California style spade bit. After successful course completion students will be able to fabricate j-boxes, braces, cricket roller, spoon mouthpiece, slobber bar, rein chains, purchase length and leverage. Students will also refine tig welding skills and acquire advanced fabricating skills.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Safely operate all shop equipment and tools.
2. Design a functional California style spade bit.
3. Successfully fabricate j-boxes, braces, cricket roller, spoon mouthpiece, slobber bar, rein chains, cheek piece with appropriate purchase length and leverage.

ARTS 1870. Engraving
Course Description
This course is designed for introductory level engraving on precious and non-precious metals. This course consists of understanding the theory and practice of hand and power assist engraving on spurs and jewelry. Students will learn the basic cuts involved in beginning bright cut engraving.
Student Learning Outcomes
Successful course completion implies that a student should be able to do the following with at least 70% accuracy:
1. Demonstrate ability to lay wriggle borders and backbones.
2. Shape and sharpen gravers to correct dimensions.
3. Demonstrate the ability to engrave the following bright cut components-forehand cut, backhand cut, closure cut, s cut.

ARTS 1993. Art Studio Workshop
Course Description
Varies
Student Learning Outcomes
Varies

ARTS 1996. Art Studio Topics
Course Description
Varies
Student Learning Outcomes
Varies

ARTS 1997. Art Studio Independent Study
Course Description
Varies
Student Learning Outcomes
Varies

ARTS 2010. Portfolio Development
Course Description
This course presents the practicalities of building an art career with emphasis on developing a professional portfolio through visual aids, resumes, statements, and presentations. It covers professional practices of the studio artist including self-promotion, contracts, research tools for exhibition venues and other art related opportunities**.**
Student Learning Outcomes
1. Develop a portfolio package with visual aids, photographic documentation, resumes, bios and artist statements.
2. Analyze the qualifications, procedures and portfolio requirements necessary for professional art related opportunities.
3. Complete an oral presentation on a series of personal works.
4. Distinguish pathways for navigating the business side of being a professional artist.

ARTS 2110. Artist as Entrepreneur

Course Description

Introduction to the process of creating marketable artwork and the development of entrepreneurial activities for the studio artist. Students will work with their own work, both pre-existing as well as new war){ produced in class, and its application to a variety of products, using a range of art media. Very basic business concepts for the start-up and promotion of an art entrepreneur activity and the sales of studio work are also discussed. Projects include display, exhibition, and related sales. Students may incur additional costs for some types of production.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Design and execute an original aesthetic vision.
2. Demonstrate competency in the art techniques and materials to create a marketable aesthetic project.
3. Demonstrate very basic business practices required of an entrepreneurial studio artist.
4. Demonstrate professional studio art presentation and portfolio.
5. Create methods of promotion, networking, and marketing of artwork with an emphasis on social media.

ARTS 2111L. Advanced Color and Design

Course Description

Perceptual and experimental in-depth study of color theory and compositional dynamics, and their application for artists and designers. Students explore the use of color and composition in both fine art and commercial design.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Use and understand color wheel models and harmonies effectively in art and design.
2. Demonstrate color usage and dynamic composition in a variety of materials and media.
3. Analyze the use of color and composition historically and commercially through the study of fine art and commercial design.
4. Distinguish the emotional and psychological meanings of color and composition.

ARTS 2113. Business Practices for Artists and Designers

Course Description

Principles and procedures for establishing a profitable art or design business. Students are trained to create an actual or theoretical business, including business formations, product design and costing, insurance and ethical practices. The course teaches students to identify and research E commerce, trade and wholesale markets. All aspects of good and sustainable business practices will be covered.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Start a business in the state of New Mexico.
2. Establish and practice business ethics.

ARTS 2114. Arts and Design Seminar

Course Description

A study of issues related to a discipline within the arts and/or design. The theme of the course may vary each time the course is offered. Students are challenged with a range of viewpoints related to the theme of the course. Aspects of the arts and/or design that create a bridge to other disciplines such as science, psychology, or philosophy are also a focus of this course.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Explain how a discipline within the arts and/or design can be understood in relationship to the theme of the course.

2. Explain how the relationship between disciplines, within the context of the theme of the course, can provide a new understanding of an arts and/or design discipline.
3. Compare and contrast a range of viewpoints and their relationship to the theme of the course.
4. Analyze issues related to the course theme in more depth.

ARTS 2115L. Arts & Design Advanced Projects

Course Description

An in-depth forum to analyze aesthetic and conceptual issues relevant to each individual artist. Offered in sections per program area, the course provides a focused environment for students to work on advanced projects in their discipline. Emphasis is placed on the realization of each student's unique vision and completing project(s) in arts and design.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Develop and initiate a project.
2. Select and apply the appropriate techniques and materials to produce an artwork.
3. Articulate the conceptual significance of their project.
4. Be familiar with contemporary issues in their field of arts and design.
5. Demonstrate substantial progress in project completion.

ARTS 2116. Studio Practice

Course Description

Intensive group and individual critique and discussion of studio work. The emphasis of this course is the interaction with peers across disciplines. Students are expected to be engaged in a cohesive and directed body of work and to be actively working towards completion of a degree or certificate in Arts, Design and Media Arts. Satisfactory class participation is required in order to maintain access to a student studio.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate the ability to independently conceive and produce works for critique, to be presented for peer and faculty review.
2. Demonstrate the ability to discuss the work of other artists and designers.
3. Demonstrate the ability to produce work that represents a substantial and serious inquiry directly related to statement of intent.
4. Demonstrate an initial understanding of one's own work within contemporary and/ or historical tradition of art and design.
5. Demonstrate safe and sustainable studio practice.

ARTS 2117L. Book Arts: Text and Image

Course Description

The fundamentals of typesetting and letterpress printmaking. Students set lead type by hand and compose type and image using the press as a design tool. Investigating the subtleties of paper, ink and pulling an impression, students explore the juxtaposition of image and text by incorporating traditional printmaking techniques.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Set lead type by hand on a composing stick using various type faces and demonstrating an understanding of linear and word spacing.
2. Operate a letterpress, including locking up type properly with furniture, color-mixing ink and printing.
3. Demonstrate a fundamental understanding of the history of type, typography and printmaking.

ARTS 2118L. Alternative Printmaking

Course Description

This course covers alternative printmaking methods. Methods of emulsion transfer including chemical & litho. Polaroid transfers and Solar Plate etching are used in combination with the process of monotype. This creates a great opportunity to develop unique mixed media pieces.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate a working knowledge of Emulsion transfer.
2. Demonstrate a working knowledge of chemical transfer.
3. Demonstrate a working knowledge of Litho transfer.
4. Demonstrate a working knowledge of Solar Plate Etching.
5. Demonstrate a working knowledge of Polaroid transfer.

ARTS 2119. Archival Printing

Course Description

For artists and photographers wanting to produce archival, exhibition quality large-format, ink jet prints. Students will explore monitor calibration, media profiling, large format file creation and aesthetics of the large format print. Students acquire a practical knowledge of image management from input/creation to archival output, as well as producing their own fine art prints.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Understand system and monitor calibration.
2. Scan for high quality large format output.
3. Understand resolution and file sizes for large formal output.
4. Evaluate the aesthetics of large format prints.
5. Create a master file.
6. Understand System profiles.

ARTS 2120. Graphic Design I

Course Description

Introduction to the basic principles of graphic design and typography. Includes examination of the use of space, balance, unity and visual hierarchy.

Student Learning Outcomes

1. Define the basic computer terminology used in graphic design.
2. Demonstrate basic knowledge of Graphic Design software.
3. Further their knowledge of scanners and the printing process.
4. Organize research procedures to solve graphic design problems.
5. Work with formal design principles in the approach to solutions.
6. Learn to create a concept to amplify content, while also developing sensitivity to typography, symbolism, language, and text.
7. Demonstrate the ability to prep re for client presentations.

ARTS 2125. Graphic Design II

Course Description

Continuation of the principles and theory of graphic design. Includes digital media and page layout.

Student Learning Outcomes

1. Define the advanced computer terminology used in graphic design.

2. Demonstrate advanced knowledge of Graphic Design software.
3. Further their knowledge of scanners and the printing process.
4. Organize advanced research procedures to solve graphic design problems.
5. Work with formal design principles in the approach to solutions.
6. Learn to create a concept to amplify content, while also developing sensitivity to typography, symbolism, language, and text.
7. Demonstrate advanced ability to prepare presentations for clients.

ARTS 2126. Identity Systems Design

Course Description

Successfully designed identity systems combine logos, typefaces, colors, imagery, and stylistic choices providing a unique voice for a product, business, or individual. In this course, students will design identity assets as they explore the creative and technical processes in developing a well-crafted identity system.

Student Learning Outcomes

In this course, students will explore a variety of design assets that are often associated with well-developed identity systems. By association, they will also recognize identity's contribution to the larger, comprehensive fields of brand creation and marketing. Throughout the semester students will research, develop and create various materials that appropriately represent a chosen product, business, or individual. Along with creative practice, students will be introduced to the processes of commercial production, as artwork should be both well designed and properly crafted. This course, along with others in the program will serve to continue their growth in technical proficiency. By exploring content through exercises, discussions, demonstrations, readings, research, assignments, and critiques, students will have achieved the following:

1. The ability to define how design is used to develop a visual identity.
2. Identify various products used in the building of an identity system.
3. Understand identity design’s placement within comprehensive branding strategies.
4. Proper use of the principles and elements of design in a variety of compositional assignments.
5. Understand how typography, images, and stylistic approaches in design affect stakeholders.
6. Apply various analog and digital processes used in graphic design.
7. Submit and present artwork in a manner suitable for critique.
8. Discuss, defend, and constructively criticize their assignments and those of their peers.

ARTS 2127. Digital Interface Design

Course Description

Good interface design is visually compelling, intuitive, and efficient while prioritizing user expectations and experience. In this course, students will design and develop digital interface wireframes and interactive prototypes while gaining the foundational knowledge needed to research and strategize screen-based experiences.

In this course, students will work through the concept, iteration, wireframing, and prototyping stages used in the design and development of digital interfaces. They will research, develop, and apply graphic design, interactive, and usability processes, completing the semester with a fully realized, working digital product. Along with creative practice, students will be introduced to the fields of user interface/user experience design (UI/UX design), to which digital interface design is associated. This course, along with others in the program will serve to continue their growth in technical proficiency.

Student Learning Outcomes:

By exploring content through exercises, discussions, demonstrations, readings, research, assignments, and critiques, students will have achieved the following:

1. The ability to define interface design's place in the fields of graphic, UI/UX, and digital product design.
2. Successfully work through the stages of design development, from concept to working prototype.
3. Learn and utilize digital tools and services unique to the creation of digital interfaces.

4. Make creative choices appropriate to the brand, service, or product their interface represents.
5. Understand that aesthetics is only part of the process, which also includes user experience.
6. Apply various analog and digital tools used in graphic design.
7. Submit and present design work in a manner suitable for critique.

ARTS 2128. Graphic Design Studio

Course Description

Graphic Design Studio builds on the skills and principles of foundational web design. Students will integrate images, print, and design principles creating art in a digital space.

Student Learning Outcomes:

1. Students will learn how to apply advanced design skills to digital space.
2. Students will develop unique content for their artwork learning how to solve problems with creativity.
3. Students will be able to discuss and strategize practical solutions to graphic design problems through practice and study.
4. Students will realize real-world applications for graphic design skills and abilities.

ARTS 2129. Studio Work in Graphic Design II

Course Description

A faculty-guided independently navigated advanced graphic design course which allows for creative exploration and research into topics extending from prior studies and personal endeavors.

Student Learning Outcomes:

This is a student-led, faculty-guided course with an emphasis on mentored projects and research. Prior to the start of the term, a course schedule and assignment load will be determined and agreed upon by faculty and student. These factors will establish the course schedule for the semester. Course topics can vary widely from student to student based on their needs, interests, and academic focus.

ARTS 2131. Illustration Arts

Course Description

Integrates traditional drawing, non-traditional drawing, and electronic drawing techniques together to create a portfolio of illustrative designs. Emphasis will be placed on artistic concepts combined with text and skilled execution of scenarios that artfully communicate ideas and purpose.

Student Learning Outcomes

1. Combine language and fonts to drawings that communicate a purpose artistically.
2. Apply wet and dry drawing techniques, mono-print & photography to illustration and design projects.
3. Demonstrate color meaning and symbolism in illustration and design.
4. Examine the historical origins and practices of illustration and design from the personal, commercial, social and cultural perspective.

ARTS 2211. Portraiture

Course Description

The examination of the portrait in drawing and painting, emphasizing development of personal skills in depicting likeness and personality. Various artistic media are used to explore the anatomy of the human head and face and its power to express emotion. The role of the portrait throughout history is examined together with development of skills.

Student Learning Outcomes

Students will be able to:

1. Produce a portfolio of drawings and paintings of the head and it's features using proportional references from various positions
2. Identify the skeletal and muscular structure of the human head in drawings and through the construction of the écorché head
3. Draw the likenesses of people; specifically, classmates, models and themselves in both local and subjective color.
4. Recognize portraits from various historical periods.

ARTS 2270. Navajo Rug Weaving II

Course Description

Continuation of ARTS 131 which will include further development of the processes and techniques of Navajo weaving, with a special emphasis on advanced weaving techniques and design.

Student Learning Outcomes

Upon completion of the course, the student will be able to:

1. Know the oral tradition and the history of Navajo weaving in depth. Identify the significance of the upright loom and weaving tools. Identify traditional, regional, and non-regional Navajo rug styles.
    a. Understand the oral history of Navajo weaving.
    b. Know the historical background of Navajo rugs.
    c. Identify the different names and types of Navajo rugs.
2. Demonstrate Navajo weaving by preparing the wool, dying wool, and write a step by step process of setting up the loom, the warp, and weaving.
    a. Learn vocabulary words used with weaving and naming tools.
    b. Prepare, gather, process, and spin the wool.
    c. Dye wool.
    d. Prepare the loom and warp.
    e. Spin the side-string and spacing string.
3. Learn additional weaving techniques and designs.
    a. The weaving process:
        i) Warping and twining
        ii) Mounting the bound warp on the dowel
        iii) Mounting the warp on the loom
        iv) Making the heddles and shed rod
        v) Holding the batten and comb
        vi) Weaving the first rows
        vii) Using the heddle and shed rod
        viii) Adding new wool (string)
        ix) Repairing a broken warp
        x) Learning hooked joint, square, and diamond shapes
    b. Create an intermediate rug design using the three (3) basic designs.
    c. Learn the "Finishing Technique" of traditional Navajo Rug Weaving.
    d. Produce a completed Navajo Rug.
    e. Assist and mentor beginning students in setting up their looms.

ARTS 2275. Beginning Fibers

Course Description

This course presents a variety of fiber techniques, such as felting, inkle weaving, card weaving, knotting, using cords, yarns and other materials. Design application, historical development of fibers is also explored.

Student Learning Outcomes

Students should:

1. Demonstrate knowledge of fiber materials and simple weaving applications.
2. Create some fiber constructions, both hand manipulated and loom constructed.
3. Address problem solving regarding fibers construction and design techniques.
4. Utilize basic design concepts related to fiber application.
5. Address problem solving regarding fibers construction and design techniques.
6. Utilize basic design concepts related to fiber application.

ARTS 2301. Studio Studies in Graphic Design I

Course Description

This course is the first of three faculty-guided, independently navigated advanced graphic design courses which allow for creative exploration and research into topics extending from prior studies and personal endeavors. Students enrolled in this course are expected to have completed and passed the introduction and intermediate core program course requirements or may be enrolled by permission of the instructor.

Outcomes: As a student-led, faculty-guided course with an emphasis on mentored projects and research, a course schedule and assignment load will be determined and agreed upon by faculty and student prior to the start of the term. These factors will establish advanced creative projects to be completed throughout the semester. Student success will be based on their ability to interpret and apply previous core course learning and newly discovered creative concepts and technical skills. Continued development and progress are expected throughout the term.

Student Learning Outcomes

By exploring content through research, studio work, and critique, students will have achieved the following:

1. Demonstrate the ability to extend prior learning to advance projects.
2. Explore, discuss and develop advanced topics independently and with peer groups.
3. Manage time and resources required of an independent studies course.
4. Produce, submit, and present artwork in a manner suitable for critique.
5. Utilize basic design concepts related to fiber application.

ARTS 2302. Studio Studies in Graphic Design II

Course Description

This course is the second of three faculty-guided, independently navigated advanced graphic design courses which allow for creative exploration and research into topics extending from prior studies and personal endeavors. Students enrolled in this course are expected to have completed and passed Studio Studies in Graphic Design I or maybe enrolled by permission of the instructor.

This course is a continuation of Studio Studies in Graphic Design I. As a student-led, faculty-guided course with an emphasis on mentored projects, research, and critique, a course schedule and assignment load will be determined and agreed upon by faculty and student prior to the start of the term. These factors will establish advanced creative projects to be completed throughout the semester. Students are expected to extend previous independent studio studies by demonstrating growth through continued research, studio work, technical development, and response to critical feedback, while participating with peers in various projects.

Student Learning Outcomes

Continued development and progress is expected throughout the term while achieving the following:
peers

1. Continue to expand upon prior independence study learning.
2. Explore, discuss, and develop advanced topics independently and with peer groups.
3. Manage time and resources required of an independent studies course.
4. Produce, submit, and present artwork in a manner suitable for critique.
5. Discuss, defend, and constructively criticize their projects and those of their peers.

ARTS 2303. Studio Studies in Graphic Design III

Course Description

This course is the third of three faculty-guided, independently navigated advanced graphic design courses which allow for creative exploration and research into topics extending from prior studies and personal endeavor. Students enrolled in this course are expected to have completed and passed Studio Studies in Graphic Design I and II or may be enrolled by permission of the instructor.

Outcomes

This course is a continuation of Studio Studies in Graphic Design I and II. As a student-led, faculty-guided course with an emphasis on mentored projects, research, and critique, a course schedule and assignment load will be determined and agreed upon by faculty and student prior to the start of the term. These factors will establish advanced creative projects to be completed throughout the semester. Students will continue their previous independent studio studies through continued research, studio work, technical development, and response to critical feedback, while participating with peers in various projects. This course will focus on professional development through portfolio creation and exhibition in preparation for advanced degree studies and entry into commercial markets.

Student Learning Outcomes

Progress is expected throughout the term while achieving the following:

1. Continue to expand upon prior independence study learning.
2. Demonstrate creative and technical proficiency through the productions of advanced projects.
3. Prepare portfolio materials for various forms of presentation including final exhibition.
4. Manage time and resources required of an independent studies course.
5. Produce, submit, and present artwork in a manner suitable for critique.

ARTS 2310. Ceramics II

Course Description

This course continues the students' instruction in ceramics, with an emphasis given to the continuing development of form, surface, and firing processes, expanded critical awareness, and the development of a personal aesthetic.

Student Learning Outcomes

1. Demonstrate intermediate techniques in wheel throwing, hand building, glazing, and kiln firing.
2. Prove through class work an intermediate understanding of both the nomenclature and the use of a variety of ceramics equipment.
3. Be able to utilize principles of design, and aesthetic judgment to create and analyze a body of work consisting of both functional and sculptural ceramic objects.
4. Use a greater familiarity with historical and contemporary ceramic sources, ideas, and materials in the discussion and creation of a unique body of ceramic works.

ARTS 2311L. Extreme Pottery

Course Description

Learn to combine more advanced use of the potter's wheel and hand building methods to develop vessel and sculptural forms beyond what would be considered traditional and conventional. The course emphasizes the exploration of contemporary form and color with works in clay.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate intermediate level hand building and wheel throwing techniques.
2. Demonstrate the development of a more personal and contemporary aesthetic by exploring the more abstract and unconventional with the ceramic medium.
3. Demonstrate a deeper understanding of Contemporary Art expressions and apply these to one's work.

ARTS 2312L. Ceramics: Glaze Formulation

Course Description

Provides the ceramic artist with the skills needed to understand, develop and control the glazes used in the ceramic process. Materials, mixing, testing methods and basic formula comparisons will be covered.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Develop new applicable glaze, engobe, and slip bases suitable for a variety of clay bodies.
2. Research existing glaze formulas and adjust them to fit particular clay bodies.
3. Integrate an in depth understanding of glaze chemistry into the student's own body of work.
4. Test for consistency.

ARTS 2313L. Ceramics: Integrated Projects

Course Description

Skill development in preparation for application to an undergraduate university program or for commercial practice in the field of ceramics. Students are taught how to create a coherent body of work, stay consistent within an established concept, and develop the ability to speak and write articulately within the medium of ceramic art. Students are guided in identifying their special areas of skill and competency through the process of critical self-evaluation.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Prepare a consistent body of original work identifying a personal style and direction.
2. Present a body of work and written artist statement of their work.
3. Demonstrate a working knowledge of specific ceramic techniques used in the student's semester course work.

ARTS 2315L. Ceramic: Wheel Throwing II

Course Description

Intermediate level course that offers a study of current approaches to the potter's wheel as a tool for creating functional and sculptural forms. The foundation of this course is a series of sequential projects designed to increase a student's skill level on the wheel. Functional as well as sculptural concepts will be investigated. An introduction into clay bodies and glazes augments the disciplined throwing. This course is designed to advance the throwing abilities of students who already have a strong foundation in wheel throwing basics.

Student Learning Outcomes

Demonstrate an approach to making functional and nonfunctional ceramic objects using the potter's wheel.

1. Demonstrate through discussion, projects and use of a sketchbook, a growth in artistic and conceptual ability.
2. Demonstrate an increased ability to execute thrown functional ware on the wheel, and to begin to use the wheel as a tool for sculptural forms.
3. Demonstrate through discussion or presentation, the understanding of ceramic pottery and sculptural terms.

ARTS 2320. Clay Handbuilding II

Course Description

This course introduces the student to more advanced concepts and techniques used in the creation of ceramic sculpture and/or functional forms. This will be accomplished through the further study of a wide variety of hand building, finishing, and firing techniques, their historic and cultural foundation, and the critical assessment of the work produced in the class.

Student Learning Outcomes

1. Demonstrate through the production of a body of work the development of an approach to making ceramic sculpture and/or functional forms that arises out of a strong conceptual base.
2. Demonstrate an increased facility with planning, finishing, and firing resulting in increased technical and conceptual complexity in the student’s work.

3. Demonstrate a more advanced understanding of terms and vocabulary used in ceramic sculpture and/or functional forms through discourse or text.
4. The student shall develop a body of work that through process and product demonstrates the student's particular abilities and artistic vision.

ARTS 2321. Appreciation of Clay

Course Description

Appreciation of Clay. Introduction to clay as an art medium: handbuilding, decorating techniques, glazing and firing processes. The course goes beyond techniques to include how clay has reflected creative ingenuity, function, history, culture, and spirituality.

Student Learning Outcomes

Upon completion of this course, students should be able to/ competent in:

1. Identify the basic physical qualities of clay.
2. Construct objects using traditional building methods including pinch, coil, and slab.
3. Understand the historical significance of hand building processes such as pinching, coiling, slab building.
4. Identify the meaning of terminology related particularly to the clay medium.
5. Demonstrate knowledge of the most common kinds of glazing procedures.
6. Develop an idea from concept to art form by using a systematic approach as recorded in a journal.
7. Identify the aesthetic strengths and weaknesses of a specific form.
8. Prepare a Power Point Presentation of an artist's work using specific terminology related to aesthetic concerns.
9. Demonstrate the use of craftsmanship and originality in the production of his/her work.
10. Demonstrate mastery of choice when matching a building method to the construction of a specific form.
11. Demonstrate the use of Internet search procedures as a source for comparing artist styles and techniques.
12. Demonstrate an ability to articulate the concepts and intent of a completed piece.

ARTS 2322. Clay Handbuilding II

Course Description

Intermediate level ceramic sculpture course offering further study into the various hand building techniques for executing clay sculpture on a medium to large scale. Class assignments are theme specific to emphasizing sequential development of a particular sculptural concept. Colorings include slips, engobes, terra sigilatas and glazes are offered as possibilities for surface treatment. Large scale work will be investigated as an addition to medium sized work. Firing ranges, clay bodies and how to fire a clay sculpture will be discussed.

Student Learning Outcomes

1. Demonstrate the development of an approach to making ceramic sculpture that arises out of a strong conceptual base.
2. Demonstrate an increased facility with colored slips, engobes, glazes, ceramic color palette and firing techniques related to one's work.
3. Demonstrate the development of a deeper skill level in executing clay sculpture that is challenging both technically and creatively.
4. Discuss the value of working sequentially and using a sketchbook.
5. Demonstrate through discussion the understanding of terms and vocabulary used in sculpture and ceramics.
6. Demonstrate the ability to self-evaluate one's technical and conceptual growth in ceramics and sculpture.

ARTS 2324. Pottery & Clay Arts III

Course Description

Continuation of pottery and clay techniques for the advanced student. Focus will be on production pottery and the development of personal style.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. The student will be able to apply the elements of design in a variety of situations.
2. The student will be able to apply the principles of design in a variety of situations.
3. The student will demonstrate ceramic skills using a variety of media, construction techniques, and finishing methods.
4. The student will be able to prepare art works for display.
5. The student will develop a general knowledge of ceramic vocabulary and use that vocabulary to describe works of art verbally and in writing.
6. The student will develop a general knowledge of ceramic materials, tools, and techniques.
7. The student will be able to demonstrate good work habits.
8. The student will develop an appreciation for the art of seeing; develop a personal vision.

ARTS 2325. Precious Metal Clay I

Course Description

Precious Metal Clay is an innovative material created by Mitsubishi Materials in Japan. Copper & Bronze Clay is manufactured in the United States by Rio Grande. These "clays" are finely ground metals mixed with an organic binder. You can use these products to make items that are solid metal when fired.

Student Learning Outcomes

Not Available

ARTS 2326. Precious Metal Clay II

Course Description

Precious Metal Clay is an innovative material created by Mitsubishi Materials in Japan. Copper & Bronze Clay is manufactured in the United States by Rio Grande. These "clays" are finely ground metals mixed with an organic binder. You can use these products to make items that are solid metal when fired.

Student Learning Outcomes

Not Available

ARTS 2327. Micaceous Pottery II

Course Description

You will learn micaceous clay pottery in the tradition of northern New Mexico through a continuation of the techniques learned in Micaceous Potter I. You will also experiment with advanced techniques of handbuilding and out-door firing.

Student Learning Outcomes

By the end of the course you will be able to:

1. Demonstrate familiarity with history and terminology for micaceous pottery making
2. Dig and process micaceous clay effectively
3. Construct complex micaceous pottery forms using the coil technique such as lidded utilitarian ware
4. Refine micaceous pottery using the scrape and sand techniques
5. Incise or applique designs to the micaceous pottery
6. Apply and burnish slip to an even gloss
7. Build a fire pit and participate in wood-firing the micaceous pottery using more advanced firing techniques
8. Express ideas coherently through oral and written communication
9. Critically exam others micaceous clay work making sound judgments on craftsmanship, creativity, and visual elements while respecting individual dignity.

ARTS 2328. Pottery Glaze Making & Studio Practices

Course Description
Instruction and experience in making and altering pottery glazes, in maintaining and firing a kiln, in recycling clay and in maintaining a pottery studio.
Student Learning Outcomes
By the end of this course the student will be able to:
1. Use basic studio practices that are needed to maintain a pottery studio.
2. Mix and alter glazes and engobe formulas.
3. Analyze glazes and engobes.
4. Load, unload and maintain a pottery kiln.
5. Critically examine clay and glaze experiments.
6. Understand basic glaze terminology.
7. Set up and maintain a pottery studio.

ARTS 2329. Pottery III
Course Description
A continuation of Ceramics II in which you will study advanced methods for hand-building and wheel throwing of pottery. You will have hands-on experience in kiln loading and glaze making.
Student Learning Outcomes
By the end of the course you will be able to:
1. Demonstrate familiarity with the history and terminology for pottery making.
2. Constructing a functional lidded jar.
3. Throw right-side up and up-side down lids on the potter's wheel.
4. Construct a functional teapot.
5. Apply slips and glazes using the graffito, inlay and trailing techniques.
6. Combine building methods to create functional forms.
7. Load bisque and glaze kilns and mix pottery glazes.
8. Research and express information coherently in oral and written communication.
9. Critically examine others clay work making sound judgments on craftsmanship, creativity and visual elements while respecting individual dignity.

ARTS 2330. Functional Ceramics II
Course Description
This course familiarizes the student with more advanced hand building, wheel throwing, surface finishing, and firing techniques.
Student Learning Outcomes
1. Create a body of work that demonstrates a working knowledge of a variety of more advanced techniques, including the use of slip or press molds, multi section thrown work, and creating a piece that combines more than one forming technique.
2. Create a body of work that demonstrates a more advanced knowledge of surface treatments including slips, graffito, inlay, and trailing techniques as well as a basic understanding of glaze formulation and firing.
3. Demonstrate through the proper use of facilities, materials, and personal protective equipment knowledge of safety measures and the safe practices used in the ceramic studio.
4. Demonstrate through writing or other forms of presentation a more in depth knowledge of the history and terminology of pottery (functional ceramics).
5. Demonstrate through the critical examination of their own and others ceramics a more refined judgment of craftsmanship, creativity, and elements of design; while showing respect for the dignity of the individual artist.

ARTS 2331. Clay Tilemaking

Course Description

An introduction to making tiles and glaze application. Also includes mosaic tiles.

Student Learning Outcomes

Students will acquire basic skills and knowledge in:

1. A basic working knowledge of ceramic tile making techniques.
2. A basic knowledge of mosaic tile techniques.
3. A basic knowledge of mold making techniques.
4. A basic knowledge of a variety of surface decoration and techniques.
5. Proficiency and knowledge of safety measures and practices in the ceramic studio.

ARTS 2335. Southwestern Pottery

Course Description

Advanced techniques in hand built or wheel- thrown vessels and specialized glazing methods.

Student Learning Outcomes

The students will attain:

1. A working knowledge of ceramic hand forming techniques.
2. A working knowledge of the potter's wheel (using modern techniques).
3. A basic knowledge of a variety of surface decoration and techniques (using modern techniques).
4. A basic knowledge of glazes and how they are created (using modern techniques).
5. A basic knowledge of research and how to present an oral report.
6. Proficiency and knowledge of safety measures and practices in the ceramic studio.

ARTS 2340. Raku

Course Description

This course introduces the principles of Raku firing, post firing, and alternative firing techniques and the process of making simple Raku glazes.

Student Learning Outcomes

1. Understand the properties of Raku clays, and glazes; and the effect of secondary reduction firing.
2. Compare traditional Raku to contemporary Raku.
3. Create work demonstrating proficiency in the handbuilding and, or throwing techniques used in Raku.
4. Understand the function, care, and safe usage of studio equipment used in the production of Raku.
5. Evaluate the aesthetic and, or functional value particular to Raku ceramics.

ARTS 2345L. Advanced Wheel Throwing

Course Description

Advanced study of historical and contemporary approaches to the potter's wheel as a tool for creating functional vessels, non-functional vessels, and sculptural forms. The focus of the class is large-scale and altered throwing techniques, and the utilization of thrown parts in the construction of hand built forms as well as traditional production methods. Glaze, slip, and other surface applications are researched and incorporated in order to create a successful surface/form design. Discuss relevant aspects of historic and contemporary ceramic arts.

Student Learning Outcomes

1. Use production methods for creating functional pottery.
2. Design and execute a successful surface that relates to the form and the concept behind the form.
3. Create both functional and non-functional forms for production and/or ceramic sculpture using the potter's wheel.
4. Practice shop safety.

ARTS 2350. Glass Design

Course Description

This class is designed for students who have had a basic understating of glass. However, all students are welcomed.

Student Learning Outcomes

In this class you will learn the design process that goes into producing a viable glass panel. You will create a panel of your own design.

ARTS 2351. Glass Fusing/Slumping

Course Description

This course is open to all students. You will be expected to have a working knowledge of glass
COE's, mold making, fritography, workshop safety and glass terminology.

Student Learning Outcomes

Not Available

ARTS 2352. Glass Interpretation

Course Description

This class is opened to all students. In this class students will be able to pick a great master, study his works of art and decide which piece they would like to interpret into glass. They may re-create the entire piece or a small section of the art piece.

Student Learning Outcomes

Students will learn a working knowledge of the master, the master's works and create a glass piece.

ARTS 2353. Glass Bead Making

Course Description

This course is opened to students of all levels. You will be expected to master the torch and follow safety procedures. Students will master all beads and decorative techniques.

Student Learning Outcomes

Not Available

ARTS 2354. Stained Glass

Course Description

Students of all levels will investigate the tools and techniques of creating copper-foil stained glass compositions. Workshop safety and set-up will be covered along with vocabulary and history. Pattern making, proper alignment of glass, differences in glass textures and a variety of soldering techniques will be taught. Depending on skill level, students may create simple sun catchers to 3-D sculptural creations. Students will come away with a working knowledge of the elements of design, value, color, and form of glass.

Student Learning Outcomes

1. Students will have a working knowledge of terminology and application of the glass process.
2. Students will learn the elements of design, value, color, and form of glass.
3. Students will learn the principles of glass compatibility, movement of glass, and the balance of glass.
4. Students will learn to use the elements of design and principles of compatibility to create a beautiful work of art.

ARTS 2355 Stained Glass

Course Description

Instruction in the fundamental fabrication and design techniques for stained glass. Introduction to visual decision making skills, historical, and critical issues of the medium.

Student Learning Outcomes

1. Demonstrate an understanding of the theory, principles and procedures that comprise the art and science of designing at least four (40 stained glass techniques through both written and verbal assessments, as well as, actual completed examples of each technique.
2. Properly select and safely employ various glass studio tools, instruments, procedures, methods and techniques in the fabrication processes of stained glass.
3. Select and apply suitable problem-solving strategies in a practical studio environment.
4. Work cooperatively in a studio classroom.
5. Relate historical background and significant developments of glass in general and stained glass in particular.
6. Understand the chemical processes associated with various processes used in working with and manipulating glass.
7. Develop critical thinking and problem-solving strategies in various stained glass fabrication technics.
8. Be able to critically analyze, assess and appreciate the value of glass works of every kind.

ARTS 2410. Black & White Photography

Course Description

This course introduces the fundamental techniques of black and white photography, which includes camera functions and use, exposure techniques and film processing, traditional darkroom printing, and presentation of

Student Learning Outcomes

1. Demonstrate competent film development and photographic printing skills.
2. Demonstrate an emerging understanding of aesthetic, compositional, conceptual, and communicative tools in photography including lighting and dynamic composition techniques.
3. Be able to critically analyze and discuss photographic images using photographic terminology.
4. Demonstrate proper image adjustment and correction techniques and apply proper exposure techniques.

ARTS 2411. Underwater Photography

Course Description

Traditional genres of photography such as Still Life, Portraiture, and Fashion Photography will be re-evaluated and re-discovered in the context of the aquatic environment. A shallow warm water pool will be used during the scheduled class times. No diving skills or diving equipment are required. Enough time for practical instruction and underwater open lab will be allotted to shoot all the images necessary to fulfill the class objectives. Students should be comfortable in water for prolonged periods.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Understand and describe the technical skills necessary to photograph under water.
2. Demonstrate the ability to effectively expose and capture images under water.
3. Produce u/w images that are content orientated, communicative and innovative in approach and show a high degree of aesthetic and compositional awareness.
4. Demonstrate knowledge about personalities and events that have shaped u/w photography.
5. Create a final portfolio of u/w photography.

ARTS 2412. Digital Darkroom

Course Description

Focuses on using Adobe® Photos hop and Adobe® Lightroom applied to photographic imaging techniques and manipulation within the context of the digital darkroom. Topics include image correction and enhancement, advanced use of layer and com positing techniques as well as paths and selections.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Expand and creatively apply increased PHOTOSHOP® and LIGHTROOM skills.

2. Create content orientated, communicative and innovative in approach and show a high degree of aesthetic and compositional awareness.
3. Demonstrate a deeper understanding of aesthetic, compositional, conceptual, and communicative tools in photography.
4. Demonstrate a deeper understanding of photography in contemporary, historical and psychological contexts
5. Create a portfolio to be used for self-marketing and for those seeking advanced in photography.

ARTS 2413. Black and White Film Photography II

Course Description

Expand on techniques and concepts learned in Photography I in this project-oriented course. Predictable image exposure, the Zone System, enhanced film developing techniques, traditional fiber-based printing techniques and presentation of work to professional portfolio standard. Assignments are designed to deepen understanding of photography in contemporary and historical contexts.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate competent use of SLR camera.
2. Demonstrate competent film development.
3. Demonstrate competent photographic printing skills.
4. Demonstrate a deeper understanding of aesthetic, compositional, conceptual, and communicative tools in photography.
5. Demonstrate a deeper understanding of photography in contemporary, historical and psychological contexts.
6. Create a portfolio to be used for self-marketing and for those seeking advanced degrees in photography.

ARTS 2414. Fine Black and White Darkroom Printing

Course Description

Course work will further develop the skills of the fine art of silver gelatin printing. Emphasis will be on developing a personal sense of how negatives relate to the final prints, and how to work in the darkroom with different papers, developers, developer concentrations, temperatures and "green" toners. In addition to the technical information the course will introduce elements from the history of photography. Silver gelatin printing skills will be learned through lectures, demonstrations, assignments, critiques and hands-on darkroom time.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Create well-exposed negatives by understanding the relationships between light, film and chemistry.
2. Confidentially print on both RC and fiber-based papers.
3. Creatively print with split filtering techniques.
4. Experiment with a variety of developers, developer concentrations, filtration techniques and "green" toners.

ARTS 2415. Alternative Photographic Processes II

Course Description

Techniques and concepts learned in Alternative Photographic Processes I are expanded upon in this project-oriented course. Some previously covered processes like cyanotype or Van Dyke may be explored further and/or advanced processes such as historical carbon printing methods may be offered depending on the availability of specialized facilities and/or the faculty member's area of expertise. Classes are used for lectures, presentations, discussions, regular critiques and hands-on non-silver darkroom time. Assignments are designed to deepen understanding of photography in contemporary and historical contexts.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate increased competencies in producing digital negatives with predictable exposure characteristics.
2. Demonstrate increased proficiency in non-silver photographic processes.
3. Develop an increased working knowledge of non-traditional photographic techniques.
4. Demonstrate a deeper understanding of aesthetic, compositional, conceptual, and communicative tools in photography.
5. Demonstrate a deeper understanding of photography in contemporary, historical and psychological contexts.
6. Create a portfolio to be used for self-marketing and for those seeking advanced degrees in photography.

ARTS 2416. Photography and Studio Lighting II

Course Description

Techniques and concepts from Photography and Studio Lighting I are expanded upon in this project-oriented course. Major projects are assigned. Both natural and artificial light sources are used to illuminate arranged subjects, primarily still-lives, small environments and portraits, lighted in a variety of ways to render desired effects and outcomes.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Produce photographic images that show a high degree of aesthetic and compositional awareness.
2. Produce images that are innovative and original in approach.
3. Demonstrate increased technical skills necessary, to render an intended outcome.
4. Demonstrate a deeper understanding of aesthetic, compositional, conceptual, and communicative tools in photography.
5. Demonstrate a deeper understanding of photography in contemporary, historical and psychological contexts.
6. Create a portfolio to be used for self-marketing and for those seeking advanced degrees in photography.

ARTS 2417. Fashion Photography

Course Description

Students will work with fashion models in studio and exterior environments to learn the art of professional fashion photography. Innovative approaches to using light, wind, make up and close-ups are but a few examples of technical manipulations that will be covered. The subject will be further explored by studying and analyzing historic and contemporary trends in fashion photography and how they reflect broader social realities. From Richard Avedon to heroin chic and Irving Penn to Calvin Klein ads a fascinating world awaits with a richness that extends far beyond the assumed parameters of this subject.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Produce fashion images that show a high degree of aesthetic and compositional awareness.
2. Produce images that are innovative and original in approach.
3. Produce images that have a convincing standard of overall professional quality.
4. Demonstrate the ability to effectively collaborate with models to achieve a stated goal.
5. Demonstrate the technical skills necessary, to capture an intended outcome.
6. Demonstrate knowledge about personalities and events that have shaped fashion photography.

ARTS 2418. Landscape Photography

Course Description

An exploration of the broadest definitions of what the photographic landscape is, or can be. From a traditional definition as an aesthetic pictorial perspective, to environmental, ecological, social, referential, political, and its uses as a pro-active tool. Both, natural and urban landscapes can be explored**.**

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate expanded understanding of technical knowhow.
2. Awareness of the origins of landscape photography.
3. Uses of innovative approaches to landscape photography.

ARTS 2419. Documentary Photography

Course Description

Students photograph a subject or narrative event with the end product being a layout and proposal for a published photo-essay. A variety of photographic skills including lighting are covered, as well as the ethical, legal and social considerations raised by this type of photography.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Understand the ethics and traditions of documentary photojournalism.
2. Photograph an event in real time as it is happening.
3. Develop understanding of sequencing photographic works.
4. Develop concepts of pacing and layout for the printed page.

ARTS 2420. Visualizing Ideas

Course Description

The course is dedicated to teaching how to visualize ideas within the photographic medium by combining theoretical content and aesthetic form to create a conceptually rich body of work. It explores advanced digital photography, including perfecting use of the camera and relevant digital software, and honing inkjet printing skills. We will explore new techniques and workflows and use them to respond to a variety of themes and concerns. We will look at a number of contemporary photographic practitioners and discuss a multitude of historical and contemporary approaches to the same ideas we will be probing.

Student Learning Outcomes

1. Perfect use of the camera, other photographic equipment, and software in order to produce technically successful photographs.
2. Apply issues of contemporary fine art photographic practice to your own work.
3. Critically analyze and discuss photographic images.

ARTS 2421. Photographic Surrealism

Course Description

An exploration of the rich and fascinating form of expression in the context of the photographic image. The ease with which images, photographic and otherwise, can be combined offers the serious explorer great opportunities to depict notions of reality and perception within this forum of self-expression. This vehicle is similarly adept at revealing the absurdities and contradictions that surround us every day. Students are challenged to produce well-considered, technically competent and visually engaging work. The student's work can be purely digital in nature, or a hybrid incorporating any other photographic processes and techniques he/she considers to be beneficial to aid the outcome of the end product. Students may work in black and white, color or a combination of both.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Develop an understanding of surrealism in the context of the photographic image and prevailing culture.
2. Increase visual literacy.
3. To gain deeper understanding of montage and compositing with photographs since the Victorian era.
4. Demonstrate a deeper understanding of photography in contemporary, historical and psychological contexts.
5. Create a portfolio to be used for self-marketing and for those seeking advanced degrees in photography.

ARTS 2422. Extreme Photography

Course Description

A production course that encourages risk-taking strategies and radical approaches in the 'making of photographs. Work expressed in forms such as mixed media, installation, large scale prints, new approaches to collage, political, narrative, autobiographical, diaristic, constructed, directorial, sequential, use of text and others may be explored.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Recognize risk-taking traditions in photography and other media.
2. Create work demonstrating unconventional and untraditional expressive strategies.
3. Identify an audience and propose methods for communicating with that audience.
4. Demonstrate a deeper understanding of photography in contemporary, historical and psychological contexts.
5. Create a portfolio to be used for self-marketing and for those seeking advanced degrees in photography.

ARTS 2423. Visual Anthropology

Course Description

Northern New Mexico and other distinct communities have been the subject of many anthropological and photographic research projects. In this course students learn to document the distinctive character of Santa Fe and surrounding communities using anthropological and photographic methods.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Distinguish and identify anthropological characteristics of Northern New Mexico Hispanic, Anglo-American, Pueblo and/or any other communities or subcultures.
2. Learn to negotiate a place in the community that allows for recording and photographing.
3. Establish a collaborative relationship that allows for participation in community events.
4. Take photographs of those people, places and artifacts that help to define the unique cultural qualities of any community.
5. Understand the impact of an outside presence within a community and how the process of documenting said community impacts and changes it.

ARTS 2424. Photographing the Figure

Course Description

Photographic exploration of the human figure in various contexts. Aesthetic, historical and social issues are emphasized. Classes are used for lectures, presentations, discussions, regular critiques. Assignments are designed to deepen understanding of photography in contemporary and historical contexts.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Comprehend and analyze critical writings on the body.
2. Produce an on-going series of prints that will be presented for frequent critique sessions.
3. Learn how to use double-exposures flash and extended-time-exposures in a nocturnal setting.

ARTS 2425. Photographic Imaging for Fine Arts

Course Description

Focuses on creating imagery that is expressive, experimental and collaborative in an effort to explore the photographic medium as it intersects artistically with the traditions of drawing, painting and printmaking. Assignments are designed to deepen understanding of photography in contemporary and historical contexts.

Student Learning Outcomes

1. Produce imagery that is purely digital or hybrid-based or traditional.

2 .Produce imagery through digital input, manipulation and output.
3 .Demonstrate a deeper understanding of photography in contemporary, historical and psychological contexts.
4. Create a portfolio to be used for self-marketing and for those seeking advanced degrees in photography.

ARTS 2426. Photography II
Course Description
This course is a continuation of Photography I in which students will study advanced black and white techniques covering exposure, development, various films, and the use of filters, with special emphasis on tonal control through the creative use of the zone system; increased emphasis on personal vision, aspects of design, composition, and perception.
Student Learning Outcomes
1. Be knowledgeable in the correct methods for processing film and making traditional prints.
2. Understand advanced composition and lighting techniques.
3. Provide an overview of the history and contemporary practitioners of the medium.
4. Research, discuss, and analyze advanced photographic ideas.

ARTS 2428. Photography III
Course Description
In this continuation of Photography II, which concentrates on advanced black and white printing, you will learn single filter printing, split filter printing, and high key printing. You will use fiber papers and various archival toning processes.
Student Learning Outcomes
1. Continued refinement and improvement of exposure, development, and printing skills.
2. Identify, describe and analyze photographers, styles and genres.
3. Understand the relationships between multiple images and sequencing of images.
4. Understand and articulate the meaning of the photographs you see and learn how meaning is visually communicated.
5. Knowledge of photographic critical theory and the history of photography.
6. Create a cohesive body of exhibition quality work and be able to explain the significance of subject, form, presentation and meaning of student's own work.

ARTS 2429. Special Photographic Projects
Course Description
Expands upon photographic techniques and concepts using a variable, project-oriented format. Sessions are used for discussion, critiques, and hands-on production time for the special topic being covered. Projects are designed to deepen understanding of photography in contemporary and historical contexts.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Demonstrate a deeper understanding of aesthetic, compositional, conceptual, and communicative tools in photography
2. Exhibit deeper knowledge of this special topic in photography from contemporary and historical perspectives
3. Create and complete a major photographic project
4. Create a body of work centered on a special topic.

ARTS 2430. Photographic Portraiture
Course Description
This course covers the study of professional photography that involves people, including studio and environmental portraits. Topics include studio and exterior lighting techniques and selecting lighting equipment and supplies.
Student Learning Outcomes

1. Demonstrate successful operation of studio lighting equipment and accurately define lighting equipment terminology.
2. Illustrate the principles of photographic lighting.
3. Demonstrate and apply how to use and modify natural light effectively.
4. Demonstrate understanding of different approaches such as formal, informal, candid, vernacular and their cultural implications.
5. Distinguish historic and contemporary cultural notions informing different types of portraits.

ARTS 2431. Introduction to Graphic Design

Course Description

Introduction to the principles of visual communication and digital media, letterforms, typography and identity marks. Projects produced using conventional and digital tools.

Student Learning Outcomes

1. Demonstrate working knowledge of the graphic design software.
2. Identify and apply basic design concepts for the purpose of visual communication.
3. Conduct visual research and create presentations on design topics.
4. Solve graphic design problems through solving fundamental communication challenges by sketching, drawing, typographic composition, use of image and color.

ARTS 2433. Photography Portfolio

Course Description

To assist students in entering the world of professional photography, they will create your own portfolio with a strong emphasis on editing, content, printing, and presentation. Students will engage in discussions on how to market their work to enter graduate schools; includes publications, shows, and galleries.

Student Learning Outcomes

1. Enhance student knowledge of photography from an informed perspective, through the understanding of photographic history, the development of professional processes and skills and the building of an original and personally tailored photography portfolio.
2. Create a cohesive body of exhibition quality work and be able to explain the significance of subject, form, presentation and meaning of student's own work and mastery.

ARTS 2440. Photo Finishing & Presentation

Course Description

Use of visual language for personal expression. Freelance photography; care of original photos; preparation of portfolios, photographic markets, exhibitions and judging, galleries and copyrights. Students will prepare a photographic portfolio.

Student Learning Outcomes

1. Define your target market and create a complete “Personal Promotional Package”.
2. Produce a professional Resume Cover Letter.
3. Produce a professional looking Business Card, Letterhead Mailing Labels.
4. Produce a single page Promotional Piece, (and possible follow-up material).
5. Produce a PDF Formatted Portfolio (Create in Photoshop® Export as PDF).
6. Produce a clean, professional looking traditional hard portfolio with 20-30 pieces.
7. Present the Entire Promotional Portfolio and promo materials in a “Job Interview”.

ARTS 2445. Large Format Photography

Course Description

In this course the students will learn the mechanics of producing photographic film images using a large format 4x5 film camera. Everything from setup of the camera, focusing on subjects and determination of proper exposure will be explored. Loading and unloading and processing of sheet film will be demonstrated and practiced. Considerations for the printing of large format negatives will be explored.

Student Learning Outcomes

1. Mastery of the use of the 4x5 film camera.
2. Mastery of processing of large format sheet film.
3. Mastery of the printing of large format sheet film.

ARTS 2520. Digital Photography II

Course Description

Techniques and concepts learned in Digital Photography I are expanded upon in this project-oriented course. Predictable image capture, enhanced color management archival printing techniques and presentation of work to professional portfolio standard.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Expand and creatively apply the used of dSLR camera.
2. Expand and creatively apply file processing techniques and management techniques.
3. Expand and apply competent digital printing skills.
4. Demonstrate a deeper understanding of aesthetic, compositional, conceptual, and communicative tools in photography.
5. Demonstrate a deeper understanding of photography in contemporary, historical and psychological contexts.
6. Create a portfolio to be used for self-marketing and for those seeking advanced degrees in photography.

ARTS 2522. Digital Imaging Techniques

Course Description

This course is an introduction to the artistic possibilities of digital compositing and other lens based digital techniques. In this course you will learn to use Adobe®'s Photoshop® to generate digital images both for electronic output and for making prints. Over the course of the semester, we will be focusing on creating five projects expressing your personal artistic vision. The best projects will be the ones in which the technical issues of photography, particularly digital compositing, are used to further the artist's concept. In other words, make the projects your own, use the techniques to explore ideas and images you care about. Don't just fulfill the assignment. Most importantly have fun.

Student Learning Outcomes

1. Students will gain a deep understanding of Adobe®'s Photoshop® as a tool for making photographic and photographically based images.
2. Students will become familiar with contemporary photographic practice, especially as it relates to digital techniques.
3. Students generate significant bodies of personal creative work using digital techniques and write successful artist statements.

ARTS 2523. Video Art I

Course Description

This studio class is an in-depth introduction to video as an art form; the focus will include theory, history and practice of video art as an extension of visual art and as a time-based medium. Video Art's roots lie in consumer technology, TV, cultural, political and avant-garde film history. This time and light based medium, has a relatively short history and encompasses technological (and scientific) developments, cultural movements and has recently become a ubiquitous art practice. Set up as an online research laboratory, the class will help students to further develop their personal video work while experimenting with various styles and formats of video art. The equipment and demonstrations explored in the class

are within a context defined by the history, aesthetics, and theory of video art practice. The emphasis of this class is on the student finding their own personal voice, and incorporating an innovative approach to their video work. Students are also expected to achieve a level of technical competence and confidence needed to undertake more ambitious and sophisticated work. Current and significant contemporary video works and critical writings will be viewed, read and discussed in online forums. This class aims to challenge notions of what video art is, and can be. Students are expected to think outside the box and try new approaches to this time-based media. Students will learn to seek out new audiences and create unique methods of presenting video online.

Student Learning Outcomes

1. Demonstrate the ability to utilize video editing and post-production effects software to generate assigned video art projects.
2. Demonstrate the ability to produce visually engaging and conceptually strong video artwork.
3. Exhibit the ability to critically evaluate video art work by contemporary new media artists, their own work, and the work of their fellow classmates.
4. Demonstrate greater facility through activities focused on analysis and writing for art theory, criticism and history of video art and across disciplines.

ARTS 2550. Intermediate Digital Photography

Course Description

This course explores creativity and the making of personal images in the context of understanding visual culture and self-expression. Students will explore their interest in photography and learn to 'see' as a photographer. We will learn lighting both in the on-campus studio and on location. Student will become proficient in writing and talking about photographs and how this impacts their own work. The course covers other photographers and art theory. The course uses Photoshop® CC for editing and enhancing images. Included in class time is a lab.

Student Learning Outcomes

Upon successful completion of the course, the student will have:

1. A continuing knowledge of digital camera operation.
2. Use of lighting in the studio and on location.
3. An advanced understanding of digital imaging.
4. An understanding of input and output sources in digital photography.
5. A further understanding of editing with Photoshop® CC.
6. An understanding of photographic design and lighting.
7. Basic knowledge of ink jet printing.
8. An understanding of photographic history.
9. Confidence in visual and written assessment skills.

ARTS 2610. Drawing II

Course Description

This course introduces color and colored media as an element of composition while emphasizing descriptive and perceptual drawing skills and conceptual approaches to contemporary drawing.

Student Learning Outcomes

1. Create drawings in wet and dry color media.
2. Practice analyzing and visually translating observed subjects from realistic, referential, and/or objective form, to non-representational or abstract imagery in drawings.
3. Compose fully developed drawings that include a conceptual or historical basis.
4. Engage in effective written and oral critique in response to one's own art and the art of others.

ARTS 2611. Advanced Computer-Based Illustration

Course Description
Design custom graphics and create special effects with filtering, special effects on type, graphing, technical illustrations, and three-dimensional drawing using Adobe® Illustrator.
Student Learning Outcomes
1. Demonstrate competency in the use of Adobe® Illustrator software.
2. Create appropriate visual solutions based on target marketing information.
3. Demonstrate competency in the design and production of advertising and promotional materials.
4. Present ideas and concepts effectively and competently.
5. Visually demonstrate design solutions to be used in a portfolio.

ARTS 2612L. Illustration I
Course Description
An intermediate-level drawing course which introduces students to drawing as illustration, a visual translation of the written word. Students work largely from imagination as well as learn to research for visual sources. This course prepares students for work with digital illustration.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Translate the written word into a visual image or concept.
2. Demonstrate an understanding of the difference between institutional and editorial illustration.
3. Illustrate a written narrative.
4. Use a variety of drawing media, techniques and composition, appropriate to a clarity of visual information.
5. Understand basic professional practices for presentation and client relationships.

ARTS 2613L. Animal Life Drawing & Painting
Course Description
Drawing and painting students explore the structure, movement and form of a variety of animals. In addition, the artistic tradition of the animal as a part of two-dimensional art- as human metaphor, as a metaphor for nature, as a symbol of the fabulous and the surreal will be explored. The class will involve field trips as well as in- studio work. The course will involve on-site observational work as well as supplemental anatomical study. A small body of developed imagery based on these explorations will result.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Demonstrate a competent understanding of the structural form and general visual nature of major groups of animals.
2. Apply gained ability to research fundamental aspects about animals in future imagery.
3. Demonstrate critical understanding of a range of symbolic aspects of animals, largely in relation to western art traditions.
4. Create a work of art incorporating sketches and study drawings.

ARTS 2614L. Drawing & Painting Advanced Projects
Course Description
Intermediate to advanced level drawing and/or painting studio course. The course is structured around a common theme or mode of inquiry or combination of media, relevant to contemporary painting and/or drawing. Art historical context is discussed. Individual expression and exploration of painting and/or drawing is encouraged and expected.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Select and apply appropriate materials and techniques in order to initiate and complete a project.

2. Articulate conceptual significance of the project.
3. Describe an art historical context for the work begun in this course.
4. Create a portfolio using a variety of techniques and materials explored in this course.

ARTS 2615. Drawing III

Course Description

Students will utilize all the knowledge and experience acquired in their previous art courses, in order to create a body of work that demonstrates expertise in drawing. They will further refine and develop drawing techniques and concepts, as well as understanding of basic human anatomy for the purpose of artistic expression. Linear perspective, compositional structure, figure/ground integration, spatial perception, and analytical skills will be emphasized extensively.

Student Learning Outcomes

1. Personal responsibilities: Affective: Students will develop behavioral skills which help the student acquire a positive attitude toward self, other students, faculty, facilities and equipment, housekeeping in the work areas, and the ability to carry out directions, meet deadlines, meet attendance requirements, etc. with a score of 60% or better using the following concepts
    a. Each student will maintain class attendance.
    b. Each student will demonstrate the ability to follow assignment instructions.
    c. Each student will bring the proper drawing material in class to do class work.
    d. Each student will perform outside drawing projects as assigned.
    e. Each student will demonstrate the ability to comply with due dates.
    f. Each student will demonstrate the ability to complete assignments.
    g. Each student will demonstrate the ability to focus on group objectives.
    h. Each student will demonstrate the ability to focus on personal objectives.
    i. Each student will demonstrate the ability to contribute to the studio working environment.
    j. Each student will demonstrate the ability to tolerate diverse views.
    k. Each student will participate in group critiques.
    l. Each student will demonstrate the ability to dialogue effectively.
    m. Each student will demonstrate the ability to offer and receive constructive criticism.
    n. Each student will demonstrate that the discipline focus of class objective can be used as creative stimulus.
2. Theory of drawing I: Cognitive: Students will demonstrate critical thinking skills, conceptual constructs, and specialized vocabulary with a score of 60% or better on a body of work which includes the following:
    a. Each student will demonstrate well developed skill in at least one drawing media, with introduction to at least one other drawing media and/or technique, with possible emphasis on mixed media.
    b. Each student will be able to select appropriate drawing techniques and visual vocabulary to execute original and flexible solutions to assigned think problems.
    c. Each student will execute drawings with firm understanding of the principles of good design, such as unity, variety and balance.
    d. Each student will master both perceptual and conceptual skills necessary to draw from still life set-ups and/or think problems.

ARTS 2616. Aspects of Drawing

Course Description

Continued work in drawing with emphasis on personal creative endeavor. Outside assignments required.

Student Learning Outcomes

In order to acquire knowledge of the inherent visual dynamics of drawing. Students will demonstrate the following:

1. Advanced skill level in the visual dynamics of line involved in the creation of drawing.
2. Advanced skill level in the visual dynamics of shape involved in the creation of drawing.

3. Advanced skill level in the visual dynamics of value involved in the creation of drawing.
4. Advanced skill level in the visual dynamics of color involved in the creation of drawing.
5. Advanced skill level in the visual dynamics in the combination of line, shape, value and color involved in the creation of drawing.

ARTS 2620. Life Drawing II
Course Description
This course introduces color and colored media as an element of composition while emphasizing descriptive and perceptual drawing skills and conceptual approaches to contemporary drawing.
Student Learning Outcomes
1. Create drawings in wet and dry color media.
2. Practice analyzing and visually translating observed subjects from realistic, referential, and/or objective form, to non-representational or abstract imagery in drawings.
3. Compose fully developed drawings that include a conceptual or historical basis.
4. Engage in effective written and oral critique in response to one's own art and the art of others.

ARTS 2621L.Drawing for Animation
Course Description
An intermediate level course in drawing for animation and cartooning. Students work with drawing as a progressive story-telling medium, with introduction to storyboarding for film as well as the graphic novel. Students are introduced to the work of cartoonists and animators, whose work has been historically influential in the field. This course provides students with the drawing skills needed for successful use of digital animation tools.

Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Construct and pace a narrative in visual terms.
2. Manipulate the viewing angle perspective
3. Describe a variety of approaches to storytelling, based on familiarity with the work of professionals in the field.
4. Use a variety of drawing media, techniques and composition to enhance visual impact.
5. Present their work in a professional manner.

ARTS 2625. Figure Drawing
Course Description
Not Available
Student Learning Outcomes
Not Available

ARTS 2630. Painting II
Course Description
This course focuses on the expressive and conceptual aspects of painting, building on the observational, compositional, technical, and critical skills gained previously. Students will investigate a variety of approaches to subject matter, materials, and creative processes through in-class projects, related out-of-class assignments, library research or museum/gallery attendance, written responses, and critiques.
Student Learning Outcomes
1. Produce paintings building on the skills and techniques learned in Painting I.

2. Solve unique format, support, ground, over and under texturing surface challenges.
3. Practice analyzing and translating observed subjects from realistic, referential, and/or objective form, to non-representational imagery.
4. Create paintings that explore personal content, stylization, symbolism, narrative, and/or iconography.

ARTS 2631L. Landscape Painting
Course Description
A contemporary approach to landscape painting in oil or acrylic. On-site and studio work will focus on both the natural world and landscapes in the imagination. Students are encouraged.to pursue and develop their own personal direction with the landscape as a reference.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Organize and prepare painting equipment, media and materials for a successful day in the field.
2. Recognize and discuss the components of some major modern and contemporary landscape painters.
3. Use color and techniques of paint application as they apply to landscape painting.
4. Create personally meaningful imagery based on the landscape.

ARTS 2632L. Fine Art Collage
Course Description
This course will focus on the fine art collage/mixed media applications and will explore experimental processes, incorporating the adhering of papers and other materials to a support along with painting and drawing media. Art historical influences will be emphasized.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Demonstrate well-designed and visually exciting images in the collage medium.
2. Work with a variety of materials and processes including papers, fabrics, found objects, etc. in combination with painting, drawing and other 2-D media.
3. Demonstrate an understanding of the elements and principles of design in the creation of collage works.

ARTS 2633L. Abstract Painting
Course Description
Students analyze and apply to their own work the various concepts, styles and techniques of contemporary abstract painting, including deconstruction of subject matter, collage, mixed media, textural layering, lyrical and hard edge abstract expressionism, and minimal ism. Experimental color usage, paint application techniques, development of surface techniques and the use of varying surfaces along with art historical references will be covered. Students will complete a portfolio of abstract works.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Apply the elements and principles of design in the completion of a successful abstract painting.
2. Use of a variety of media, techniques and surfaces to express an aesthetic concept.
3. Describe key issues and characteristics of historical and contemporary abstract painting.

ARTS 2635. Painting III
Course Description
Continuation of ARTS 2630.
Student Learning Outcomes
Upon successful completion of the course, the student will be able to:

1. Color mixing and color relationships.
2. Create illusions of space and volume.
3. The student will strengthen his or her own personal artistic style. 4. Knowledge of the proper use and maintenance of painting tools.
4. Explore and learn the technique of a master painter of the past.
5. Awareness of nature, “eye hand response,” and an imaginative or personal use of the medium.
6. Awareness of the creative process, exploring unforeseen possibilities.
7. An ability to work independently.
8. Understanding of painting styles and arts vocabulary.

ARTS 2637. Painting IV

Course Description

Continuation of ARTS 2635**.**

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Color mixing and color relationships.
2. Create illusions of space and volume
3. The student will strengthen his or her own personal artistic style.
4. Knowledge of the proper use and maintenance of painting tools
5. Knowledge of painting sizing, grounds, preparation and show presentation.
6. Explore and learn the technique of a master painter of the past.
7. Awareness of nature, “eye hand response,” and an imaginative or personal use of the medium.
8. Awareness of the creative process, exploring unforeseen possibilities
9. An ability to work independently.
10. Understanding of painting styles and arts vocabulary.

ARTS 2639. Advanced Painting

Course Description

A highly individualized instructional approach to the basic principles, materials, and skills of painting. Students may choose their own specific media. Subject matter may be decided by and large by each student. Weekly exercises will be used to reinforce basic principles in painting. Emphasis this semester will be placed on all aspects of color, seeing, mixing, describing and manipulating color.

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1. Cultivate a desire to express oneself visually.
2. Be acquainted with the techniques of painting in chosen media.
3. Ensure quality and consistency as a practicing artis.
4. Motivate creativity through individuality.
5. Promote a sense of responsibility and accountability, and
6. Instill a positive attitude concerning one's individual ability and role in the visual arts.

ARTS 2640. Watercolor II

Course Description

This course introduces an expansion of watercolor techniques, with a greater emphasis on developing personal expression through conceptual and technical experimentation.

Student Learning Outcomes

1. Create works with complex watercolor techniques such as masking, washout, and mixed media.

2. Use watercolor painting as a means of personal expression, as shown through a series of theme related paintings.
3. Developed the use of space, form, texture, composition, value, positive and negative shapes in larger format.
4. Explore the use of transparent and opaque water media within the creative process.

ARTS 2710. Intermediate Printmaking

Course Description

This course provides direct experience in exploring advanced printmaking concepts, including screen printing, multiple block relief printing, plate lithography, and mixed media printmaking. Emphasis is given to developing a portfolio of prints focusing on individual expression, collaborative work, and digital imagery.

Student Learning Outcomes

1. Apply previously learned knowledge and concepts in a more advanced setting.
2. Develop new print processes and combine them with previous printmaking knowledge, with focus on intaglio and relief process.
3. Integrate research into the conceptual development of printmaking and create a diverse portfolio of curated prints.
4. Employ editioning and monotype print skills.
5. Practice printmaking safely with proper use of new equipment and materials.
6. Learn basic lithography including stone and/or plate preparation, drawing, etching, printing, and counter etching.

ARTS 2712. Illustration II

Course Description

Continuation of ARTS 2612L with a more focused exploration of specific types of typical illustration assignments. Based on a set of parameters, students create visual imagery for clients whose projects include institutional, editorial, advertising, and packaging.

Student Learning Outcomes

1. Demonstrate ability to create illustration for a magazine or book cover.
2. Demonstrate ability to create illustration for an institutional publication.
3. Demonstrate ability to create illustration for an editorial publication.
4. Demonstrate ability to create illustration for advertising or packaging.

ARTS 2720. Advanced Book Arts

Courses Description

Continues the investigation of book arts through a variety of structures and enclosures using differing binding styles. The origins of the book and its global history are discussed. The work of contemporary book artists and examples are also discussed.

Student Learning Outcomes

1. Bind a variety of book structures and enclosures.
2. Demonstrate knowledge of book forms and their origins.
3. Demonstrate ability to maintain craftsmanship in binding.
4. Demonstrate knowledge of the history of the craft of the book.

ARTS 2725. Advanced Papermaking

Course Description

Continues the investigation of two- and three-dimensional papermaking. Beating fiber, paper chemistry, sheet formation, pulp painting, and sculptural papermaking are covered. Papermaking history and contemporary applications are discussed.

Student Learning Outcomes

1. Beat fiber for multiple purposes.
2. Demonstrate knowledge of painting with colored fiber.

3. Demonstrate ability to use paper as a medium for sculpture.
4. Demonstrate knowledge of the science and history of the craft of papermaking.

ARTS 2810. Jewelry and Small Metal Construction II

Course Description

Fabrication skills are further developed and refined while additional advanced fabrication methods are introduced. Emphasis is placed on developing a deeper understanding of form and content as it relates to creating on an intimate scale.

Student Learning Outcomes

1. Demonstrate an understanding of innovative design.
2. Apply safe practices in the production of works that expand on and experiment with advanced fabrication techniques.
3. Create design sketches of the objects prior to fabrication.
4. Construct three-dimensional, small scaled, functional or nonfunctional objects, which incorporate mechanisms.
5. Analyze projects through critiques, oral presentations, and discussions.

ARTS 2811L. Advanced Stone Setting

Course Description

This course is designed to give students an intensive hands-on approach to stone setting, Demonstrations will be given in prong setting, cluster setting, thick bezel setting, pave, channel setting, and burnish setting. After each demonstration the student will practice the technique. Students will also be taught to create a finished piece of jewelry including prepolishing, stone setting, clean up, and final polishing, Tool making appropriate to the craft will be taught Safety precautions relative to the tools and equipment used will be stressed. By the end of the class students will have learned a number of new stone setting techniques and improved their ability with techniques they may have already known.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. To set faceted stones in a basket like setting with either four or six prongs.
2. Competently execute cluster setting which generally refers to the setting of multiple stones around a central larger stone.
3. Bezel set both cabochon and faceted stones using the hammer setting tool of the flexible shaft.
4. Lay out multiple stones' settings over a given area in tight proximity to each other.
5. Set various shaped stones in a single row.
6. Competently set faceted stones flush with the surface of a piece of jewelry.

ARTS 2812L. Silversmithing II

Course Description

This course is designed as a continuation of silversmithing I (JEWL 158L) in which students will improve their skills in the arts of sinking, repousse and forging. In addition, raising will be taught which is an advanced silversmithing technique employed for the formation of metal objects such as teapots, pitchers, vases and similar vessel forms.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Execute a variety of basic silversmithing techniques used to produce hollowware.
2. Identify specific tools and their uses.
3. Explain the various processes of metalwork past and present.

ARTS 2813L. Casting for Jewelry

Course Description

An introduction to the ancient art of casting and wax-model-making that focuses on the tools, equipment, materials and processes traditionally used in creating forms in silver. The course includes demonstrations on designing and creating wax models for the casting process and many techniques of vacuum and direct-casting methods. Emphasis is on casting and experimenting with design in wax and cast forms.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Acquire a general working knowledge and overview of basic tools, processes and materials relative to wax model making and casting.
2. Develop an awareness of wax-model making and casting and the various processes used in creating them.
3. Develop an awareness of safety in working with the equipment.
4. Gain a general knowledge of cultural, contemporary and historical uses of casting processes and materials.

ARTS 2814L. CAD for Jewelry Design

Course Description

Intensive computer-based approach to jewelry design. Students will learn to design textures, surfaces, forms, placement of stones, settings and a wide range of other jewelry techniques using computer-aided design (CAD). The processes of machining and producing a finished product will be discussed. Gemvision software will be used to introduce students to state of the art processes used by the jewelry industry worldwide. Students will create wax or plastic models that can be cast in silver or gold.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Design wearable jewelry using the computer.
2. Demonstrate proficiency and versatility in jewelry fabrication, wax casting, stone setting and silversmithing using CAD software.
3. Produce a series of designs as part of a portfolio using CAD software.

ARTS 2818. Jewelry Casting

This course introduces students to a wide range of non-ferrous casting techniques. Direct casting, cuttle-fish casting, vacuum casting and experimental casting will be covered. Students will learn to carve waxes and cast non-wax objects. Students will create sprue trees, invest waxes, schedule/program kiln burnouts and participate in pouring their castings.

Student Learning Outcomes

Students will be able to:

1. Practice direct casting, vacuum casting, and centrifugal casting.
2. Sprue and tree waxes, calculate charge and invest objects to cast.
3. Cast and burn out a variety of materials.
4. Remove castings from trees, remove sprues, and clean up castings.
5. Analyze projects through critiques, oral presentations, and discussions.

ARTS 2820. Jewelry and Small Metal Construction Portfolio

Course Description

Advanced study in bench jewelry and/or small metal construction techniques through the creation of a series of personal works.

Student Learning Outcomes

1. Create a series of either jewelry or small-scale sculptural objects that represent a consistent body of original work.
2. Create design sketches of the objects prior to fabrication.
3. Apply safe and professional bench jewelry fabrication, advanced stone setting and repair techniques to complete projects.

4. Explore professional practices of jewelry repair and design with emerging technologies.
5. Present a professional portfolio including a resume, artist's statement and photographs of the work.

ARTS 2821. Enameling II
Course Description
This is a self-paced course in enameling. You will create larger & more complex items utilizing the techniques you learned in Beginning Enameling. You will learn more advanced techniques which were not covered in the beginning class.
Student Learning Outcomes
Not Available

ARTS 2823L. Advanced Enameling
Course Description
Exploration of advanced enameling techniques. This course covers many areas and techniques in the enameling field including, but not limited to limoges, painted enamels, grisaille, champleve for multiple production, Coloisonne/Appliques and Plique-a jour. Students may work on small to large scale work as jewelry or sculptural forms.
Student Learning Outcomes
1. Produce samples of no fewer than 4 of the 6 techniques demonstrated.
2. Apply 2 of the 4 techniques sampled to student's own work.
3. Create a finished piece of jewelry, sculpture, or a collection of multiple production jewelry.

ARTS 2830L. Jewelry/Metal Arts III
Course Description
Not Available
Student Learning Outcomes
Not Available

ARTS 2835. Jewelry and Metal Arts Advanced Projects
Course Description
Structured around a common theme or mode of inquiry relevant to the conceptual concerns and techniques particular to the making of jewelry. An in-depth forum is provided to analyze aesthetic and conceptual concerns. Emphasis is placed on the realization of each student's unique vision and completion of projects. Creativity and the development of a personal style of self-expression are encouraged.
Student Learning Outcomes
1. Develop and initiate a project.
2. Select and apply the appropriate techniques and materials to produce an artwork.
3. Articulate the conceptual significance of their project.
4. Be familiar with contemporary issues in their field of arts and design.
5. Demonstrate substantial progress in project completion.

ARTS 2839. Introduction to Sculpture
Course Description
Beginning sculpture students "explore space" while learning new processes and skills, including mold making, welding and woodworking.
Student Learning Outcomes
1. Be able to utilize a variety of traditional materials and sculpture processes, including: mold making, metal fabrication/wood fabrication, and the creative integration of mixed media.

2. Learn to differentiate between objects and installations, and be prepared to explore sculpture in upper division, topics based courses.

ARTS 2840. Sculpture II

Course Description

This course continues the exploration of form and concept in sculpture through the exploration of materials, techniques, and varied media. Students conceive and execute work that incorporate a variety of materials and types of presentation.

Student Learning Outcomes

1. Use a variety of processes, materials, tools, and equipment to create work that demonstrates an understanding of the fundamentals of time, form, and structure.
2. Explain the rationale behind decisions made during the production of work that explore sculpture's visual language.
3. Demonstrate through object, action, or text; increased knowledge of the language and history of sculpture as it pertains to contemporary sculptural practices.
4. create works of art that demonstrate competence in the student's chosen area of focus.

ARTS 2841. Appreciation of Sculpture

Course Description

Introduction to contemporary and traditional methods and aesthetics of sculpture: including culture, purpose, history, methods, and innovations from plaster to bronze casting.

Student Learning Outcomes

Not Available

ARTS 2842. Kinetic Art

Course Description

Intended for sculptors who wish to introduce motion into their work. The course is directed toward a final project of the student's design, which may be sculpture, installation, performance, costume, robotics, toys, etc. Issues covered include mechanism design and troubleshooting, hand-cranks, ratchets, solenoids, motors, drive systems, and basic construction techniques aimed at building safe and reliable kinetic art. An overview on the history of kinetic art is provided to inspire a richness of conceptual thinking.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate an understanding of the Five Basic Machines and how they transfer movement and force.
2. Safely and competently use the shops to construct kinetic sculpture and mechanisms.
3. Complete a Kinetic Art idea in written proposal, drawing proposal/diagrams, and sculptural construction.

ARTS 2843L. Contemporary Bronze Sculpture

Course Description

An introduction to direct casting methods for the realization of a personal and expressive art. Students work with cast bronze, which has been used for thousands of years as an expressive medium. In addition to a lab fee, students must purchase wax, ceramic shell and bronze.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Fabricate patterns directly in wax and organic materials for direct casting and will be familiar with the basic gating techniques used in lost wax casting.
2. Demonstrate an understanding of the basic application of ceramic shell stuccoes and the preparation of ceramic shell molds for kiln firing.
3. Demonstrate an understanding of the pouring of bronze into ceramic shell molds, the divesting and

4. Degating of rough castings and the basic finishing and patination of bronze castings.
5. Describe the reasons why they may want to realize a particular work in bronze and how bronze and other cast metals have been and are now being used by other artists in the realization of their work.

ARTS 2844L. Stone Sculpture

Course Description

An overview of stone sculpture that investigates techniques of carving in limestone, alabaster and marble by hand and with pneumatic tools, both directly and from models.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Carve stone, alabaster, marble and limestone by hand-hammer & chisels and pneumatic hammers.
2. Understand subtractive sculpture.
3. Begin to master stone carving techniques.
4. Carve directly or from a model.

ARTS 2845L. Mixed Media Sculpture

Course Description

This course covers a variety of tools and techniques used in mixed-media sculpture. Assemblage as an as an aspect of the additive approach to sculpture is examined. Students focus on aesthetic, structural and conceptual principles involved in this approach. In addition to wood, materials may include metal, fibers, plastics, found objects, etc.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate sound construction using basic joinery and other techniques.
2. Have completed several finished sculptures using assemblage.
3. Demonstrates some understanding of aesthetic concepts and issues in class discussions and projects.
4. To exhibit some progress in the development of individual forms and concepts.
5. Demonstrate some knowledge of assemblage relative to the history of sculpture.

ARTS 2846L. Glass Sculpture

Course Description

An introduction to the basic kiln casting in the lost wax technique and other kiln working of glass including the processes of slumping and fusing. Students will be introduced to creating molds for use with glass and the entire lost wax process.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Model and cast waxes for investing in glass.
2. Develop programs for firing the kiln for the casting process.
3. Develop an understanding of the vocabulary of glass as an artistic medium.

ARTS 2847L. Metal Sculpture II

Course Description

An in-depth study of the metal processes introduced in Metal Sculpture I with greater emphasis on individual artistic expression. Tig welding is introduced in this class.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Articulate and discuss perception, conception, and symbolism in sculpture.
2. Create sculptural forms in a practical, functional, and aesthetic framework.
3. Understand the safe and effective use of metal fabrication equipment.

ARTS 2848L. Mold Making for Sculptors

Course Description

A course in basic mold making for sculpture. This course covers pattern preparation, mold construction, and casting in wax and plaster. Class projects are designed to help students become proficient in several mold making processes. This class may be of special interest to students who wish to do bronze and glass sculpture.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Make a plaster piece mold, and create a wax, plaster, and clay positive.
2. Make an alginate mold and cast a plaster positive.
3. Make a simple rubber mold and cast a wax or resin positive.

ARTS 2849L. Wood Sculpture

Course Description

An introduction to tools and techniques used in wood sculpture to develop sculptural forms and encourage personal exploration. Students investigate a diverse range of techniques, such as wood construction, wood lamination, fabrication, wood carving, wood finishing, glues, and tool sharpening and maintenance. Sculptural traditions, both historical and contemporary, are discussed.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate an understanding of the tools and techniques used in wood sculpture.
2. Demonstrate an understanding of the various types of wood construction, wood qualities, wood carving, wood finishing, glues, and tool sharpening and maintenance.
3. Articulate and discuss perception, conception, and symbolism in sculpture.
4. Demonstrate competency in the execution of sculptural forms in wood.

ARTS 2850. Arts Foundry I

Course Description:

This course provides the student with an introduction to the use of the casting process in the creation of sculpture. Both sand mold and ceramic shell casting methods will be used.

Student Learning Outcomes

1. Create a cast sculpture that demonstrates a basic working knowledge of the processes involved in the creation of a pattern suitable for casting, the patterns investment, the pouring of the metal into the investment mold, the castings divestment, and its finishing.
2. Through the safe use of materials, and the facilities, and the proper use of personal protective equipment, the student shall demonstrate an adequate knowledge of safety procedures required for the use of the foundry studio.
3. Write or participate in symposia to demonstrate knowledge of the history, language, and cultural framing associated with the creation of sculpture using the casting method.
4. Participate in group critiques to demonstrate an initial awareness of craft, design, and personal content, as these elements are used in the creation of cast sculpture.

ARTS 2855. Sculpture III

Course Description

This course will focus on the development of the student's personal aesthetic while continuing to analyze the use of form and surface to create content. Developing a body of work and documentation for a portfolio.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. The student will be able to apply the elements of design in a variety of situations.
2. The student will be able to apply the principles of design in a variety of situations.
3. The student will demonstrate ceramic skills using a variety of media, construction techniques, and finishing methods.
4. The student will be able to prepare art works for display.
5. The student will develop a general knowledge of ceramic vocabulary and use that vocabulary to describe works of art verbally and in writing.
6. The student will develop a general knowledge of ceramic materials, tools, and techniques.
7. The student will be able to demonstrate good work habits.
8. The student will develop an appreciation for the art of seeing; develop a personal vision.

ARTS 2857L. Sculpture: Advanced Projects

Course Description

Structured around a common theme or mode of inquiry relevant to the conceptual concerns and techniques particular to the making of sculpture. An in-depth forum is provided to analyze aesthetic and conceptual concerns. Emphasis is placed on the realization of each student's unique vision and completion of projects. Creativity and the development of a personal style of self-expression are encouraged.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Select and apply appropriate materials and techniques in order to initiate and complete projects.
2. Articulate the conceptual significance of a project.
3. Articulate the relationship of proposed and produced project in terms of historical or contemporary understanding of the techniques and processes appropriate to the creation of sculptural form.
4. Completion of project(s) in the medium of sculpture.

ARTS 2861. Modeling Sculpture and Mold Making

Course Description

In this course students will create sculptures by modeling the form in plasticine clay. Visual expression of personal concept will be an important factor in each sculpture. Participation in formal and conceptual class critiques will be mandatory for each assignment. Students will create rubber molds from each sculpture, from which wax patterns may be cast in a future class.

Student Learning Outcomes

1. Personal responsibilities: AFFECTIVE: Students will develop behavioral skills which help the student acquire a positive attitude toward self, other students, faculty, facilities and equipment, housekeeping in the work areas, and the ability to carry out directions, meet deadlines, meet attendance requirements, etc., with a score of 60% or better using the following concepts
    a. Each student will maintain class attendance.
    b. Each student will observe safe studio and shop practices.
    c. Each student will demonstrate the ability to follow task instructions.
    d. Each student will demonstrate the ability to self-initiate tasks.
    e. Each student will demonstrate the ability to complete tasks.
    f. Each student will demonstrate the ability to focus on group objectives.
    g. Each student will demonstrate the ability to focus on personal objectives.
    h. Each student will demonstrate the ability to comply with due dates.
    i. Each student will demonstrate the ability to contribute to the studio working environment.
    j. Each student will demonstrate the ability to tolerate diverse views.
    k. Each student will participate in group critiques.

l. Each student will demonstrate the ability to dialogue effectively.
m. Each student will demonstrate the ability to offer and receive constructive criticism.
n. Each student will demonstrate that the discipline focus of class objective can be used as creative stimulus.

2. Theory of casting wax and metal: COGNITIVE: Students will demonstrate critical thinking skills, conceptual constructs, and specialized vocabulary with a score of 60% or better on a body of work which includes the following:
    a. Each student will be able to demonstrate the principles of relative shop technology and safety.
    b. Each student will be able to design effective technical strategies.
    c. Each student will be able to design; shape and scale optimum formats to accommodate individualized expressive concerns.
    d. Each student will develop a more extensive sense of form through casting sculptural studies molded into wax and clay.
    e. Each student will explore determinative relationships between media, technical processes and sculptural products.
    f. Each student will be able to offer an oral critique of finished products.
    g. Each student will be able to participate in group critiques.
3. Casting wax and metal: PSYCHOMOTOR: Students will develop manipulative, work-oriented skills, and demonstration of specific process skills with a score of 60% or better on a body of work which includes the following:
    a. Each student will be able to effectively assemble material.
    b. Each student be able to control form so that a finished presentation is accomplished, including architectural weight/support sufficiency.
    c. Each student will use his/her hands and tactile responsiveness as a perceptive sense in creating sculptural form.
    d. The student will refine personal wax working and spruing skills. Each student will be able to orally critique works of sculpture.

ARTS 2862. Casting Wax and Bronze

Course Description

In this course students will cast wax patterns from molds created in a previous course (Modeling Sculpture and Mold making). Those wax patterns will continue through the entire bronze casting process, including finishing and patination of the sculpture. The student will personally perform each step in the process.

Student Learning Outcomes

1. Personal responsibilities: AFFECTIVE: Students will develop behavioral skills which help the student acquire a positive attitude toward self, other students, faculty, facilities and equipment, housekeeping in the work areas, and the ability to carry out directions, meet deadlines, meet attendance requirements, etc., with a score of 60% or better using the following concepts:
    a. Each student will maintain class attendance.
    b. Each student will observe safe studio and shop practices,
    c. Each student will demonstrate the ability to follow task instructions.
    d. Each student will demonstrate the ability to self-initiate tasks.
    e. Each student will demonstrate the ability to complete tasks.
    f. Each student will demonstrate the ability to focus on group objectives.
    g. Each student will demonstrate the ability to focus on personal objectives.
    h. Each student will demonstrate the ability to comply with due dates.
    i. Each student will demonstrate the ability to contribute to the studio working environment.
    j. Each student will demonstrate the ability to tolerate diverse views.
    k. Each student will participate in group critiques.

l. Each student will demonstrate the ability to dialogue effectively.
m. Each student will demonstrate the ability to offer and receive constructive criticism.
n. Each student will demonstrate that the discipline focus of class objective can be used as creative stimulus.

2. Theory of casting wax and metal: COGNITIVE: Students will demonstrate critical thinking skills, conceptual constructs, and specialized vocabulary with a score of 60% or better on a body of work which includes the following:
    a. Each student will be able to demonstrate the principles of relative shop technology and safety.
    b. Each student will be able to design effective technical strategies.
    c. Each student will be able to design; shape and scale optimum formats to accommodate individualized expressive concerns.
    d. Each student will develop a more extensive sense of form through casting sculptural studies molded into wax and clay.
    e. Each student will be able to employ appropriate technical processes for casting bronze and aluminum as a basis for further research and exploration of form.
    f. Each student will explore determinative relationships between media, technical processes and sculptural products.
    g. Each student will be able to offer an oral critique of finished products.
    h. Each student will be able to participate in group critiques.
3. Casting wax and metal: PSYCHOMOTOR: Students will develop manipulative, work-oriented skills, and demonstration of specific process skills with a score of 60% or better on a body of work which includes the following:
    a. Each student will be able to effectively assemble material.
    b. Each student be able to control form so that a finished presentation is accomplished, including architectural weight/support sufficiency.
    c. Each student will use his/her hands and tactile responsiveness as a perceptive sense in creating sculptural form.
    d. The student will refine personal wax working and spruing skills.
    e. The student will refine metal chasing and finishing/patination skills.
    f. Each student will be able to orally critique works of sculpture.

ARTS 2866. Artistic Silversmithing-Engraving

Course Description

This course is designed for introductory level engraving on precious and non-precious metals. This course consists of understanding the theory and practice of hand and power assist engraving on spurs and jewelry.

Student Learning Outcomes

Successful completion of the course implies the student, with 70% accuracy, will be able to:

1. Safety students will:
    a. Demonstrate their ability to safely operate shop equipment and hand tools.
    b. Demonstrate their ability to use the equipment.
    c. Demonstrate proper setup and shut-off of equipment.
2. Design and Layout students will demonstrate:
    a. Ability to create a pattern and transfer to engraving plate.
    b. Layout a flower and a scroll.
3. Tool sharpening students will demonstrate:
    a. The ability to learn the proper tool angles for different cuts and gravers.
    b. The ability to sharpen your gravers.
4. Students will demonstrate the ability to learn basic cuts.
    a. Straight cut.

    b. Forehand cut.
    c. Backhand cut.
5. Students will demonstrate the ability to learn border cuts
    a. Riggle borders.
    b. Cut borders
6. Students will begin to learn basic bright cut engraving.
    a. Cutting flowers.
    b. Cutting scrolls.

ARTS 2870. Engraving II

Course Description

This course is designed for intermediate level engraving on precious and non-precious metals. This course consists of understanding the theory and practice of more advanced scroll designs and refining techniques learned in ART 1870. Students will learn how to draw and design interlocking scrolls, 2 & ½ scrolls, and the incorporation of positive and negative space to create pleasing design patterns.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Demonstrate the ability to lie out and design advanced scroll designs.
2. Design engraving patterns that exhibit informal balance by incorporating self-originating 2 & ½ scrolls down to 1 & ½ scrolls.
3. Demonstrate the ability to properly incorporate positive and negative space to create pleasing design patterns.

ARTS 2871. Engraving III

Course Description

This course is designed for the more advanced level engraver. This course will require greater graver control than previous classes and will consist of creating a three-dimensional effect through the use of single point line placement. Students will master the techniques involved in creating high tones, mid tones, base tones and high lights to create different effects. Students will also learn the techniques involved in relief of backgrounds. Advanced scroll design from ART 2870 will be used but students will be taught how to properly design and engrave complex acanthus leaf structures within these scroll structures.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Design and draw acanthus leaves with fold overs within scroll structures.
2. Master the tapered stroke and proper placement to create base tones, mid tones and high tones.
3. Background removal and treatment.

ARTS 2880. Advanced Project Design

Course Description

This course is designed for students in their final semester. After successful course completion students will be able to fabricate a project that requires use of a metal lathe and milling table. Students will also refine tig welding skills and other advanced fabricating techniques. Students will design and fabricate a California style spur.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Safely operate all shop equipment and tools.
2. Design a California style spur.
3. Successfully fabricate bands and shanks that require the use of a metal lathe and milling table.

ARTS 2885. Studio

Course Description

This course provides the student who is enrolled in another art course the opportunity for additional working time to complete projects required for those courses. No work originating outside of a current course may be worked on in the course. All safety practices and precautions relating to processes and procedures performed must be observed at all times.

Student Learning Outcomes

1. Personal responsibilities: AFFECTIVE: Students will develop behavioral skills which help the student acquire a positive attitude toward self, other students, faculty, facilities and equipment, housekeeping in the work areas, and the ability to carry out directions, meet deadlines, meet attendance requirements, etc. with a score of 60% or better using the following concepts
    a. Each student will maintain class attendance.
    b. Each student will observe safe studio and shop practices.
    c. Each student will demonstrate the ability to follow task instructions.
    d. Each student will demonstrate the ability to self-initiate tasks.
    e. Each student will demonstrate the ability to complete tasks.
    f. Each student will demonstrate the ability to focus on group objectives.
    g. Each student will demonstrate the ability to focus on personal objectives.
    h. Each student will demonstrate the ability to comply with due dates.
    i. Each student will demonstrate the ability to contribute to the studio working environment.
    j. Each student will demonstrate the ability to tolerate diverse views.
    k. Each student will participate in group critiques.
    l. Each student will demonstrate the ability to dialogue effectively.
    m. Each student will demonstrate the ability to offer and receive constructive criticism.
    n. Each student will demonstrate that the discipline focus of class objective can be used as creative stimulus.
2. Studio theory: COGNITIVE: Students will demonstrate critical thinking skills, conceptual constructs, and specialized vocabulary with a score of 60% or better on a body of work which includes the following:
    a. Each student will be able to demonstrate the principles of relative shop technology and safety.
    b. Each student t will be able to design effective technical strategies.
    c. Each student will be able to design; shape and scale optimum formats to accommodate individualized expressive concerns.
    d. Each student will develop an understanding of presentation.
    e. Each student will be able to employ appropriate technical processes.
    f. Each student will explore determinative relationships between media, technical processes and finished products.
    g. Each student will be able to orally critique finished products.
    h. Each student will be able to participate in group critiques.
3. Studio practicum: PSYCHOMOTOR: Students will develop manipulative, work-oriented skills, and demonstration of specific process skills with a score of 60% or better on a body of work which includes the following:
    a. Each student will be able to effectively assemble material for the class this studio is related to.
    b. Each student is able to control form so that a finished presentation is accomplished.
    c. Each student will use his/her hands and tactile responsiveness as a perceptive sense in creating the form.
    d. Each student will be able to install works for ideal contextual viewing.
    e. Each student will be able to orally critique works.

ARTS 2890. Armor Making

Course Description

This course is designed for the medieval enthusiast & members of the Society for Creative Anachronism to create functional armor to protect the body during combat. We will discuss the changes in armor as the weapons and style of warfare progressed. We will discuss the differences & similarities of armorers, blacksmiths, & feniers. You will complete the required projects in each of the following: chain-maille, leather, steel plate, & blacksmithing. You will learn how to create chain-maille from steel wire; select appropriate leather for a project; cut, tool, stitch, harden, & finish leather; create full size patterns; cut, cold-work, & rivet sheet steel; blacksmith steel into simple shapes; and proper use & care of tools. This is a physically demanding class; it requires a significant amount of upper body strength. All armor pieces are tested to determine if they will protect the wearer during combat.

Student Learning Outcomes

Not Available

ARTS 2891. Art for the Elementary Teacher

Course Description

Orientation into the methods, philosophy and media of art practiced in the elementary school.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to …

1. Appreciate and execute an art program as a relevant, sequential process of growth development as in all other content areas at the elementary level by:
    a. Applying the four areas of Discipline Based M Education: Aesthetics, Studio M, Artists and Art History and Art Appreciation in the elementary art program.
    b. Using proficiently and integrating the basic language of art, Elements and Principles, in all art experiences.
    c. Elements: Line, Shape, Value, Color, Space (Mass, Form, Volume) and texture & pattern.
    i. Principles: Balance and Symmetry, Variety, Repetition.
    ii. (Rhythm/Movement) Emphasis, Dominance/Subordination and Contrast.
    d. Understanding creativity and self-expression, knowing the difference between the two and using these concepts to guide development of a formalistic and qualitative elementary art program.
    e. Understanding the links between the creative process and critical thinking and problem solving skills as examples of higher thought process.
2. Develop confidence, interest and appreciation for his/her own art expression by:
    a. Participating in art critiques (presentations) in class.
    b. Maintaining a cumulative portfolio of studio activities properly mounted to be used as classroom examples.
    c. Exploring a variety of media in class and independently that pertains to personal expression for themselves and for use in the elementary classroom.
    d. Setting up an exhibit of their work that exemplifies educational concepts learned during this course.
3. Understand and recognize sound educational practice and implement developmentally appropriate techniques and media for grades K-8 by:
    a. Experiencing a program that includes both 2-0 (drawing, painting, printmaking, and collage, etc.) and 3-D (clay, construction/assemblage, and other additive and subtractive methods of three dimensional expression).
    b. Examining appropriate and inappropriate classroom practices.
    c. Learning sequential stages of artistic development of children as defined by authorities in the field.
4. Develop an understanding of the role of the adult/ teacher in facilitating meaningful art experiences by:
    a. Learning to model and interact positively with students for successful making and studying the world of art.
    b. Understanding the importance of communicating with parents, administrators and the community about appropriate process and relevancy of the arts in education.
    c. Valuing the process of making art as more important than the final product.

d. Understanding that media and technique are secondary to the feelings and ideas expressed by student artists.

5. Obtain, organize, and implement art teaching resources, materials and equipment to insure continued growth for the classroom art program by:
    a. Developing a bibliography (wish list) of handbooks of processes, motivation, artists and appreciation.
    b. Learning about proper and economical materials and supplies and sources for obtaining them.
    c. Experiencing practical classroom structure and organization that facilitates art expression in the regular classroom.

ARTS 2892. Sound Art I
Course Description
An exploration of sound as a medium and fine art tool. Course will explore history, theory and contemporary art issues associated with sound art, as well as develop student's skills in sound editing/ recording technology.
Student Learning Outcomes
Not Available

ARTS 2893. Studio Arts Sophomore Seminar
Course Description
Not Available
Student Learning Outcomes
Not Available

ARTS 2992. Directed Studies
Course Description
Varies
Student Learning Outcomes
Varies

ARTS 2993. Workshop in Art Studio
Course Description
Varies
Student Learning Outcomes
Varies

ARTS 2994. Illustration Arts Portfolio
Course Description
Varies
Student Learning Outcomes
Varies

ARTS 2995. Art Studio Cooperative Experience
Course Description
Varies
Student Learning Outcomes
Varies

ARTS 2996. Topics in Art Studio

Course Description
Specific subjects and credits to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

ARTS 2998. Internship in Art Studio
Course Description
Varies
Student Learning Outcomes
Varies

ARTS 2999. Capstone in Art Studio
Course Description
Student Learning Outcomes
Varies

Astronomy (ASTR)

ASTR 1010. Introduction to Solar System Astronomy
Course Description
Astronomy 1010 provides a historical introduction to the science of astronomy, with an emphasis on the nature and evolution of models of the solar system. We spend time on the fundamentals of modern astronomy, including motion, forces, gravity, and the nature of light. We focus on the dynamics and physical properties of solar system objects, including planets, moons, asteroids, and comets. Finally, our study culminates with an investigation of the origin of the solar system. Additional topics may include recent advances in astronomical research and findings from current solar system exploration by automated spacecraft.
Astronomy 1010 is a course designed for students having little or no background in astronomy or physics. The course focuses on interpretation of the nature of the solar system based on modern observational techniques and the properties of light and matter.
Student Learning Outcomes
By the end of the course, the student should be able to:

1. Explain the causes of the daily and seasonal motions of the various celestial objects.
2. Determine the phase of the Moon based upon the relative positions of the Sun, Earth and Moon.
3. List the basic tenets of the geocentric cosmological models.
4. List the basic tenets of the heliocentric model of Copernicus.
5. Apply Newton's laws of motion and Newton's law of gravitation.
6. Solve simple problems by employing Kepler's laws of planetary motion.
7. Compare and contrast the properties of the different types of electromagnetic radiation.
8. Analyze blackbody curves by using Wien's law and Stefan's law.
9. Use the principles of quantum mechanics to explain how atoms emit and absorb electromagnetic radiation (photons) interpret the spectra of celestial objects.
10. Describe the various functions of a telescope.
11. Explain the rationale for using different types of telescopes for observing various celestial objects and phenomena.
12. Classify the objects within our solar system as being either planets, dwarf planets, asteroids, meteoroids or comets.
13. Name the planets of our solar system.
14. Describe the process by which planetary magnetic fields are generated according to the dynamo model.
15. Compare and contrast the atmospheres, surfaces and interiors of the terrestrial planets.

16. Compare and contrast the atmospheres and interiors of the Jovian planets.
17. Outline the stages involved in the formation of our solar system.

ASTR 1010L. Introduction to Solar System Astronomy Laboratory

Course Description

Introduction to Solar System Astronomy Laboratory explores the principles and phenomena presented in the Introduction to Solar System Astronomy lecture. Through indoor and outdoor activities, students will investigate the properties and analyze the motions of objects in our solar system. Topics include measuring the sizes and distances of solar system objects, understanding the observational effects of Earth's motion, and the methods astronomers use to make new discoveries.

Student Learning Outcomes

1. Perform astronomical calculations (including Newton's Laws of Motion and Kepler's Laws of Planetary Motion) and express their answers using appropriate units and scientific notation.
2. Analyze the geocentric model of the universe and follow the early methods of measurements (the Earth's size) based on the astronomical observations and geometrical measurements.
3. Become familiar with astronomical tools (sky maps and telescopes), their various types and destinies.
4. Perform astronomical measurements of objects observed in the sky.
5. Perform and document local sky observations (both by eye and with a telescope) and changes in the sky (seasonal changes caused by the Earth's orbital motion and daily changes caused by the Earth's rotational motion) through the celestial objects identification.
6. Analyze geographical and celestial poles of the Earth (celestial sphere) through the location of North Star in the local sky and analyze magnetic poles of the Earth using the compass.
7. Analyze the heliocentric model of the universe and perform telescopic observations (plus calculations based on these results) of planetary motion.
8. Summarize the major planets of the Solar System: scale their sizes and distances to the Sun, understand their properties, and make telescopic observations.
9. Observe the Moon's rise and set and relate their observations to the analysis of the relative motion of the Earth-Moon-Sun system.
10. Observe and analyze the lunar phases and explain eclipse phenomena to the relative motion of the Earth-Moon-Sun system.
11. Explain the observational effects (the cause of tides) of the relatively short distance between the Earth and the Moon
12. Explore the surface of the Moon through astronomical observations and explain why only one of its sides can be observed from the Earth
13. Visit the planetarium and summarize the basics of the sky-view projection on the dome
14. Extend the understanding of annual and daily changes in the sky based on the projections on the planetarium dome.
15. Perform the sky observations with more professional (than school's) telescopes and compare their results (CNM telescope and planetarium settled telescope).
16. Analyze the brightness of observed objects and understand the light pollution problem in astronomical observations.
17. Understand the basics of our daily time measurements and summarize the origins of time zones.
18. Participate in the international campaign of searching for the new asteroids.
19. Explain the observed phenomena caused by Solar System debris.

ASTR 1110. Introduction to Stellar and Galactic Astronomy

Course Description

Stars, galaxies, and the structure of the universe are explored in this descriptive course. Starting with a review of the fundamentals of astronomy, the course then moves on to the formation, evolution, and death of stars. The course then

continues with the nature of galaxies, galaxy evolution, current concepts in cosmology, and the large scale structure of the universe.
Astronomy 1110 is a course designed for students having little or no background in astronomy or physics. The course focuses on interpretation of the nature of the universe based on modern observational techniques and the properties of light and matter.

Student Learning Outcomes

By the end of the course, the student should be able to:

1. Solve simple problems employing Kepler's laws of planetary motion.
2. Apply Newton's laws of motion and Newton's law of gravitation.
3. Compare and contrast the properties of the different types of electromagnetic radiation.
4. Analyze blackbody curves using Wien's law and Stefan's law.
5. Use the principles of quantum mechanics to:
    a. explain how atoms emit and absorb electromagnetic radiation (photons)
    b. interpret the spectra of celestial objects.
6. Describe the functions of a telescope.
7. Explain the rationale for utilizing different types of telescopes for observing various celestial objects and phenomena.
8. Identify the major components of a star's interior and atmosphere.
9. Determine how the mass of a star influences its luminosity, evolution and life span.
10. Distinguish between the various types of nebulae populating the interstellar medium.
11. Outline the steps by which a star forms from an interstellar molecular cloud.
12. Summarize the various fusion reactions that supply a star with energy throughout its lifetime.
13. Compare and contrast the properties of stellar corpses (white dwarfs, neutron stars and black holes).
14. Illustrate the structure of the Milky Way galaxy.
15. List the characteristics of spiral, elliptical and irregular galaxies.
16. Calculate the distances to galaxies by applying Hubble's law.
17. Interpret galactic rotation curves and explain how they reveal the existence of dark matter.
18. Explain the evidence supporting the Big Bang theory**.**

ASTR 1110L. Introduction to Stellar and Galactic Astronomy Laboratory

Course Description

Astronomy 1110L is an optional laboratory for the investigation of the principles and phenomena discussed in Astronomy 1110. This course includes laboratory experiments concerning the nature of light, laws of motion, an introduction to the internet and computer simulations of data taking and analysis similar to current research in astronomy.

Student Learning Outcomes

The fundamental outcome of this course is for students to perform various laboratory exercises and investigations in order to deduce the nature of celestial objects and phenomena. Specifically, students will:

1. Plot and interpret data in graphical form.
2. Utilize Kepler's 3rd law to calculate the mass of a planet (Jupiter).
3. Investigate how astronomers calculate astronomical distances by employing the technique of parallax (or triangulation).
4. Use the Doppler effect to measure radial velocities and rotation rates.
5. Interpret emission line spectra and explain how they are formed.
6. Classify stars according to the characteristics of their spectra.
7. Measure the distances to celestial objects by employing spectroscopic parallax.
8. Explain how heavy elements are forged within stellar interiors through fusion reactions.
9. Calculate the age of the universe by measuring Hubble's constant and using Hubble's law.

ASTR 1115. Introduction to Astronomy

Course Description

This course surveys observations, theories, and methods of modern astronomy. The course is predominantly for non-science majors, aiming to provide a conceptual understanding of the universe and the basic physics that governs it. Due to the broad coverage of this course, the specific topics and concepts treated may vary. Commonly presented subjects include the general movements of the sky and history of astronomy, followed by an introduction to basic physics concepts like Newton's and Kepler's laws of motion. The course may also provide modern details and facts about celestial bodies in our solar system, as well as differentiation between them – Terrestrial and Jovian planets, exoplanets, the practical meaning of "dwarf planets", asteroids, comets, and Kuiper Belt and Trans-Neptunian Objects. Beyond this we may study stars and galaxies, star clusters, nebulae, black holes, clusters of galaxies and dark matter. Finally, we may study cosmology -- the structure and history of the universe.

Student Learning Outcomes

Upon successful completion of the course:

1/Students will discuss the night sky as seen from Earth, including coordinate systems, the apparent daily and yearly motions of the sun, Moon, and stars, and their resulting astronomical phenomena.

1. Students will discuss the night sky as seen from Earth, including coordinate systems, the apparent daily and yearly motions of the sun, Moon, and stars, and their resulting astronomical phenomena.
2. Students will list and apply the steps of the scientific method.
3. Students will describe the scale of the Solar System, Galaxy, and the Universe.
4. Students will explain telescope design and how telescopes and spectra are used to extract information about Astronomical objects.
5. Students will describe the formation scenarios and properties of solar system objects.
6. Students will describe gravity, electromagnetism, and other physical processes that determine the appearance of the universe and its constituents.
7. Students will describe methods by which planets are discovered around other stars and current results.
8. Students will describe the structure, energy generation, and activity of the sun.
9. Students will compare our sun to other stars and outline the evolution of stars of different masses and its end products, including black holes.
10. Students will describe the structure of the Milky Way and other galaxies and galaxy clusters.
11. Students will describe the origin, evolution, and expansion of the universe based on the Big Bang Theory and recent Astronomical observations.
12. Students will describe conditions for life, its origins, and possible locations in the universe.

ASTR 1115L. Introduction to Astronomy Laboratory

Course Description

Introduction to Astronomy Lab will include hands-on exercises that work to reinforce concepts covered in the lecture and may include additional components that introduce students to the night sky.

Student Learning Outcomes

Upon successful completion of the course:

1. Students will discuss the night sky as seen from Earth, including coordinate systems, the apparent daily and yearly motions of the sun, Moon, and stars, and their resulting astronomical phenomena.
2. Students will list and apply the steps of the scientific method.
3. Students will describe the scale of the Solar System, Galaxy, and the Universe.
4. Students will explain telescope design and how telescopes and spectra are used to extract information about Astronomical objects.

5. Students will describe the formation scenarios and properties of solar system objects.
6. Students will describe gravity, electromagnetism, and other physical processes that determine the appearance of the universe and its constituents.
7. Students will describe methods by which planets are discovered around other stars and current results.
8. Students will describe the structure, energy generation, and activity of the sun.
9. Students will compare our sun to other stars and outline the evolution of stars of different masses and its end products, including black holes.
10. Students will describe the structure of the Milky Way and other galaxies and galaxy clusters.
11. Students will describe the origin, evolution, and expansion of the universe based on the Big Bang Theory and recent Astronomical observations.
12. Students will describe conditions for life, its origins, and possible locations in the universe.

ASTR 1115C. Introduction to Astronomy Lecture & Laboratory

Course Description

This course surveys observations, theories, and methods of modern astronomy. The course is predominantly for non-science majors, aiming to provide a conceptual understanding of the universe and the basic physics that governs it. Due to the broad coverage of this course, the specific topics and concepts treated may vary. Commonly presented subjects include the general movements of the sky and history of astronomy, followed by an introduction to basic physics concepts like Newton's and Kepler's laws of motion. The course may also provide modern details and facts about celestial bodies in our solar system, as well as differentiation between them – Terrestrial and Jovian planets, exoplanets, the practical meaning of "dwarf planets", asteroids, comets, and Kuiper Belt and Trans-Neptunian Objects. Beyond this we may study stars and galaxies, star clusters, nebulae, black holes, and clusters of galaxies. Finally, we may study cosmology -- the structure and history of the universe.

The lab component of this course includes hands-on exercises that work to reinforce concepts covered in the lecture and may include additional components that introduce students to the night sky.

Student Learning Outcomes

Upon successful completion of the course:

1. Students will discuss the night sky as seen from Earth, including coordinate systems, the apparent daily and yearly motions of the sun, Moon, and stars, and their resulting astronomical phenomena.
2. Students will list and apply the steps of the scientific method.
3. Students will describe the scale of the Solar System, Galaxy, and the Universe.
4. Students will explain telescope design and how telescopes and spectra are used to extract information about Astronomical objects.
5. Students will describe the formation scenarios and properties of solar system objects.
6. Students will describe gravity, electromagnetism, and other physical processes that determine the appearance of the universe and its constituents.
7. Students will describe methods by which planets are discovered around other stars and current results.
8. Students will describe the structure, energy generation, and activity of the sun.
9. Students will compare our sun to other stars and outline the evolution of stars of different masses and its end products, including black holes.
10. Students will describe the structure of the Milky Way and other galaxies and galaxy clusters.
11. Students will describe the origin, evolution, and expansion of the universe based on the Big Bang Theory and recent Astronomical observations.
12. Students will describe conditions for life, its origins, and possible locations in the universe.

ASTR 1116. Introduction to Astronomy Lab, Special

Course Description
This lab-only listing exists only for students who may have transferred to NMSU having taken a lecture-only introductory astronomy class, to allow them to complete the lab requirement to fulfill the general education requirement. at some other institution).
Student Learning Outcomes
Course is used to complete lab portion only of ASTR 1115C or ASTR 1120. Student Learning Outcomes are the same as those for the lab portion of the respective course.

ASTR 1120. The Planets
Course Description
Comparative study of the planets, moons, comets, and asteroids which comprise the solar system. Emphasis on geological and physical processes which shape the surfaces and atmospheres of the planets. Laboratory exercises include analysis of images returned by spacecraft. Intended for non-science majors, but some basic math required.
Student Learning Outcomes
1. Students will describe the sky as seen from Earth, the apparent daily and yearly motions of the Sun, Moon, planets and stars, and resulting astronomical phenomena.
2. Students will apply the process of the scientific method in an astrophysical setting.
3. Students will describe the structure of the solar system and explain the development of the currently accepted model of solar system formation.
4. Students will explain how telescopes and spectra are used to extract information about astronomical objects.
5. Students will describe properties of minor solar system objects, such as dwarf planets, moons, asteroids, meteoroids, and comets.
6. Students will compare and contrast bulk and unique properties of the Terrestrial and Jovian worlds.
7. Students will describe how gravity and other physical processes determine the appearance of the solar system and its constituents.

Optional outcomes
1. Students will describe the structure, energy generation, and activity of the sun.
2. Students will describe conditions for life, its origins, and possible locations in our solar system.

ASTR 1125. Survey of Astronomy
Course Description
Survey of Astronomy is descriptive physical science course that utilizes only basic math skills and the scientific method to develop an understanding of the structure Universe in both time and space. Our knowledge about the Universe has been acquired over thousands of years; in this class, these discoveries will be presented in a chronological fashion, beginning with first observations in prehistoric times, working up through Greek civilization's contributions to astronomy, continuing through the Middle Ages and the Renaissance, the Classical, and ending with our modern view of the Cosmos. Our emphasis will be on the people that made these discoveries.
Student Learning Outcomes
1. Students will be able to describe the physical processes that govern the appearance of the sky.
2. Students will be able to differentiate between the types of objects in the universe — their properties, formation, and evolution — and to demonstrate that knowledge by placing them in context based on the experiments performed in either the laboratory or the observatory.
3. Students will be able to describe the scientific methods and physical principles by which we study the universe.
4. Students will be able to describe modern cosmological theories.
5. Students will have fun observing the sky.

ASTR 1130. Constellation Mythology

Course Description
A study of the ancient mythological stories and philosophies of world cultures as seen in the patterns of stars in the night sky. A basic grounding in Greco-Roman myths and representations of star patterns will compared to other world cultures, including but not limited to, Native American, Chinese, Arabic, South Pacific, Arctic.
Student Learning Outcomes
Upon successful completion of the course, the student will be able to…

1. Verbally relate classical (Greco-Roman) mythology stories and explain their importance in this culture's community.
2. Verbally relate and compare other cultures' mythology stories, explaining their importance in those cultures' communities.
3. Explain how star patterns in the heavens were used to help embody or visualize mythology stories.
4. Explain how mythology stories were used to help explain the motions of the heavens.
5. Exhibit familiarity with all parts of a star map.
6. Show how to find major constellations using a star map, the night sky, or a partial or full sky simulation.
7. Identify different versions of constellation patterns as perceived by different ancient cultures.

ASTR 1135. Deep-Space Astronomy
Course Description
Conceptual study of cosmology and relativity, emphasizing the Einsteinian perceptions of gravity, matter, energy, and space-time geometry. Also examines in detail anomalistic subjects such as black holes, wormholes, "white fountains," and obstacles to superluminal ("faster than light") travel.
Student Learning Outcomes
Upon successful completion of the course, the student will be able to…

1. Explain different theories of cosmology and postulate possible different scenarios for the future of the known universe.
2. Exhibit an understanding of the properties of a "nested universe," in which our universe is only one of many in a higher-dimensional "multiverse." (Examples: hyperspace, quantum universes, infinite progression, etc.).
3. Describe General Relativity's application to our current understanding of the force of gravity, and Special Relativity's implications for travel near the speed of light, and the effects of these on time.
4. Explain the importance of the relation of matter and energy, implied in $E=mc^2$, in nuclear fusion and in acceleration of masses and the energy required to maintain it.
5. Define different types of black holes and their general and specific properties.
6. Define properties of anomalistic objects such as quasars, "white fountains" (theoretical opposites to black holes), and wormholes by applying knowledge of relativity and cosmology.
7. Explain theoretical and experiential evidence for and against current astronomical anomalies. (Examples: wormholes, hyperspace, superluminal and subluminal space travel, contact with other life in the universe).

ASTR 1996. Topics in Astronomy
Course Description
Varies
Student Learning Outcomes
Varies

ASTR 2110. General Astronomy I
Course Description
This is an introductory course covering the basics of the night sky and the Solar System.
Student Learning Outcomes
At the end of this course, students will be able to…

1. Learn and construct physical models of astronomical objects to explain observations.
2. Understand properties of (exo)planets, and their moons.
3. Demonstrate an understanding of the modern theories about the origins, structure and evolution of the solar system.
4. Apply the “scientific method" to the study of the Solar System and exoplanets.
5. Synthesize material from multiple sources, critically assess it and present it clearly and concisely in written or oral form.

ASTR 2110L. General Astronomy I Laboratory

Course Description

Students learn how to carry out astronomical observations using actual telescopes. Students learn the basics of the celestial sphere, telescope design and characteristics planning observations, astronomical data reduction, how to make measurements from astronomical data, interpreting results, and writing reports. The topics of the lab are aligned with 2110. The level of math is trigonometry and pre-calculus. Three hours lab.

Student Learning Outcomes

At the end of this course, students will be able to…

1. Explain the basics of the celestial sphere
2. Explain the basics of telescope design and their properties.
3. Operate a small telescope.
4. Plan astronomical observations and make measurements from these observations.
5. Quantitatively interpret astronomical measurements and express the results in a written format.

ASTR 2115. General Astronomy II

Course Description

Students will learn about stars, our own Milky Way Galaxy, other galaxies and everything else in the Universe. This course will describe the nature of the Universe starting with stars and working up through star clusters, galaxies, clusters of galaxies and superclusters. Black holes, pulsars, supernovae, dark matter, the expanding Universe and other fascinating astronomical topics will also be explored. We will use math and physics as we explore the Universe. We will practice problem solving skills and discuss the methods and observations on which our understanding is based. The second course of a two-part sequence.

Student Learning Outcomes

1 Estimate the distance to stars, galaxies, and other astrophysical objects.
2. Use physical principles to describe how stars and galaxies form and evolve over time.
3. Explain the nature of the standard Big-Bang cosmological model.
4. Learn and construct physical models of astronomical objects to explain observations.
5. Apply the “scientific method" towards obtaining answers to (new) questions in the study of stars, galaxies and the Universe.

ASTR 2115L. General Astronomy II Laboratory

Course Description

Students learn how to carry out astronomical observations using actual telescopes. Students learn the basics of the celestial sphere, telescope design and characteristics planning observations, astronomical data reduction, how to make measurements from astronomical data, interpreting results, and writing reports. The topics of the lab are aligned with 2115.

Student Learning Outcomes

At the end of this course, students will be able to…

1. Estimate physical properties of planets, asteroids, and stars by means of their thermal emission characteristics.
2. Operate a small telescope similar to the one at the campus observatory.
3. Calculate rise, transit, and set times for any object in the night sky.

4. Demonstrate good measurement skills and application of the scientific method.

ASTR 2996. Topics in Astronomy
Course Description
Varies
Student Learning Outcomes
Varies

Basic Patient Care Skills (BPCS)

BPCS 1092. Basic Patient Care Skills
Course Description
Introduces students to the principles of providing basic patient care including communication, patient safety and infection control with practice in gloving, gowning and sterile procedures. Provides instruction and supervised practice of vital signs, transfer, moving and positioning techniques, protection of airway, Oxygen delivery devices, basic ECG monitoring, drains, tubes, IVs, pumps and other considerations for the hospitalized patient.

1. Demonstrate proper patient transfer, moving and positioning techniques.
2. Perform basic patient care skills during lab with peers while incorporating safety and infection control techniques.
3. Exhibit professional behaviors and effective communication while performing basic patient care skills in the laboratory setting.
4. Demonstrate understanding of principles of basic patient care.

Borderland and Ethnic Studies (BEST)

BEST 1110. Introduction to Borderlands
Course Description
The field of Ethnic Studies is about 1) critical knowing and 2) unapologetic imagining and creation of a better, more just world. This course explores the roots, logics, and administrations of racism within the U.S. context, locally along the border, and framed within a larger global and historical context. The past few decades have borne witness to increasing global diversity and cross- border migrations, which has led many in the U.S. to imagine the nation as “post-racial.” Simultaneously, increasing clashes that can only be described as “racist” have led people to wonder about the dark racist underpinnings of a society that believes it has achieved the goals put forth by the distinct and intersecting Civil Rights Movements of the 1960s.Perhaps now, more than any other time in history, there is earnest desire to talk about race and racism and unpack these constructs/activities/outcomes. This course is designed to inform us about how colonization, racism, and hegemony function. Secondly, it is designed for self and collective exploration of these somewhat broad and abstract concepts in an applied manner. Finally, it is designed for us to arrive at a shared understanding of the decolonial turn, or a re-humanization imperative. How do we understand, apply, and heal as these activities each relate to coloniality of power.
Student Learning Outcomes

1. Learn and understand broad histories of social struggles, social movements, and ensuing human relationships.
2. Meaningfully engage classical and new materials from the Borderlands and Ethnic Studies “canon.”
3. Articulate observations using key terms, theories, and concepts in Borderlands and Ethnic Studies.
4. Apply key concepts in “everyday life” via course activities.

5. Gain a better understanding of your own worldviews and opinions towards issues of race, class, gender, nationalism, migration, borders, social movements, and resistance.
6. Learn mindful and constructive ways to engage peers about sometimes "difficult" topics like race, power, and privilege.

BEST 2750. Palestine Studies; History, Land, Resistance, and Justice.

Course Description

This course is an undergraduate general education "Palestine Studies" course that draws on "interdisciplinary and multidisciplinary". Palestine studies that engage with critical ethnic studies, settler-colonial studies, critical media literacy studies, gender, sexuality, and queer studies, and decolonial Arab feminisms as set of knowledges, methodologies, and practices. It also draws on an array of historical content published by Palestinian and Palestine Studies scholars and Palestinians' lived experiences represented in oral history studies, and cultural creations such as film, visual art, music, etc. and world media.

The course is structured to connect the themes addressed throughout the semester by going back and forth from the critical historical moments in Palestinian history to the ongoing and contemporary Palestinian displacement, resistance, and struggles for freedom, justice, and the right of return to the land of their ancestors.

The course aims to help participants understand how the Zionist form of settler-colonialism in Palestine is interlocked with settler-colonialism as an ongoing practice in the USA and other parts of the world. It also addresses the worldwide influence of settler-colonialism on the lives of colonized/gendered/racialized peoples, land theft and extraction, flow of capital, incarceration/detentions, mobility across borders, militarism and wars, mega sports events, and cultural and knowledge creation.

Student Learning Outcomes

1. Identify key major significant:
   (a) Events in the history of Palestine (historicize) and in the contemporary context inside Palestine and in the diaspora (contextualize).
   (b) Moments of solidarity with other global intersectional liberation struggles against settler colonialism (the indivisibility of justice).
2. Apply key concepts, theories, and approaches/methodologies in Palestinian Studies and Critical Ethnic Studies to critically assess:
   (a) Historical and contemporary consequences on Palestine as indigenous land and Palestinians as indigenous people.
   (b) Settler-colonialism, racism, and heteronormativity in the case of Palestine.
   (c) Implication of Zionist settler-colonialism and global settler-colonial powers' complicities/alliances and logics/tactics that maintain the occupation of Palestine and the displacement, dispossession, and incremental ethnic cleansing of Palestinians and their struggles in the diaspora.
   (d) Material presented by contemporary US media outlets.

Bilingual Education (BLED)

BLED 1110. Introduction with Internship in Bilingual Education/ESL

Course Description

An overview of the American Education system with emphasis on organization, governance, law, demographics, and professional practice. Will include supervised experience in bilingual education/ESL elementary settings for prospective bilingual education/ESL teachers.

Student Learning Outcomes

1. Complete 24-hour field observations in a classroom.
2. Articulate the attributes of an education professional entering the field.
3. Construct an individualized map to teacher licensure in the State of New Mexico.
4. Differentiate and summarize the major educational philosophies and historical events that have influenced the progression of educational practice.

BLED 2110. Introduction to Bilingual and ESL Education

Course Description

This course provides a historical overview of bilingual and ESL education including an emphasis on present trends and practices. Discussions of the aspects of bilingualism at both an individual and a societal level are included.

Student Learning Outcomes

Student Learning Outcomes are related to competencies for teachers adopted by the New Mexico State Board of Education. As a result of this course, students should be able to:

Culture

The bilingual teacher:

1. Develops awareness in the learner of the value of cultural diversity.
2. Prepares and assists students to interact successfully in cross cultural settings.
3. Recognizes and accepts different patterns of child development within and between cultures in order to formulate realistic instructional strategies.
4. Recognizes the similarities and differences between mainstream American and other cultures and the potential conflicts and opportunities they may create for students.
5. Demonstrates knowledge of the effects of culture and socio-economic variables in learning styles.

English Language Development

The bilingual teacher:

6. Demonstrates knowledge of the basic nature of language, language acquisition, language variation, language change, and the relation of language to society and culture.
7. Demonstrates knowledge of the nature of bilingualism and the process of becoming bilingual.

Instructional Methodology

The bilingual teacher:

8. Demonstrates knowledge of the historical, legal, theoretical, and sociological foundations of programs of instruction for second language learners.
9. Demonstrates knowledge of theories of first and second language acquisition.
10. Utilizes teaching methods appropriate to various age and language groups.

BLED 2120. Current Issues in Bilingual Education

Course Description

This course will introduce students to the various areas, programs, terminology, and philosophies of bilingual education.

Student Learning Outcomes

1. To demonstrate knowledge of the historical, legal, theoretical and sociological foundations of programs of instruction for second language learners. Instructional Methodology.
2. To demonstrate knowledge of major national and international models and prototypes of bilingual and English as a second language programs and the components of such programs.
   Instructional Methodology.

3. To demonstrate knowledge of theories of first and second language acquisition by utilizing teaching methods appropriate to different age and language groups. Instructional Methodology.
4. To recognize the importance of parental and community involvement for facilitating the learner's successful integration to his school environment. Community/Parent Involvement 1.
5. To demonstrate a concerned and caring attitude towards parents by establishing a trusting, mutual sharing relationship with parents. Community/Parent Involvement 2.
6. To demonstrate knowledge of the teaching and learning patterns of the students' home environment and incorporate these into the instructional areas of the program. Community/Parent Involvement 3.
7. To demonstrate the ability to involve parents within the classroom environment in teaching, curriculum development, and management and materials development. Community/Parent Involvement 4.
8. To act as a catalyst in enhancing the educational skills of second language speaking parents so that they may better assist their children. Community/Parent Involvement 5.
9. To demonstrate ability to move parents from passive observers to active change agents on behalf of the children's education. Community/Parent Involvement 6.
10. To acquire and use culturally relevant information and materials from the community that serve both for curriculum content and for instructional activities. Community/Parent Involvement 7.

BLED 2130. Multicultural Education

Course Description

This is an education foundations course for Teacher Education, Bilingual Education and English as a Second Language Education students. Students will participate in multicultural classroom practices that are; grounded in the lives of students, critical, anti-racist, pro-justice, participatory, experiential, visionary, academically rigorous, and culturally sensitive.

Student Learning Outcomes

1. The teacher understands the ways of knowing in his/her discipline, how it relates to other disciplinary approaches to inquiry, and the strengths and limitations of each approach in addressing problems, issues, and concerns.
2. The teacher is committed to deepening understanding of his/her own frames of reference (e.g., culture, gender, language, abilities, ways of knowing), the potential biases in these frames, and their impact on expectations for and relationships with learners and their families.
3. The teacher understands how learner diversity can affect communication and knows how to communicate effectively in differing environments.
4. The teacher understands major concepts, assumptions, debates, processes of inquiry, and ways of knowing that are central to the discipline(s) s/he teaches.
5. The teacher recognizes the potential of bias in his/her representation of the discipline and seeks to appropriately address problems of bias.
6. The teacher knows where and how to access resources to build global awareness and understanding, and how to integrate them into the curriculum.
7. The teacher values the input and contributions of families, colleagues, and other professionals in understanding and supporting each learner's development.
8. The teacher brings multiple perspectives to the discussion of content, including attention to learners' personal, family, and community experiences and cultural norms.
9. The teacher realizes that content knowledge is not a fixed body of facts but is complex, culturally situated, and ever evolving. S/he keeps abreast of new ideas and understandings in the field.

BLED 2996. Topics in Bilingual Education

Course Description

Varies

Student Learning Outcomes

Varies

Biochemistry (BIOC)

BIOC 2110. Discovering the Biochemistry Major

Course Description

An engaging course designed to provide you with a foundation in biochemistry concepts, real world applications, and the diverse opportunities that our Biochemistry major present, both in the present and throughout your future career.

Student Learning Outcomes

By the end of this course, students should be able to:

1. Understand fundamental concepts and principles in biochemistry, providing a basis for further exploration in the field.
2. Apply basic biochemistry knowledge to practical situations.
3. Enhance communication skills within the scientific community, with a focus on clarity.
4. Develop basic critical thinking abilities to analyze and make simple interpretations of biochemistry-related information.
5. Explore the Biochemistry major and its numerous opportunities, both in the present and for future career prospects.

Biology (BIOL)

BIOL 1110. General Biology

Course Description

This course introduces non-science majors to basic biological concepts including, but not limited to, the properties of life, biochemistry, cell biology, molecular biology, evolution, biodiversity, and ecology.

Student Learning Outcomes

1. Explain the value of the scientific method as a means for understanding the natural world and for formulating testable predictions.
2. Explain how chemical and physical principles apply to biological processes at the cellular level.
3. Understand basic concepts of cell biology.
4. Understand that all organisms share properties of life as a consequence of their common ancestry.
5. Understand fundamental processes of molecular biology.
6. Understand the mechanisms of evolution, including natural selection, genetic drift, mutations, random mating, and gene flow.
7. Understand the criteria for species status and the mechanisms by which new species arise.
8. Understand methods for inferring phylogenetic relationships and the basis for biological classification.
9. Recognize the value of biological diversity (e.g., bacteria, unicellular eukaryotes, fungi, plants, and animals), conservation of species, and the complexity of ecosystems.
10. Explain the importance of the scientific method for addressing important contemporary biological issues.

BIOL 1110L. General Biology Laboratory

Course Description

This laboratory course for non-science majors compliments the concepts covered in the associated general biology lecture course. Students will learn quantitative skills involved in scientific measurement and data analysis. Students will also perform experiments related to topics such as biochemistry, cell structure and function, molecular biology, evolution, taxonomic classification and phylogeny, biodiversity, and ecology.

Student Learning Outcomes

1. Employ critical thinking skills to judge the validity of information from a scientific perspective.

2. Apply the scientific method to formulate questions and develop testable hypotheses.
3. Analyze information/data and draw conclusions.
4. Operate laboratory equipment correctly and safely to collect relevant and quality data.
5. Utilize mathematical techniques to evaluate and solve scientific problems.
6. Recognize biodiversity in different ecological habitats and communities of organisms.
7. Communicate effectively about scientific ideas and topics.

BIOL 1110C. General Biology Lecture & Laboratory
Course Description
Combination of BIOL 1110 and 1110L.

BIOL 1111. General Biology II
Course Description
General Biology II stresses the origins of life, the diversity of viruses, bacteria, protists, and fungi; the diversity of plants, plant structure and function; animal diversity, animal structure and function; as well as animal behavior, ecology of populations, ecosystems, and environmental concerns. Concurrent enrollment
Student Learning Outcomes
Upon completion of this course, the students should be able to (but not limited to) the following:
Unit One:
1. Describe the scientific name used for classifying organisms and explain its importance.
2. List the 8 taxons used in the taxonomic classification system AND demonstrate its use.
3. Compare and contrast organisms found in the different domains/kingdoms and cite examples.
4. Describe the general structure & replication cycles of viruses.
5. Name the general shapes of bacteria and correlate their cellular structures with their functions.
6. Discuss how bacteria reproduce and the three mechanisms that genetic variations are generated.
7. Explain how prokaryotes differ with respect to acquiring nutrition & needing oxygen.
8. Discuss the environmental importance of prokaryotes.
9. List examples of diseases caused by microbes & discuss methods that are used to control outbreaks.
10. Discuss the basic characteristics of organisms found in the kingdom Protista.
11. Name AND give examples organisms found in the three different groups of Protista.

Unit Two:
12. Discuss the basic characteristics of Fungi.
13. Differentiate fungi based on their spore-producing sexual reproductive structures and give examples of each.
14. Discuss the ecological, economic, and medical importance of fungi.
15. List the basic characteristics of plants.
16. Compare and contrast the life cycles of non-vascular plants, seedless vascular plants, and seed vascular plants.
17. Contrast the following: sporophyte & gametophyte generations, meiosis & fertilization, bryophyte & tracheophyte, and angiosperm & gymnosperms.
18. Discuss the basic differences used to distinguish monocots from dicots (eudicots).
19. List the three major vegetative organs found in plants and state the basic functions of each.
20. Discuss the basic function(s) of the following tissues: ground, vascular, epidermal, & meristem
21. Draw a non-woody dicot root & stem cross-section and label the following: vascular bundle, vascular cylinder, endodermis, epidermis, cortex, pith, xylem, & phloem
22. Draw a monocot root & stem cross-section and label the following: vascular bundle, vascular cylinder, endodermis, epidermis, cortex, pith, xylem, & phloem
23. Draw a cross-section of a young woody stem and label the following: pith, wood, bark, cork, primary xylem & phloem

24. Draw a longitudinal section of a root tip and label the different zones of plant growth.
25. Draw a typical leaf cross-section and label the following: upper and lower epidermis, cuticle, stoma, palisade and spongy mesophyll, vein, xylem, and phloem
26. Briefly explain the mechanism of water transport according to the cohesion-tension model.
27. Briefly explain the flow of phloem according to the pressure-flow model.
28. Define the terms girdling and guttation and denote what process is responsible for each.
29. Draw/label a flower and differentiate between the female and male parts.
30. Distinguish between pollination and fertilization.
31. Differentiate between the seed germination and growth of a monocot and eudicot.

Unit Three:

32. Discuss the general characteristics of animals.
33. Compare the 8 phyla of invertebrate organisms in terms of the following: body plan, symmetry, number of germ tissue layers, level of organization, and presence of coelom.
34. Describe the basic characteristics of the 9 phyla of animals studied and give examples of each.
    6. Define the following terms: protostomes & deuterostomes, open & closed circulatory system, complete vs. incomplete digestive system, radial & bilateral symmetry, cephalization
35. Describe the amniote egg and discuss its importance from an evolutionary standpoint.
36. Discuss how birds are adapted for flight.

Unit Four:

37. State the two body systems that are responsible for controlling behavior.
38. Distinguish between innate and learned behaviors and give examples of each.
39. Discuss social interactions/constructs used to reduce aggression within a society.
40. List examples of the different types of communication and state advantages/disadvantages of each.
41. Define the terms: population, society, community, ecosystem, and biosphere
42. Apply the Competitive Exclusion Principle as it relates to the niche and habitat of organisms.
43. Define mutualism, commensalism, and parasitism. Give examples of each
44. Discuss various defense mechanisms used by prey to avoid predation. Give examples of each.
45. Distinguish between primary & secondary succession and pioneer & climax communities.
46. Contrast the flow of energy versus nutrients through an ecosystem and discuss the role of decomposers.
47. Draw an ecological pyramid and denote which trophic level represents the following: producers (autotrophs), primary consumers (herbivores), secondary consumers (primary carnivores), tertiary consumers (top carnivores)
48. Describe the function of the reservoir, exchange pool, and biotic community in biogeochemical cycles and state three examples.
49. Briefly discuss the cause of the following ecological concerns: eutrophication, acid deposition, global warming, ozone depletion, photochemical smog. and organic chemicals along with possible biological magnification.

Unit Five:

50. List the four basic tissue types found in animals and give a general function of each.
51. Explain the concept of homeostasis and give examples.
52. Distinguish between tissues, organs, and systems.
53. List the systems of the human body, the major organs of each, and the major functions of each.

BIOL 1120. Human Biology

Course Description

This course is an introduction to modern biological concepts with an emphasis on the relevance to humans and their relationships with the environment.

Student Learning Outcomes

1. Explain that biology is a scientific discipline based on observations and experimentations.

2. Explain the process of scientific inquiry and explain how scientific knowledge is discovered and validated.
3. Describe the chemical basis of living organisms and how biomolecules contribute to the structure and function of cells.
4. Develop a basic familiarity with cells and cell organelles.
5. Describe the structure and function of DNA as well as how DNA is used in the production of proteins.
6. Describe the basic principles of genetics and heredity leading to human diversity.
7. Identify the major features of the systems in the human body and understand the anatomy and physiology of them.
8. Describe the roles of the organ systems in maintaining homeostasis.
9. Explain the principles of evolution by means of natural selection explaining the diversity of life.
10. Describe how science and technology have impacted life in particular to society and the environment (e.g. medicine, forensic science, agriculture, ecology, sustainability).

BIOL 1120L. Human Biology Laboratory

Course Description

This course introduces exercises, experiences, and activities exploring biological concepts and theories relevant to humans and their relationship to the environment in a laboratory setting.

Student Learning Outcomes

1. Understand general principles of cell structure and function.
2. Understand general principles of genetics.
3. Understand basic human anatomy and physiology.
4. Communicate scientific information effectively.
5. Demonstrate an understanding of the scientific method.
6. Knowledge of appropriate laboratory skills
7. Apply quantitative reasoning and scientific thinking to real world problems.

BIOL 1120C. Human Biology Lecture and Laboratory

Course Description

Combination of BIOL 1120 and BIOL 1120L.

BIOL 1125. Human Biology

Course Description

Basic scientific principles are applied to understanding the human body and explored in a biology laboratory setting. Students will learn about how the Scientific Method is developing our understanding of major organ systems and how those systems function together. The course will also explore how our concepts of human physiology have changed through years of accumulation of scientific knowledge, how human physiology and evolution has been influenced by environmental changes, and how we influence our environment to maintain homeostasis. Course work will include group activities in the laboratory to see how organ systems work together and the development of a small group project that incorporates the information learned about human biology and how it relates to other aspects of life outside the realm of sciences.

Student Learning Outcomes

Upon completion of this course the student will be able to:

Outcome#1: Describe and apply the scientific method.

Components:

a. Define what it means to be scientific and explain why science is restricted to using the scientific method.
b. Apply the scientific method to a specific situation.
c. Accurately describe the differences between a hypothesis and a scientific theory.
d. Distinguish between science and pseudoscience and provide a comparative example.
e. Design a simple experiment that properly uses the scientific method.

f. Collect data from an experiment and produce a graph that can be used to interpolate and extrapolate information.
g. Discern between reputable and non-reputable sources of scientific information

Outcome #2: Apply basic scientific terminology to the human body
Components:
a. Explain the different levels of organization and provide examples of each level
b. Define basic medical terms used by physicians to describe aspects of human health
c. Apply basic medical terms to the understanding of one's own body

Outcome #3: Explain the roles of macromolecules in the human body
Components:
a. List and define the four biological macromolecules and provide at least one example for each.
b. Explain how nutrient labels of commercial foods relate to the macromolecules
c. Describe how nutrients are used in the body to provide energy

Outcome #4: Explain the basic functions of at least 5 organ systems and how they interact with each other
Components:
a. Describe the organs of systems so they may understand the structural and organizational relationships in the way the systems work
b. Explain at least one way that the systems described can maintain homeostasis in a healthy person

Outcome #5: Explain how human health and activity influence the environment, economy, society and history.
Components:
a. Describe how aspects of human physiology can affect the health and safety of local environments.
b. Explain how the knowledge of human health and physiology has brought about changes in the ways we engage in health practices and develop therapies for disease.
c. Provide examples of how human health has affected the history of a country and how it has resulted in the ways various countries derived their system of governance over time.

BIOL 1129. Anatomy &Physiology for Medical Assistant
Course Description
An introduction to human anatomy (structure) and physiology (function) of the Human body. Includes study of basic chemistry, molecules, cellular, tissues, Organs, organ systems and terminology related to these concepts.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Define and explain anatomy and physiology.
2. Apply and interpret the principle of homeostasis in the human body.
3. Use anatomic directional, regional, and sectional terminology related to the human body.
4. Explain and describe the basic chemical principles of the human body including the structure and function of carbohydrates, lipids, proteins and nucleic acids.
5. Develop a basic familiarity with cells and cell organelles that include cell division, DNA replication, and protein synthesis.
6. Describe the structure and function of the major tissues in the human body.
7. Explain basic structure and function of the organs of the human body.
8. Describe the basic structure and function of the 11 major systems of the human body.

BIOL 1130. Introductory Anatomy & Physiology (non majors)
Course Description

This course introduces the anatomy (structure) and physiology (function) of the human body, which includes the study of basic chemistry, molecules, cells, tissues, organs, organ systems, and terminology related to these concepts.

Student Learning Outcomes

1. Define and explain anatomy and physiology.
2. Use anatomic directional, regional, and sectional terminology related to the human body.
3. Explain and describe the basic chemical principles of the human body including the structure and function of carbohydrates, lipids, proteins and nucleic acids.
4. Develop a basic familiarity with cells and cell organelles that include cell division, DNA replication, and protein synthesis.
5. Describe the structure and function of the major tissues in the human body.
6. Identify and describe the basic anatomical features of the integumentary, skeletal, muscle, nervous, endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems.
7. Describe the basic physiological roles of the integumentary, skeletal, muscle, nervous, endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems.
8. Apply and describe the principles of homeostasis in the human body.

BIOL 1130L. Introductory Anatomy & Physiology Laboratory (non majors)

Course Description

This course introduces laboratory exercises in regards to human anatomy and physiology of the human body. This includes histological study, biochemical processes, mammal organ dissections, and the use of models to illustrate anatomical arrangement.

Student Learning Outcomes

1. Use and apply proper anatomic terms.
2. Develop skills using the microscope correctly.
3. Identify basic tissue types.
4. Discuss and describe the basic anatomical features of the integumentary, skeletal, muscle, nervous, endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems.
5. Demonstrate and describe physiological roles of the integumentary, skeletal, muscle, nervous, endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems.

BIOL 1130C. Introductory Anatomy & Physiology Lecture & Laboratory

Course Description

Combined BIOL 1130 and BIOL 1130L

BIOL 1131. Introduction to Biology & Biomedical Sciences

Course Description

Not Available

Student Learning Outcomes

To explore many facets of the biological and biomedical sciences and to evaluate the relevance of these fields to your lives.

BIOL 1132. Introduction to Climate Studies

Course Description

An introduction to climate science that provides background on Earth's climate system, the scientific principles that govern climate, climate variability, and climate change with the implications for society.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate comprehension of the climate's influence on organisms including humans, ecosystems and societies

2. Quantify and demonstrate understanding of the impact of individuals and society on climate
3. Interpret and critique global climate models used in climate studies
4. Explain how ancient and contemporary ecological systems respond to changing climate.
5. Apply the scientific method to gather, analyze and interpret data.
6. Describe, critique and interpret climate change policy and its impacts.
7. Apply reading and writing skills for the scientific literature and deepen their critical thinking skills.

BIOL 1133C. Introduction to Wildlife and Fisheries Science

Course Description

Lecture: This course is an introduction to the fundamental principles of animal populations, communities and ecosystems, as well as the conservation and management of wild animals and their habitats.
Lab: This laboratory course involves scheduled field visits to local sites of interest in wildlife and fisheries management and/or science. Includes an emphasis on field identification and record keeping.

Student Learning Outcomes

1. Students will demonstrate an understanding of basic wildlife and fishery systems and organization, including habitats and habitat management.
2. Students will display knowledge of ecology and basic population dynamics.
3. Students will exhibit familiarity with the physiology of wildlife and fishes as well as basic animal behavior.
4. Students will demonstrate an understanding of data collection and use in the fields of wildlife and fisheries management.
5. Students will exhibit knowledge of endangered species, wildlife legislation and law enforcement.

BIOL 1135. Introductory Environmental Science

Course Description

This course includes a survey of environmental science and ecology with an introduction to problems of pollution, population, land use, energy, nutrients cycling, agriculture and pest control. Laboratory provides observation and experimentation relating to topics covered in the lecture.

Student Learning Outcomes

1. Demonstrate a knowledge of basic concepts and vocabulary of environmental science.
2. Apply the basic concepts of ecology.
3. Demonstrate an understanding of animal and plant diversity and biogeographic distribution of life on planet Earth.
4. Demonstrate an understanding of the development of environmental science as the concepts of ecology developed.

BIOL 1140. Biology for Health Sciences

Course Description

This introductory biology course for students interested in health science careers focuses on the concepts of chemistry, cell biology, metabolism, genetics, and regulation of gene expression.

Student Learning Outcomes

1. Explain the central ideas and process of biology, including the organization of life, evolution, selection and adaptation, and application of the scientific method.
2. Explain the role of science and critical thinking in society.
3. Apply basic chemistry to the biology of cells.
4. Describe the structures and functions associated with eukaryotic cells and compare/contrast to prokaryotic cells.
5. Describe the components and mechanisms of cellular metabolism.
6. Describe the DNA structure and replication, including mutation and DNA repair.
7. Explain the central dogma of genetic flow; explain gene expression and how it's regulated.
8. Explain the relationships between sexual reproduction, genetic diversity and inheritance.
9. Describe and contrast the processes of mitosis and meiosis.

10. Describe patterns of inheritance and human genetic disorders.
11. Explain homeostasis and identify major tissues, organs and organ systems and their function.

BIOL 1140L. Biology for Health Sciences Laboratory

Course Description

This course is a laboratory that complements the concepts learned in the theory course. Students will learn skills involved in scientific measurement, microscopy, and mathematical analysis. Students will also perform experiments and data analysis related to cell structure and function, chemistry, enzyme activity, and genetics.

Student Learning Outcomes

1. Explain the scientific method and use it develop and test a hypothesis.
2. Analyze and interpret graphical data.
3. Demonstrate use of laboratory equipment to perform scientific measurements.
4. Demonstrate skills used in microscopy.
5. Distinguish between eukaryotic and prokaryotic cells, including their structures and functions.
6. Describe selective permeability of membranes and movement of water and molecules across membranes by diffusion and osmosis.
7. Describe the structure and function of enzymes.
8. Describe the structure of DNA and the flow of genetic material in a cell from DNA to RNA to proteins.
9. Describe the processes of mitosis and meiosis.
10. Predict the inheritance of genetic traits.

BIOL 1140C. Biology for Health Sciences Lecture & Laboratory

Course Description

Combination of BIOL 1140 and BIOL 1140L.

BIOL 1141. A Survey of Anatomy and Physiology for Allied Health

Course Description

Anatomy and Physiology for Allied Health integrates diseases and disorders within each body system to maximize learning. Easy-to-understand language and numerous illustrations make the course ideal for learners in an introductory anatomy and physiology course with little or no science background or learners continuing their education in Allied Health. Highlights and class discussions that emphasize clinical applications help keep the material interesting and new. A review of Medical Terminology in each chapter helps fine tune medical language skills. Infection Control and Standard Precautions chapter emphasizes the importance of maintaining health and safety in the health care work environment. This course approaches the learning of anatomy and physiology through a "Systems Approach" which provides a good, basic understanding of the subject. A&P for Allied Health utilizes case studies, discussions and various other methods to help the student understand the relationship of anatomy and physiology to the patient in the medical setting. This course will also assist the student in developing a better understanding and interest in the medical field.

Student Learning Outcomes

Students will:

1. Analyze the relationship between structure and function within each body system.
2. Demonstrate an understanding of how each system helps to maintain homeostasis.
3. Build an anatomical/physiological vocabulary that is essential to success in this course and in future careers in healthcare.
4. Demonstrate an understanding of human development and apply that knowledge to the healthcare setting.
5. Apply the scientific method when thinking and learning about human anatomy and physiology.

BIOL 1150. Biodiversity

Course Description
Biodiversity is the variety of life on earth. There are 2-10 million species on earth, but this number surely is vastly underestimated. Moreover, 99% of all species that ever existed are extinct. This course provides a broad survey of biodiversity-past, present, and future-with an emphasis on major groups in the tree of life (e.g., insects, plants, vertebrates, fungi, bacteria, etc.) and how humans interact with earth's biodiversity. We will explore biodiversity as it relates to earth history, mass extinctions, conservation, economics, ecology, evolution, and human society. We will also explore ways in which we categorize biodiversity (taxonomy and systematics) and catalog it for study (museums).
Student Learning Outcomes
Students who successfully complete this course will be able to:

1. Identify broad measures of biodiversity, including what is a species and how many exist on Earth.
2. Identify the major groups in the tree of life (e.g., Archaea, Bacteria, Eukaryotes), as well as key groups such as vertebrates, arthropods, plants, fungi, etc.
3. Summarize biodiversity patterns through space and time. Explain the major patterns of biodiversity throughout earth's main biogeographic regions and provide examples from the fossil record of how biodiversity has changed throughout evolutionary time (e.g., mass extinctions; birds are dinosaurs, mammalian ancestors, etc.).
4. Understand the importance and interaction of humans and biodiversity as they relate to economics, conservation, extinction, infectious disease, etc.

BIOL 1165. Forest Management and Conservation
Course Description
Conservation work related to forestry, fire ecology, environmental policy, and wildlife management. The course utilizes hands-on opportunities through service work and mentorship from professionals in the aforementioned fields to give participants a well-rounded introduction to natural resource management
Student Learning Outcomes

1. Conduct ecological monitoring protocols used to assess forest condition.
2. Describe the relationship between forests, watersheds, and wildfire in the Southwest.
3. Explain the difference between federal, state, and private land management.
4. Describe various methods for restoring wildlife habitat.

BIOL 1170. Conservation Biology in a Changing World
Course Description
This course provides an initial foundation in the concepts for the Conservation Biology problems faced in today's world. There will be strong emphasis on ecological processes and how human activity affect them with an emphasis on the conservation of biodiversity, beyond sustainability as well as in the different way that environmental problems affect different people from different ethnic groups and different social classes. The course also addresses the economic and political issues affecting biodiversity in the planet both at the macro as well as at the individual level. It will be taught with either a service learning or research component and seeks to produce informed citizens that are able to affect positive change in helping stop threats to biodiversity within the framework of environmental justice and social inclusion. This is an entry level course available for any interested student. It addresses competencies of critical thinking, quantitative skills, and personal responsibility.
Student Learning Outcomes
With the skill acquired in this course students will:

1. Be able to explain how human activities affect ecological processes at the different levels and its implications for conservation.
2. Be able to apply the scientific method to explain the main threats for biodiversity in the planet.

3. Be able to interpret a dataset from scientific studies about conservation issues and draw conclusions regarding the cause of the problem based on the data presented.
4. Be able to explain how human activities affect biodiversity in the planet and rank development practices and policies from more to less hazardous.
5. Be able to explain how different ethnic and socioeconomic groups are differently affected by environmental problems such as pollution, environmental degradation, and access to needed resources.
6. Students also need to be able use basic forms of measurement and instrumentation commonly employed in biological studies, analyze data for the solution of conservation and communicate biological concepts using proper scientific terminology.

BIOL 1190. Contemporary Problems in Biology

Course Description

Fundamental concepts of biology will be presented using examples from relevant problems in ecology, medicine and genetics.

Student Learning Outcomes

1. Identify the unity and diversity of living things.
2. Identify the structure and function of cells and biological molecules.
3. Recognize and demonstrate patterns of inheritance.
4. Describe mechanisms of evolution.
5. Describe the human body systems including immune response.
6. Discuss population dynamics and ecological systems.
7. Describe the process of scientific inquiry, solve problems scientifically, and communicate on a scientific level.
8. Apply quantitative analysis and scientific thinking to scientific and real-world problems.

BIOL 1215. Biology for Environmental Sciences

Course Description

An introduction to ecology, current environmental problems and control measures. Emphasis on human impact, modern technology, natural ecosystems, social, political, and economic processes. The student will have the knowledge to become environmentally responsible and contribute to the quality of human life. This course is intended for non-biology majors in their first year (100 level) of their college career.

Student Learning Outcomes

After successfully completing this course, the student should be able to:

1. Explain the importance of environmental sciences in every day's life.
2. Recount historic events that shaped the environmental sciences placing them in the socioeconomic and political context.
3. Explain the relationship among the different components of the ecosystem.
4. Explain and apply the scientific method in case studies or new situations of scientific enquire.
5. Describe the influence of chemistry in the functioning of life and ecosystems.
6. Explain what factors affect population dynamics.
7. Explain species interactions and community dynamics.
8. Explain biogeochemical cycles and how they affect life.
9. Describe energy cycles and its relevance on the ecosystem.
10. Compare and contrast energy sources for human activities in terms of their impact on their environment.
11. Explain how human activities affect water and air quality and how they affect life of humans and other organisms.

BIOL 1215L. Biology for Environmental Sciences Lab

Course Description

This course investigates relevant environmental science principles with emphasized analysis of water, soil, and air pollutants. Part of the course requires potential field trips and dissection.

Student Learning Outcomes

1. Apply the scientific method to ecological problems by generating observations in the laboratory and field, formulating hypotheses based on observations, and test these hypotheses.
2. Use techniques and methods similar to those used by professional ecologists to collect data in the field and in the laboratory.
3. Formulate an ecological profile of habitats, including characteristics.
4. Identify impacts of man as they relate to ecological value, such as prediction of the susceptibility to stress.
5. Identify and apply the principles of population ecology with respect to species in general and the human population in particular.
6. Perform and interpret basic ecological tests related to environmental quality.
7. Identify species through the use of dichotomous keys.
8. Recognize major ecosystem types in the field.

BIOL 1310. Introduction to Human Anatomy and Physiology I

Course Description

This introductory course is the first of two that covers the anatomy (structure) and physiology (function) of the human body, which includes the study of basic chemistry, molecules, cells, tissues, organs, organ systems, and terminology related to these concepts. Systems covered in this course include the integumentary, skeletal, muscle and nervous systems.

Student Learning Outcomes

1. Define and explain anatomy and physiology.
2. Use anatomic directional, regional, and sectional terminology related to the human body.
3. Explain and describe the basic chemical principles of the human body including the structure and function of carbohydrates, lipids, proteins and nucleic acids.
4. Develop a basic familiarity with cells and cell organelles that include cell division, DNA replication, and protein synthesis.
5. Describe the structure and function of the major tissues in the human body.
6. Identify and describe the basic anatomical features of the integumentary, skeletal, muscle, nervous systems
7. Describe the basic physiological roles of the integumentary, skeletal, muscle, nervous,
8. Apply and describe the physiological roles of the above-mentioned system in maintaining homeostasis in the human body.

BIOL 1310L. Introduction to Human Anatomy and Physiology I Laboratory

Course Description

This course is the first of two that introduces laboratory exercises in regard to human anatomy and physiology of the human body. This includes histological study, biochemical processes, mammal organ dissections, and the use of models to illustrate anatomical arrangement.

Student Learning Outcomes

1. Use and apply proper anatomic terms 2. Develop skills using the microscope correctly.
2. Identify basic tissue types.
3. Discuss and describe the basic anatomical features of the integumentary, skeletal, muscle, nervous.
4. Demonstrate and describe the physiological roles of the integumentary, skeletal, muscle, nervous.

BIOL 1310C. Introduction to Human Anatomy and Physiology I Lecture & Laboratory

Combination of BIOL 1310 and BIOL 1310L.

BIOL 1320. Introduction to Human Anatomy and Physiology II

Course Description

This introductory course is the second of two that covers the anatomy (structure) and physiology (function) of the human body including the endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems as well as terminology related to these topics.

Student Learning Objectives:

1. Identify and describe the basic anatomical features of the endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems.
2. Describe the basic physiological roles of the endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems.
3. Apply and describe the physiological roles of the above-mentioned system in maintaining homeostasis in the human body.

BIOL 1320L. Introduction to Human Anatomy and Physiology II Laboratory

Course Description

This course is the second of two that introduces laboratory exercises in regards to human anatomy and physiology of the human body. This includes histological study, biochemical processes, mammal organ dissections, and the use of models to illustrate anatomical arrangement.

Student Learning Outcomes

1. Use and apply proper anatomic terms.
2. Develop skills using the microscope correctly.
3. Identify basic tissue types.
4. Discuss and describe the basic anatomical features of the endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems.
5. Demonstrate and describe physiological roles of the endocrine, cardiovascular, lymphatic, digestive, respiratory, urinary and reproductive systems.

BIOL 1320C. Introduction to Human Anatomy and Physiology II Lecture and Laboratory

Course Description

Not Available

Student Learning Outcomes

Not Available

BIOL 1411. Genetics

Course Description

This course introduces the student to the basics of Genetics and heredity, and proceeds with an in-depth examination of genetic diseases, population Genetics, stem cell research and genetic engineering. Each topic will be accompanied by extensive lab work, experiments, semester projects and writing assignments with the aim to teach the student the methods of scientific writing.

Student Learning Outcomes

1. The student will identify and describe Mendelian Patterns of Inheritance by scoring 70% or higher on graded laboratory exercises.
2. The student will explain the molecular basis of Genetics by scoring 70% or higher on a faculty prepared examination.
3. The student will assess the frequency of genetic diseases and their distribution among various parts of a population.
4. The student will demonstrate the ability to perform various laboratory techniques used in the field of Genetics by submitting laboratory protocols and documentation of results.

5. The student will describe the general concepts of stem cell research and summarize its implications in the fields of Genetics, phylogeny, and medicine.

BIOL 1625. Introduction to Ecology and Field Biology

Course Description

This field course is an introduction to the concepts and techniques used in ecology and field biology. Topics include classification of ecosystems, population ecology, general environmental measurements, communities and field techniques for sampling populations and measuring productivity and community structures.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Apply basic ecological principles as applied to field biology.
2. Employ a number of basic ecological field sampling and measurement techniques.
3. Recognize the major habitat types present in northern New Mexico.
4. Use dichotomous key with proficiency to identify flora and fauna.

BIOL 1650. Wildlife Biology

Course Description

This course introduces the diversity of life on earth, evolutionary processes and fundamental principles of animal populations, communities and ecosystems. GIS-based conservation and management of wild animals will be emphasized.

Student Learning Outcomes

1. Understand the concepts, theories, facts, and principles related to fisheries, wildlife, and conservation biology, as well as their perspectives and associated values.
2. Develop the ability to draw reasonable inferences from observations and to distinguish between fact and opinion.
3. Improve communication skills through short writing assignments.
4. Be knowledgeable of many fundamental biological concepts and principles that govern wildlife biology and fisheries.
5. Be able to identify several common species of New Mexico wildlife by sight.
6. Appreciate the diversity of life and understand the objectives and principles of biological conservation.

BIOL 1650L. Wildlife Biology Laboratory

Course Description

Students will gain practical experience and hands-on application of the common techniques used in wildlife and fisheries sciences. This will be accomplished through the completion of exercises, discussions, and student presentations. The field of wildlife and fisheries is becoming more and more quantitative. Therefore, students will learn how to transform the data collected in the field to the Excel®® format. Students will also get familiar with manipulating Google Earth and Geographic Information System and its use in wildlife sciences.

Student Learning Outcomes

Not Available

BIOL 1996. Biology Topics

Course Description

Introductory level coverage of biological topics.

Student Learning Outcomes

Varies

BIOL 1997. Biology Independent Study

Course Description

Introductory level coverage of biological topics.

Student Learning Outcomes
Varies

BIOL 2101. Principles of Biology: Molecules to Cells
Course Description
Biology 2101 covers fundamental principles in molecular cellular biology and molecular genetics. Emphasis is placed on biological molecule structure and function, cell structure, metabolism, gene function and gene expression. This is one of three core courses serving as pre-requisites for all upper division courses in Biology.
Student Learning Outcomes

1. Demonstrate a coherent understanding of the necessity and molecular utility of carbon and water for the development and sustenance of life.
2. Demonstrate a coherent understanding of the structure and function of common macromolecules including lipids, carbohydrates, nucleic acids, and proteins.
3. Demonstrate a coherent understanding of the structure and function of prokaryotic v eukaryotic cells.
4. Demonstrate a coherent understanding of the cell cycle, mitosis, and meiosis.
5. Demonstrate a coherent understanding of DNA replication in prokaryotic and eukaryotic life.
6. Demonstrate a coherent understanding of energy and enzyme function in the cell.
7. Demonstrate a coherent understanding of cellular respiration.
8. Demonstrate a coherent understanding of photosynthesis.
9. Demonstrate a coherent understanding of intercellular and intracellular communication.
10 .Demonstrate a coherent understanding of genes, alleles, and Mendelian genetics.
11. Demonstrate a coherent understanding of gene expression, mRNA processing, and tRNA.
12. Demonstrate a coherent understanding of regulation of gene expression in prokaryotic and eukaryotic life.
13. Demonstrate a coherent understanding of the diversity of single-celled life.
14. Demonstrate a coherent understanding of special topics in Molecules to Cells (Epigenetics, Aging, Medical Genetics, Cancer Biology)

BIOL 2102. Principles of Biology: Organisms to Ecosystems
Course Description
Biology 2102, one of the three courses that serve as prerequisites for all upper division courses in Biology, covers three major areas of Biology: 1) the fundamentals of evolution required to understand the origin of the diverse array of organisms observed in nature, 2) the diversity of structures and functions that have evolved to solve fundamental problems in organismal biology, and 3) the principles and characteristics of population, community, and ecosystem ecology.
Student Learning Outcomes:
Students who complete this course will be able to demonstrate a coherent understanding of:

1. Evolution by natural selection and the process of species formation.
2. Topological representation of species diversification through time (phylogenetic tree-thinking).
3. The relationship between tissues, organs, and organ systems from a structural, functional, and evolutionary perspective.
4. How multicellular organisms obtain energy from their environment.
5. Resource distribution in multicellular organisms.
6. How organisms sense and respond to environmental stimuli.
7. The variation in reproductive cycles across multicellular organisms.
8. The hierarchical organization of ecology from organisms to the biosphere.
9. How population growth is measured and how it is influenced by demography and life history.

10. The diversity and dynamics of species interactions and food webs.
11. How abiotic factors influence the diversity and distribution of biomes.
12. How human activities have impacted ecosystem function, ecosystem services, biodiversity, and biogeochemical cycles.

BIOL 2103L. Principles of Biology: Introductory Laboratory

Course Description:

The Biology Introductory Series introduces undergraduate students to the breadth of topics investigated in the field of biology. This laboratory course trains students in basic laboratory practices commonly used in a variety of fields in biology.

Student Learning Outcomes:

Student Learning Outcomes (required): Students who complete BIOL 2103L will be able to:

1. Demonstrate a knowledge of the scientific method and its application and effectively communicate scientific results in written and oral formats.
2. Demonstrate an ability to formulate biological hypothesis statements and corresponding statistical hypotheses about student laboratory exercises.
3. Demonstrate an ability to collect, organize, and graphically represent experimental data (including measurements of sample error) using spreadsheets and R.
4. Demonstrate an ability to calculate and summarize student-collected data using basic summary statistics including the mean, the median, variance, and standard deviation.
5. Demonstrate an ability to apply and interpret frequentist hypothesis testing using Student's one-tailed and two-tailed t-tests to draw conclusions about student-collected data.
6. Demonstrate an ability to apply and interpret the coefficient of determination in regression analysis of student-collected data.
7. Demonstrate the proper use of sources, bibliographic references, and citations in student writing.
8. Demonstrate proper use and care of common laboratory equipment in biology including compound microscopes, dissecting microscopes, calipers, micropipettes, and spectrometers.
9. Demonstrate proper sterile techniques in the laboratory environment.
10. Characterize the cellular morphology of Bacteria, Archaea, and Eukarya and explain the non-treelike relationships between the domains of life.

BIOL 2110. Principles of Biology: Cellular and Molecular Biology

Course Description

This course introduces students to major topics in general biology. This course focuses on the principles of structure and function of living things at the molecular, cellular and organismic levels of organization. Major topics included are introduction to the scientific process, chemistry of cells, organization of cells, cellular respiration, photosynthesis, cell division, DNA replication, transcription, and translation.

Student Learning Outcomes

1. Apply the scientific method to develop and evaluate hypotheses and propose an experiment to test a scientific hypothesis related to cell biology and molecular biology.
2. Describe the distinguishing characteristics of various biological molecules (water, carbohydrates, lipids, proteins, and nucleic acids). (HED Area 3, Competency 3)
3. Compare and contrast the basic features of cells and how prokaryotic cells differ from eukaryotic cells. (HED Area 3, Competency 3)
4. Understand how organisms maintain homeostasis in a dynamic environment.
5. Describe how biological molecules are acquired and how they are subsequently used to meet the metabolic needs of organisms. (HED Area 3, Competency 3)

6. Describe membrane structure and function.
7. Describe and analyze the nature of bioenergetic transformations and metabolism within the cell.
8. Describe the processes of cellular respiration and photosynthesis.
9. Analyze with specific detail the processes of DNA replication, transcription, and translation.
10. Analyze with specific detail the types, mechanisms, and regulation of cellular division.
11. Assess important applications of cell and molecular biology to energy use, medicine, and other day-to-day processes. (HED Area 3, Competency 1,3,4,5)

BIOL 2110L. Principles of Biology: Cellular and Molecular Lab
Course Description
This course introduces students to major topics in general biology. This course focuses on the principles of structure and function of living things at the molecular, cellular and organismic levels of organization. Major topics included are introduction to the scientific process, chemistry of cells, organization of cells, cellular respiration, photosynthesis, cell division, genetics, DNA replication, transcription, and translation.
Student Learning Outcomes
1. Describe and apply the scientific method to solve problems in biological context.
2. Demonstrate knowledge of laboratory safety skills and procedures.
3. Practice principles of scientific method while conducting laboratory activities and experiments.
4. Perform laboratory activities using relevant laboratory equipment, chemical reagents, and supplies to observe biological specimens, to measure variables, and to design and conduct experiments.
5. Operate light microscopes, prepare wet mount slides, and use stains.
6. Exhibit ability to use pipettes and other volumetric measuring devices, chemical glassware, balances, pH meters or test papers, spectrophotometers, and separation techniques, such as chromatography and/or electrophoresis to perform activities relevant to other course competencies.
7. Analyze and report data generated during laboratory activities and experiments.

BIOL 2110C. Principles of Biology: Cellular and Molecular Lecture & Lab
Course Description
Combination of BIOL 2110 and 2110L.

BIOL 2110R. Principles of Biology: Cellular and Molecular Recitation
Course Description
This course introduces students to the principles of biology with an emphasis on the structure, physiology, bioenergetics, cell division, and gene expression of microbe, plant, and animal cells. The recitation section focuses on problem solving and discussion. This course focuses on the principles of structure and function of living things at the molecular, cellular and organismic levels of organization. Major topics included are introduction to the scientific process, chemistry of cells, diversity of organic molecules and macromolecules, organization of cells, cellular respiration, photosynthesis, cell division, DNA replication, and protein synthesis.
Student Learning Outcomes
1. Describe the distinguishing characteristics of various biological molecules (water, carbohydrates, lipids, proteins, and nucleic acids). (HED Area 3, Competency 3).
2. Compare and contrast the basic features of cells and how prokaryotic cells differ from eukaryotic cells. (HED Area 3, Competency 3).
3. Interpret scientific data, formulate a scientific hypothesis, and propose an experiment to test a scientific hypothesis. (HED Area 3, Competency 1,2,4,5).
4. Assess important applications of cell and molecular to energy use, medicine, and other day-to-day processes. (HED Area 3, Competency 1,3,4,5).

5. Understand that organisms need to coordinate cellular activities and that such coordination is achieved through complex mechanisms of intracellular communication. (HED Area 3, Competency 1,3,4,5).
6. Describe how biological molecules are acquired and how they are subsequently used to meet the metabolic needs of organisms. (HED Area 3, Competency 3).
7. Use effectively metric conversions & significant digits.
8. Verbally present a summary of a scientific paper or problem.

BIOL 2120. Cellular & Molecular Biology

Course Description

This course takes a detailed look at the principles of cellular biology with an emphasis on the structure, physiology, bioenergetics, cell division, and gene expression of microbe, plant, and animal cells. Major topics include the diversity of organic molecules and macromolecules, metabolism, cellular respiration, photosynthesis, cell division, DNA replication, and protein synthesis. Major modern research tools will also be explored. This course is intended for science majors.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to analyze with specific detail the…

1. Structure and function in prokaryotic and eukaryotic cells.
2. Major macromolecules basic structure and uses.
3. Membrane structure and function and its roles in intra and inter cellular communication and cellular function.
4. Nature of bioenergetic transformations and metabolism within the cell.
5. Cellular respiration and photosynthesis.
6. Mechanism and regulation of cellular division.
7. DNA replication.
8. Relationship between genetic information and protein structure.
9. To interpret scientific data, formulate a scientific hypothesis, and propose an experiment to test a scientific hypothesis.

BIOL 2120L. Cellular & Molecular Biology Laboratory

Course Description

This course introduces the scientific method, with an emphasis on cellular structures and functions, and physiology. Laboratory demonstrations, experiments and exercises on molecular and cellular biology and organismal physiology.

Student Learning Outcomes

1. Understand the scientific method and how to use it to make hypotheses about cell processes.
2. Communicate scientific information and apply quantitative analysis of the scientific problems.
3. Apply scientific thinking to real world problems and be able to communicate those concepts through oral presentations.
4. Learn cell biology techniques that are widely used in modern research laboratories.
5. Be able to use different microscopes correctly and safely.

BIOL 2120C. Cellular & Molecular Biology Lecture & Laboratory

Combination of BIOL 2120 and BIOL 2120L.

BIOL 2121. Cellular & Organismal Biology

Course Description

This course introduces cellular structure and function, genetics, and physiology of microbes, plants, and animals.

Student Learning Outcomes

1. Understand the scientific method and use scientific literature to successfully research a project.

2. Characterize the major properties of water, pH, buffers, chemical bonds, energy thermodynamics, enzymes, and structure of molecules and their importance in biological systems.
3. Analyze the chemical structure and characteristics of carbohydrates, lipids, nucleic acids, and proteins.
4. Describe the cell cycle, including mitosis and meiosis.
5. Describe the structure and function of prokaryotic cells and eukaryotic cells.
6. Analyze the principles of heredity.
7. Describe and compare the processes of cellular respiration and photosynthesis, and explain their importance to life on Earth.
8. Characterize the processes of absorption, transpiration and related physiological processes in plants and animals.

BIOL 2121L. Cellular & Organismal Biology Lab

Course Description

This course introduces the scientific method, with an emphasis on cellular structures and functions, and physiology. Laboratory demonstrations, experiments and exercises on molecular and cellular biology and organismal physiology.

Student Learning Outcomes

1. Understand the scientific method and how to use it to make hypotheses about cell processes.
2. Communicate scientific information and apply quantitative analysis of the scientific problems.
3. Apply scientific thinking to real world problems and be able to communicate those concepts through oral presentations.
4. Learn cell biology techniques that are widely used in modern research laboratories.
5. Be able to use different microscopes correctly and safely.

BIOL 2130. Introduction to Biochemistry

Course Description

This course provides a foundation for the general functioning of biochemical processes. Includes the fundamental concepts such as atomic and molecular structure, bonding, and pH to facilitate understanding of the biochemistry of life. The structure and reaction mechanisms of the four biological macromolecules - proteins, nucleic acids, carbohydrates, and lipids. The class covers the basic strategies for biochemical pathway regulation, the chemistry regulation of energy metabolism, and the molecular basis of genetic information transfer.

Student Learning Outcomes:

1. Understand the following fundamental chemistry concepts as they relate to biology and biochemistry, electron structure, bonding and intermolecular forces, molecular shapes, acids, bases, pH, and molar measurement.
2. Describe the structure and function of amino acids, polypeptides, and the multiple levels of protein structure, the relationship between protein structure and their function, and their in biological and physiological processes.
3. Describe the mechanism of enzymatic reactions and their importance in biological process.
4. Understand the basic structure of the different carbohydrates and their biosynthesis, and role in biological and physiological process.
5. Describe the structure, biosynthesis, and function of lipids in physiology of the cell and the organism, including fatty acids phospholipids and their role in membrane formation and function.
6. Identify and describe different biochemical reactions central to anabolic and catabolic pathways with emphasis on photosynthesis and respiration.
7. Describe the biosynthesis of the nucleotides, as well as the structure and function of nucleic acids; and explain the mechanisms of DNA replication, damage, and repair.

BIOL 2141. Phage Discovery

Course Description:

Course-based research lab for entry level students focuses on isolation and characterization of novel bacteriophages from the environment.

Student Learning Outcomes:

1. Cultivate Bacteria and bacteriophages using standard microbiological techniques.
2. Determine appropriate controls for an experimental design.
3. Communicate scientific results in an appropriate audience manner.
4. Demonstrate proficiency in lab techniques.
5. Effectively communicate scientific information.

BIOL 2142. Phage Genome Annotation

Course Description:

Course-based computer research for entry level students focuses on assignment of gene function of a bacteriophage genome sequence. Prerequisite: BIOL 2XXX or permission of instructor.

Student Learning Outcomes:

1. Determine likeliest open reading frame in a DNA sequence.
2. Assign a function to a protein-coding sequence in a genome.
3. Communicate scientific results in an audience-appropriate manner.

BIOL 2151. Medical Imaging Anatomy and Physiology I

Course Description:

This is the first in a series of two courses that explore human anatomy and physiology for the student entering medical imaging programs. It is a combined course that includes both lecture theory and lab practices. Basic chemistry and biology concepts are covered along with what it means to be a scientist. An in-depth examination of 1) How organs are distributed within the human body, 2) Bone physiology and anatomy, and 3) Nervous System physiology and anatomy are covered. In addition, students learn the basics of the integumentary and muscular systems.

Student Learning Outcomes

1. Explain processes of biology, including an exploration of the scientific method.
2. Apply basic chemistry to the biology of cells.
3. Describe the structures and functions associated with eukaryotic cells.
4. Describe DNA structure.
5. Explain the central dogma of gene expression.
6. Apply mechanisms of cellular metabolism to how muscles function in the body.
7. Describe mitosis and meiosis.
8. Explain homeostasis and identify tissues, organs, and organ systems along with their functions.
9. Describe and apply anatomical terminology.
10. Describe structure and function of integumentary, skeletal, muscular, nervous system, and special senses.
11. Apply learned knowledge of organ anatomy, skeletal system, and nervous system to solve case studies using medical images that include x-rays, MRIs, ultrasound, and EEGs.

BIOL 2161. Medical Imaging Anatomy and Physiology II

Course Description

This is the second in a series of two courses that explore human anatomy and physiology for the student entering medical imaging program. It is a combined course that includes both lecture theory and lab practices. An in-depth examination of 1) Cardiovascular Physiology and Anatomy, 2) Digestive Tract, Endocrinology, and Urinary System including fluid dynamics and 3) Reproductive Systems with a focus on pregnancy are covered. In addition, students learn the basics of the Respiratory System and heredity.

Student Learning Outcomes

1. Describe and identify chemistry concepts while applying the autonomic nervous system to understanding homeostasis of organ systems.
2. Explain how fluid and electrolyte balance is maintained by the human body.
3. Describe the structure and function of the endocrine, cardiovascular, respiratory, digestive, urinary, and reproductive systems.
4. Apply learned knowledge of cardiovascular, digestive, urinary, endocrine, and reproductive systems to solve case studies using medical images that include x-rays, MRIs, ultrasound, and EEGs.
5. Describe pregnancy from conception to parturition including human growth and development from zygote to newborn.

BIOL 2210 Human Anatomy & Physiology I

Course Description

This course is the first of two that serve as an introduction to human anatomy and physiology for biology majors and allied health students. The course entails describing, explaining, and analyzing structure and function from the submicroscopic to the organismal level with emphasis on anatomic, directional, and sectional terminology, basic cellular structure and metabolism, tissue differentiation and characteristics, and organ system structure and function; specifically the integumentary, skeletal, muscular, and nervous systems.

Student Learning Outcomes

1. Describe and apply anatomical terminology.
2. Describe multicellular organization.
3. Distinguish and describe major tissue types.
4. Describe the structure and function of the integumentary system.
5. Describe the structure and function of the skeletal system.
6. Describe the structure and function of the muscular system.
7. Describe the structure and function of the nervous system.
8. Describe the structure and function of the special senses.
9. Define homeostasis and describe specific examples for the integumentary, skeletal, muscular, and nervous systems.

BIOL 2210L. Human Anatomy and Physiology I Laboratory

Course Description

This is the first in a series of two laboratory courses designed to introduce laboratory practices and techniques for human anatomy and physiology, from the basic cell structure through the organ system level; specifically the integumentary, skeletal, muscle, and nervous systems.

Student Learning Outcomes

1. Apply the scientific method correctly.
2. Collect, analyze, and interpret scientific data.
3. Use laboratory equipment, such as a microscope, correctly and safely.

4. Analyze the structure of cells, cell membranes, and cell organelles with respect to their respective physiological roles.
5. Identify the anatomical components of human tissues, organs, and organ systems using prepared microscope slides, models, diagrams, illustrations, or cadaver specimens.
6. Describe the functional characteristics of human tissues, organs, and organ systems using prepared microscope slides, models, diagrams, illustrations, or cadaver specimens.
7. Analyze the physiological processes of the integumentary, skeletal, muscle, and nervous systems.

BIOL 2210C. Human Anatomy and Physiology I Lecture & Laboratory
Course Description
Combined BIOL 2210 and BIOL 2210L

BIOL 2215. Comparative Vertebrate Anatomy
Course Description
This course presents an introduction to the anatomy of vertebrate animals. Students will explore the basic structure and functions of vertebrates including the skeleton, musculature and physiological systems. Laboratory exercises will emphasize the skeleton of mammals including humans, birds, and reptiles using real specimens and will include examination of fossil vertebrates and virtual dissections on computers.
Student Learning Outcomes
1. The student will understand the basic structure and phylogenetic interpretation of structures of vertebrates as demonstrated by 70% of the students scoring 70% or higher in a faculty prepared examination.
2. The student will understand the functional interpretation of vertebrate structures as demonstrated by 70% of the students scoring 70% or higher in a faculty prepared examination.
3. The student will understand the basic structure of a selected vertebrate animal or group of animals as demonstrated by 70% of the students completing a capstone project that is scored by the instructor with a grade of 80% or better.

BIOL 2221. Human Physiology
Course Description
Human physiology is the science of the mechanical, physical, and biochemical functions of humans, their organs, and the cells of which they are composed. The study of physiology dates back to the time of Hippocrates (the father of medicine) and has seen major advances since the implementation of the scientific method and experimental approaches to probe function at the levels of genes to organ systems.
This course is designed to introduce students to fundamental mechanisms by which humans function and to integrate and apply this information to solve case studies. Original scientific articles will be incorporated into lectures and homework assignments to discuss how experimentation is used to test the function of organ systems, organs, cells, and molecules that carry out the chemical and physical functions in the human body.
Student Learning Outcomes
1. Understand the central physiological principle of homeostasis.
2. Be able to explain why concentration gradients are essential to maintain homeostasis.
3. Understand the regulation of homeostasis by neuronal / endocrine chemical messengers.
4. Understand that changes in bodily function occur throughout the entire life span of the human animal.
5. Incorporate the importance of evolutionary biology to your understanding of human disease.
6. Teach a physiological concept to your classmates.
7. Design experiments to test physiological concepts.
8. Put in plain words how the laws of thermodynamics can explain human disease..

BIOL 2225. Human Anatomy and Physiology II

Course Description
This course is the second of two that serve as an introduction to human anatomy and physiology for biology majors and allied health students. The course entails describing, explaining, and analyzing structure and function from the submicroscopic to the organismal level with emphasis on specific cellular, tissue, and organ structure and physiology, and organ system structure and function; specifically the endocrine, cardiovascular, respiratory, urinary, and reproductive systems. Additionally, an analysis of these concepts is included: fluid and electrolyte balance, pregnancy, growth and development from zygote to newborn, and heredity.

Student Learning Outcomes

1. Identify and describe the major anatomical features of the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems.
2. Analyze the physiological roles of the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems in maintaining homeostasis in the human body.
3. Explain how fluid and electrolyte balance is maintained in the human body.
4. Compare and contrast the anatomy and physiology of male and female reproductive systems.
5. Describe pregnancy from conception to parturition including human growth and development from zygote to newborn.
6. Explain heredity and genetic control.

BIOL 2225L. Human Anatomy and Physiology II Laboratory

Course Description
This is the second in a series of two laboratory courses designed to introduce laboratory practices and techniques for human anatomy and physiology, from the basic cell structure through the organ system level; specifically the endocrine, cardiovascular, lymphatic, respiratory, urinary, and reproductive systems.

Student Learning Outcomes

1. Apply the scientific method correctly.
2. Collect, analyze, and interpret scientific data.
3. Use laboratory equipment, such as a microscope, correctly and safely.
4. Identify the anatomical components of human tissues, organs, and organ systems using prepared microscope slides, models, diagrams, illustrations, or cadaver specimens.
5. Describe the functional characteristics of human tissues, organs, and organ systems using prepared microscope slides, models, diagrams, illustrations, or cadaver specimens.
6. Analyze the physiological processes of the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems.
7. Analyze the physiological processes of fluid and electrolyte balance and acid base balance in the human body.
8. Analyze heredity and genetic control.

BIOL 2225C. Human Anatomy and Physiology II Lecture & Laboratory

Course Description
Combined BIOL 2225 and BIOL 2225L

BIOL 2305. Microbiology for Health Sciences

Course Description
This course introduces the basic principles of microbial structure, genetics, and physiology, virology, parasitology, disease, pathogenicity, epidemiology and immunology. Only some emphasis is given to basic biological principles. The course is designed for those obtaining a career in the health sciences.

Student Learning Outcomes

1. Apply critical thinking and the information learned to problems encounter in health-related professions.

2. Have a basic understanding of cell structure for different types of bacteria.
3. Understand the metabolic mechanisms of prokaryotes and the use of these in classification systems.
4. Understand the genetic mechanisms of prokaryotes and the nature of mutations.
5. Have basic understanding of virus structure and function.
6. Be able to describe the basic functions of the immune system with respect to infectious disease processes.
7. Understand the principles of pathogenicity, disease, and epidemiology.
8. Be able to explain the basics of antimicrobial and antiviral chemotherapy.

BIOL 2310. Microbiology

Course Description

Introduction to the basic principles of microbiology, microbial pathogenesis, host defenses and infectious diseases. The course will emphasize concepts related to the structure and function of microorganisms, including their mechanisms of metabolism and growth. Host parasite interactions will also be emphasized, including mechanisms of microbial pathogenesis and mechanisms of host defenses against infectious diseases.

Student Learning Outcomes

1. Describe and compare the structure and function of prokaryotic and eukaryotic cells.
2. Describe and compare the techniques used for staining of and microscopic observation of bacteria including morphology.
3. Describe the nutritional requirements for bacterial growth and the impact of environmental factors on bacterial growth (temperature, pH, oxygen, etc.).
4. Describe and compare the mechanisms of aerobic respiration, anaerobic respiration, and fermentative metabolism.
5. Describe the mechanism of bacterial growth by binary fission, and laboratory methods used for observing and measuring bacterial growth.
6. Describe the mechanisms of bacterial DNA replication, RNA transcription, and translation, and compare and contrast with eukaryotic cells.
7. Describe the structure and replication strategies of viruses.
8. Describe and contrast mechanisms of innate nonspecific immunity and adaptive specific immunity.
9. Describe immune hypersensitivity reactions, autoimmune diseases, and immunodeficiency diseases.
10. Differentiate between host microbe relationships, mechanisms of microbial pathogenesis, differentiate between communicable and noncommunicable diseases and describe mechanisms of direct and indirect transmission of communicable diseases.

BIOL 2310L. Microbiology Laboratory

Course Description

This course will emphasize both the theory and hands-on application of techniques used in a microbiology laboratory for the growth and identification of bacterial species. Students will learn microscopy skills and staining techniques for the observation of bacteria. Students will also learn aseptic techniques used for isolation of bacteria, inoculation of cultures, and interpretation of selective and differential growth media for the identification of bacterial species.

Student Learning Outcomes

1. Demonstrate skills of microscopy.
2. Demonstrate skills of bacterial staining.
3. Demonstrate aseptic technique for inoculation of bacterial growth media.
4. Interpret results from selective and differential media.
5. Demonstrate appropriate use of diagnostic reagents.
6. Interpret results of diagnostic assays.
7. Identify unknown bacterial species through the use of a dichotomous key, inoculation and interpretation of laboratory assays, and application of the scientific method.

BIOL 2310C. Microbiology Lecture & Lab
Course Description
Combined BIOL 2310 and BIOL 2310L.

BIOL 2320. Public Health Microbiology
Course Description
This course introduces microbiology on the health profession level. It incorporates cell structure, metabolism, growth, controls of growth, infectious epidemiology, etiology, pathogenicity, and relative virulence of pathogens. It will lead to students assessing a clinical infection scenario from the microbiological perspective that includes making diagnoses based on data from appropriate diagnostic tests, investigating appropriate treatment options, and making recommendations for prevention.
Student Learning Outcomes
1. Identify key physical features of various infectious agents and describe their structure and function in the pathogen.
2. Describe the microbiological, serological, biochemical and genetic tests that are used to identify infectious agents in a laboratory setting and be able to interpret test results in order to identify the pathogen.
3. Explain how structural and metabolic differences between infectious agents and human host can be exploited for chemotherapy.
4. Explain the observed effect of a particular environmental change on the growth of a given microorganism, and the relationship between bacterial growth patterns and selected foodborne illnesses.
5. Describe several mechanisms by which pathogens generate genetic diversity and the role genetic diversity plays in resistance to therapy and treatment failure.
6. Explain the role of innate, and adaptive immunity in host defense.
7. Describe general virulence strategies used by variety of pathogens, and different types of vaccines along with recommendations for vaccinations of specific populations.
8. Demonstrate understanding of signs and symptoms of selected diseases and be able to relate disease agents with environmental reservoirs and transmission.

BIOL 2410. Principles of Biology: Genetics
Course Description
This course introduces the fundamental principles of heredity; DNA structure and replication; the processes of transcription, translation, and regulation of gene expression; and structural, functional, and comparative genomics. The course covers the application of major genetic concepts, principles, and techniques to understand and solve biological questions.
Student Learning Outcomes
1. Students will be able to understand rules governing the segregation of genes carried on the same or different chromosomes.
2. Students will be able to explain and analyze human pedigrees.
3. Students will be able to describe the structure of DNA and how its information is transmitted to protein synthesis.
4. Students will be able to interpret scientific data, formulate a scientific hypothesis, and propose an experiment to test a scientific hypothesis.
5. Students will be able to describe molecular mechanisms governing why and how gene expression is regulated
6. Students will understand how deregulated gene expression contributes to human congenital disease and cancer.
7. Students will be able to understand how high throughput experiments are carried out and analyzed.
8. Students will be able to explain key principles of genomics to understand the content, organization, and function of genetic information contained in whole genomes.
9. Students will be able to apply genetic and physical mapping techniques to the understanding of structural genomics.

10. Students will be able to use comparative genomics to understand how genomes evolve in (I) genome size, (ii) gene content, (iii) gene functionality, (iv) nucleotide base content, (v) protein diversity, and/or (vi) transposable element proliferation.
11. Students will consider ethical issues related to genomics.

BIOL 2410L. Principles of Biology: Genetics Laboratory

Course Description

This laboratory course introduces the fundamental principles of heredity and uses scientific method to understand and solve genetic questions. Emphasis is placed on transmission genetics, molecular genetics, genomics, and biotechnology, with work focused on discussion and problem-solving activities. Students must engage with primary literature (e.g., written paper or annotated bibliography). Students must give oral presentations. Wet lab work is not required.

Student Learning Outcomes

1. Be able to conduct library-based research to produce an annotated bibliography or research paper that demonstrates the ability to distill and synthesize the primary literature.
2. Be able to verbally present a synthesis and interpretation of a published paper from the primary literature.
3. Be able to demonstrate critical thinking skills by interpreting scientific data, formulating a scientific hypothesis, and proposing an experiment to test a scientific hypothesis. (HED Area 3, Competency 1,2,4,5)
4. Be able to solve genetics problems involving single gene, X-linked, and non-Mendelian inheritance patterns.
5. Be able to conduct Chi-Square statistical analysis on genetics data.
6. Be able to describe the processes of DNA replication, transcription and translation.
7. Be able to compare and contrast the processes of gene regulation in prokaryotes versus eukaryotes.
8. Be able to understand how high throughput experiments are carried out and analyzed. (HED Area 3, Competency 3,4)
9. Be able to apply understanding of recombinant DNA techniques and RNA sequencing analysis in the biomedical sciences, biotechnology and/or bioengineering.
10. Be able to describe applications of structural, functional or comparative genomics in the biomedical sciences, biotechnology and/or bioengineering.

BIOL 2410C. Principles of Biology: Genetics Lecture & Laboratory

Course Description

Combination of BIOL 2410 and BIOL 2410L.

BIOL 2505. Pathophysiology

Course Description

This course is designed to provide the conscientious student with a solid foundation for understanding the pathophysiological processes of the human organism.

Student Learning Outcomes

The student will be able

1. To describe the general concepts of disease processes and factors associated with disease causation.
2. To identify the function of basic cellular structures, determining the process of cellular malfunctions.
3. To describe the response of the body to injury and immunologic challenge.
4. To discuss the etiology, pathogenesis, and treatment modalities of frequently occurring diseases.

BIOL 2510. Pathophysiology I

Course Description

This course focuses on the pathophysiology of cellular adaptation, injury and repair. Thereafter, the course focuses on the pathophysiology of anemia, neoplasms and white blood cell malignancies, brain and nervous system diseases, special

senses, musculoskeletal system and joint diseases, and integumentary diseases. Immune defenses against infectious diseases and immunologic diseases are also covered. In addition, the etiology, pathophysiology, clinical manifestations and other clinical considerations of diseases in these systems will be discussed.

Student Learning Outcomes

1. Describe the pathophysiology of cellular adaptation, injury and death.
2. Describe the cellular and pathophysiologic basis of anemia.
3. Describe the cellular and pathophysiologic basis of genetic diseases.
4. Describe the cellular and pathophysiologic basis of diseases of the neoplasms and white blood cell malignancies.
5. Describe the cellular and pathophysiologic basis of diseases of the brain and nervous system diseases.
6. Describe the cellular and pathophysiologic basis of diseases of the special senses.
7. Describe the cellular and pathophysiologic basis of musculoskeletal and joint diseases.
8. Describe the cellular and pathophysiologic basis of integumentary diseases.
9. Describe the mechanisms of inflammation and immunological protection against infectious diseases.
10. Describe diseases of the immune system, including hypersensitivity reactions, autoimmunity and immunodeficiency diseases.

BIOL 2511. Pathophysiology I

Course Description

The first in a two-course sequence that covers changes in body physiology that result from disease or injury. Includes a general introduction to pathophysiology as well as an overview of altered cellular and tissue biology, injury, inflammation, and neoplasia. Students will also explore deviation from fluid, hemodynamic, and endocrinologic balance. Topics related to the science of pathophysiology, including pathology, pathogenesis, etiology, epidemiology, and clinical manifestations, are also discussed throughout the course where relevant.

Student Learning Outcomes

Not Available

BIOL 2512. Pathophysiology II

Course Description

The second in a two-course sequence that covers changes in body physiology that result from disease or injury. This course focuses on the pathophysiology of the nervous, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. Topics related to the science of pathophysiology, including pathology, pathogenesis, etiology, epidemiology, and clinical manifestations, are also discussed throughout the course where relevant.

Student Learning Outcomes

1. The different types of sensory modalities; the different dysfunctions of the general and special senses; the different pain theories discussed in class; the various aspects of the neuroanatomy and neuromodulation of pain; the various clinical descriptions of pain; the various aspects of temperature regulation; components of the pathogenesis of fever; the various disorders of temperature regulation; the various aspects of sleep disorders; the various components of visual dysfunction; and the various aspects of auditory, gustatory, and olfactory dysfunction.
2. The various alterations in cognitive systems; the various alterations in arousal; the outcomes of alterations in arousal; the various alterations in awareness; the various seizure disorders; the various data processing deficits; various alterations in cerebral hemodynamics; and alterations in neuromotor function.
3. The various disorders of the central and peripheral nervous systems; and the various disorders of the neuromuscular junction.
4. The components of normal blood; the process/stages of hematopoiesis; the various normal RBC laboratory values; the components and functions of the lymphatic system; the various types of imbalances of erythropoiesis; the various types of anemias and their causes; the various types of polycythemia and their causes; the processes related

to hemostasis; the various alterations of white blood cells and their causes; and the various alterations of lymphoid and hemostatic function.

5. The various diseases of the veins; the various diseases of the arteries; the various aspects of atherosclerosis; features related to the pathogenesis and consequences of coronary artery disease; the disorders of the heart wall and their consequences; the various aspects of valvular dysfunction; aspects of the pathogenesis and manifestations of rheumatic disease; the causes, pathogenesis, and manifestations of infective endocarditis; the causes, manifestations, and pathophysiology of heart failure; and the various types of shock.
6. The various signs and symptoms of pulmonary disease; the various conditions caused by pulmonary disease/injury; the various disorders of the chest wall and pleura; and the causes, manifestations, and pathophysiology of selected pulmonary disorders.
7. The features and consequences of upper and lower urinary tract obstruction; the various types of urinary tract infection; the causes, pathogenesis, and clinical manifestations of glomerulonephritis; the various features of nephrotic and nephritic syndrome; and the various features (etiology, pathophysiology, and clinical manifestations) of both acute kidney injury and chronic kidney disease.
8. The various clinical manifestations of gastrointestinal dysfunction; the various aspects (etiology, pathophysiology, and clinical manifestations) of disorders of motility; the causes, manifestations, and pathophysiology of gastritis; features related to the causes, manifestations, and pathophysiology of peptic ulcer disease; features related to the etiology, pathogenesis and pathophysiology of selected malabsorption syndromes, inflammatory bowel diseases, diverticular disease of the colon, appendicitis, and irritable bowel syndrome; the various types of vascular insufficiency; the various disorders of nutrition and their causes and clinical manifestations; and the various disorders of the accessory organs of digestion.
9. The various features associated with alterations of sexual maturity (delayed puberty and precocious puberty); features related to the etiology, pathogenesis, and pathophysiology of the various disorders of the male reproductive system, including disorders of the urethra, disorders of the penis, disorders of the scrotum, disorders of the testes, disorders of the epididymis, disorders of the prostate gland, and disorders of the male breast; features related to the etiology, pathogenesis, and pathophysiology of male sexual dysfunction; features associated with abnormalities of reproductive tract development; the various hormonal and menstrual alterations and their causes and clinical manifestations; the various conditions related to infection, inflammation, and pelvic organ prolapse (uterine prolapse, cystocele, rectocele, and enterocele); conditions involving benign growths and cancer (endometriosis, cervical cancer, vaginal cancer, vulvar cancer, endometrial cancer, uterine sarcoma, and ovarian cancer); features related to the etiology, pathogenesis, and pathophysiology of female sexual dysfunction (disorders of desire, vaginismus, anorgasmia, and dyspareunia); features related to infertility; and features related to the etiology, pathogenesis, and pathophysiology of breast cancer.

BIOL 2520. Pathophysiology II

Course Description

Pathophysiology II builds on the concepts studied in Pathophysiology I. This course will focus on the molecular and cellular basis of diseases of the cardiovascular, clotting and coagulation, respiratory, gastrointestinal, urinary and endocrine systems. In addition, etiology, pathophysiology, clinical manifestations and other clinical considerations of diseases in these systems will be discussed.

Student Learning Outcomes

1. Describe the cellular and pathophysiologic basis of diseases of the cardiovascular system.
2. Describe the cellular and pathophysiologic basis of clotting and coagulation diseases.
3. Describe the cellular and pathophysiologic basis of diseases of the gastrointestinal system
4. Describe the cellular and pathophysiologic basis of diseases of the respiratory system.
5. Describe the cellular and pathophysiologic basis of diseases of the urinary tract system.
6. Describe the cellular and pathophysiologic basis of diseases of the endocrine system.

7. Describe the cellular and pathophysiologic basis of diseases of the reproductive system, including sexually transmitted diseases.

BIOL 2610. Principles of Biology: Biodiversity, Ecology, and Evolution

Course Description

This course is an introduction to the dynamic processes of living things. Major topics include the mechanisms of evolution, biological diversity, population genetics, and ecology.

Student Learning Outcomes

1. Understand the scientific method and apply it to biological topics of genetics, evolution, ecology, and biodiversity.
2. Apply quantitative reasoning and scientific thinking to real world problems.
3. Identify and describe the basic principles of evolution.
4. Analyze the relationships between the genetics of populations and evolution.
5. Analyze the processes of speciation.
6. Describe how the hierarchical classification scheme is used to categorize organisms.
7. Describe how DNA research has modernized bio systematics.
8. Compare and contrast the general characteristics of each of the living domains and kingdoms.
9. Relate the structure of organisms to the way they function.
10. Explain how the life histories of organisms are adapted for different environments.
11. Relate the complexity of behavior to the overall complexity of an organism.
12. Describe the ecological roles played by organisms in each kingdom.
13. Compare basic ecological principles at the population and community levels of organization.
14. Describe and compare energy relationships and the cycling of materials in ecosystems.

BIOL 2610L. Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory

Course Description

This laboratory course is an introduction to the dynamic processes of living things. This course introduces students to the methods used in the study of evolution, ecology, and biological diversity. Designed for students continuing in life sciences.

Student Learning Outcomes

1. Describe and apply the scientific method to generate testable hypotheses in evolution and ecology.
2. Design and conduct laboratory experiments using relevant laboratory equipment and methods.
3. Analyze and report data generated during laboratory activities and experiments.
4. Communicate scientific results from experiments in evolution, ecology, and biodiversity.

BIOL 2610C. Principles of Biology: Biodiversity, Ecology, and Evolution Lecture and Laboratory

Course Description

This course is an introduction to the dynamic processes of living things. Major topics include the mechanisms of evolution, biological diversity, population genetics, and ecology.

Student Learning Outcomes

1. Understand the scientific method and apply it to biological topics of genetics, evolution, ecology, and biodiversity.
2 .Apply quantitative reasoning and scientific thinking to real world problems.
3. Identify and describe the basic principles of evolution.
4. Analyze the relationships between the genetics of populations and evolution.
5. Analyze the processes of speciation.
6. Describe how the hierarchical classification scheme is used to categorize organisms.
7. Describe how DNA research has modernized bio systematics.
8. Compare and contrast the general characteristics of each of the living domains and kingdoms.
9. Relate the structure of organisms to the way they function.

10. Explain how the life histories of organisms are adapted for different environments.
11. Relate the complexity of behavior to the overall complexity of an organism.
12. Describe the ecological roles played by organisms in each kingdom.
13. Compare basic ecological principles at the population and community levels of organization.
14. Describe and compare energy relationships and the cycling of materials in ecosystems.
15. Describe and apply the scientific method to generate testable hypotheses in evolution and ecology.
16. Design and conduct laboratory experiments using relevant laboratory equipment and methods.
17. Analyze and report data generated during laboratory activities and experiments.
18. Communicate scientific results from experiments in evolution, ecology, and biodiversity

BIOL 2615. Ecology & Evolution

Course Description

Presents various topics associated with principles of ecology and evolutionary biology: Darwinian principles, origin theory, the fossil record and patterns of diversification of ancient life, evolution of populations, speciation, phylogenetics, basics of ecology and study of the biosphere, behavioral ecology, population ecology, community ecology, ecosystem ecology, and conservation biology.

Student Learning Outcomes

Upon successful completion of this course, students will be proficient in their ability to:

1. Describe the development of evolutionary theory from ancient to modern times.
2. Describe the various lines of evidence for past evolution and common ancestry.
3. Describe the main processes of evolution and how they influence genetic variability in populations.
4. Describe the evolutionary processes that can lead to speciation.
5. Compare and contrast the benefits/limitations of different phylogenic strategies for describing species relatedness
6. Describe ecology in the context of the first biomes across the planet.
7. Describe population ecology and the ecological factors associated with population dynamics.
8. Describe community ecology and the ecological factors that can influence community dynamics.
9. Describe ecosystem ecology and the biotic and abiotic factors that influence ecosystem dynamics.
10. Describe climatic processes, how they influence ecological dynamics, and the influence changes in global climate.

BIOL 2615L. Ecology & Evolution Laboratory

Course Description

Laboratory exercises and recitation to complement concepts presented in BIO 2410

Student Learning Outcomes

Upon successful completion of this course, students will be proficient in their ability to:

1. Describe how the unique location, habitat and formation of the Galapagos Islands played a central role in the formulation of Darwin's theory of evolution.
2. Describe the role of natural selection in species formation and how that compares to artificial selection.
3. Describe the evolutionary history of humans and how their environment played a role in evolutionary changes.
4. Apply statistical analyses to population genetics to predict or analyze evolutionary processes.
5. Develop phylogenic trees using multiple strategies.
6. Describe the interactions between species in the same habitat and how changes to the habitat can alter the interactions.
7. Describe the influence of habitat variables on community ecologies.
8. Describe the influence of global climate patterns on ecosystems and how ecosystems will be effected by changes in global climate patterns.

BIOL 2620. Ecology & Evolution

Course Description
This course provides an initial foundation in the concepts and models in the fields of evolution and ecology. There will be a strong emphasis on understanding the process of science as applied by ecologists and evolutionary biologists. By the end of this course, you will understand the major drivers of evolution and the major ecological patterns and processes in nature. Evolutionary concepts will include Darwinian principles, evolutionary processes within populations (including natural selection), the fossil record, the origin and diversification of life, and phylogenetics. Ecological concepts will include global patterns of species diversity and abundance, organismal and behavioral ecology, population dynamics, community ecology, ecosystem processes and conservation biology. Your analytical and quantitative abilities will be reinforced and improved, and you will gain skills in critical thinking that will make you a more scientifically aware citizen.
Student Learning Outcomes
Students who successfully complete this course will be able to:

1. Recognize the major drivers of evolution.
2. Recognize the major ecological patterns in nature.
3. Apply the scientific process to simple ecological and evolutionary problems.
4. Make informed predictions on how organisms respond (in both evolutionary and ecological time frames) to environmental conditions (abiotic forces) and to species interactions (biotic forces).

BIOL 2620L. Ecology and Evolution Lab
Course Description
This laboratory course complements the Ecology and Evolution lecture. Laboratory exercises and recitation focus on concepts associated with ecology and evolutionary biology: Darwinian principles, the fossil record and patterns of diversification of ancient life, evolution of populations, speciation, phylogenetics, ecology and study of the biosphere, behavioral ecology, population ecology, community ecology, ecosystem ecology, and conservation ecology.
Student Learning Outcomes

1. Apply scientific methods to formulate questions, analyze data and draw conclusions.
2. Use mathematical models to model biological systems.
3. Model ecological patterns and describe the interactions between organisms and their environment.
4. Synthesize knowledge of ecology and evolution in one or more projects and provide a report to demonstrate that synthesis.
5. Describe and contrast the major components of evolutionary biology and ecology.
6. Describe the different categories of evidence that evolution is occurring now and has occurred through a long series of geological periods.
7. Use a dichotomous key with proficiency to identify flora and fauna.

BIOL 2620C. Ecology and Evolution Lecture and Laboratory
Course Description
This course provides an initial foundation in the concepts and models in the fields of evolution and ecology. There will be a strong emphasis on understanding the process of science as applied by ecologists and evolutionary biologists. By the end of this course, you will understand the major drivers of evolution and the major ecological patterns and processes in nature. Evolutionary concepts will include Darwinian principles, evolutionary processes within populations (including natural selection), the fossil record, the origin and diversification of life, and phylogenetics. Ecological concepts will include global patterns of species diversity and abundance, organismal and behavioral ecology, population dynamics, community ecology, ecosystem processes and conservation biology. Your analytical and quantitative abilities will be reinforced and improved, and you will gain skills in critical thinking that will make you a more scientifically aware citizen. Laboratory exercises focus on concepts associated with ecology and evolutionary biology: Darwinian principles, the fossil record and patterns of diversification of ancient life, evolution of populations, speciation, phylogenetics, ecology and study of the biosphere, behavioral ecology, population ecology, community ecology, ecosystem ecology, and conservation ecology.

Student Learning Outcomes

1. Communicate in the biological arena.
2. Distinguish evolution as a process of natural selection acting on heritable genetic variation.
3. Measure, analyze, and present relevant data for the solution of a biological problem using biological instrumentation.
4. Discuss the limitations and potentials of science in social issues.
5. Compare processes at the population, community, and ecosystems levels of organization.
6. Map and explain the interdependence of organisms including human beings.
7. Recognize and distinguish among the diversity of life and the fundamental forces that have shaped this diversity.

BIOL 2625. Introduction to Ecology

Course Description

This course is an introduction to how organisms sustain themselves, maintain health and reproduce in the ecosystem in which they reside. Includes an introduction to how living things interact with their environment, including other organisms, and how organisms respond to the physical conditions of the habitat in which they live.

Student Learning Outcomes

1. Students will describe the organization of living systems and trophic interactions.
2. Students will explain how organisms respond to and interact with the physical (abiotic) environment.
3. Students will exhibit knowledge of ecosystems and ecosystem function, including the flow of energy and materials.
4. Students will demonstrate an understanding of basic population ecology, interactions between and among populations, and community function.
5. Students will examine evolutionary ecology, coevolution and symbiotic relationships.

BIOL 2626C. Ecology of the Southwest Uplands Lecture & Lab

Course Description

Not Available

Student Learning Outcomes

Not Available

BIOL 2627. Environmental Conservation

Course Description

A study of natural resources in a global context. Attention is given to public policies and programs which affect the long-range availability and utilization of these resources. This course is an introduction to several environmental issues that confront resources, technology, pollution and society.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Describe the steps of the scientific method and apply them to the design of an experiment.
2. Define sustainable development and describe why it is important.
3. Describe the roots of the environmental crisis.
4. Explain the equation Impact = Population Size x Affluence x Technology.
5. Explain the Tragedy of the Commons.
6. Be able to relate the topics we have covered to the resources- human systems-waste continuum.
7. Assess how individual actions can affect the global environment.
8. Describe human population growth historically; currently; and future projections.
9. List several impacts continued growth of the human population has on natural systems.
10. Describe problems with modern agriculture and delineate sustainable solutions to these problems.
11. Describe how genetically modified organisms are produced and describe advantages and disadvantages of their use.

12. Predict the impacts of continued growth of the human population on resource use.
13. List the fossil fuels and describe issues associated with their production and use.
14. Diagram nuclear fission.
15. Compare and contrast the forms of renewable energy: solar, wind, hydroelectric, hydrogen fuel cells, and geothermal.
16. Define toxic, hazardous, mutagen, teratogen and carcinogen.
17. Describe the health and environmental effects of common household chemicals.
18. List the criteria air pollutants, their sources, and health effects.
19. Explain ozone depletion, global warming and acid precipitation.
20. Describe sources and types of chemicals that cause water pollution.
21. Describe sustainable solutions to air and water pollution.
22. List the major chemical insecticides.
23. Describe the components of Integrated Pest Management.
24. Describe evolution by natural selection.
25. Sketch a food web.
26. Sketch the carbon, nitrogen and hydrological cycles.
27. Give examples of human impacts on these cycles, such as burning forests and dams.
28. Define and give examples of ecosystem services.
29. Use critical thinking skills to evaluate environmental issues.
30. Use a local or regional environmental issue as an example, evaluate the people with vested interests, their positions on the issue, their evidence, and propose a solution.
31. Analyze tabular or graphical data and make predictions based on the analysis.
32. Critically assess information from all sides of an environmental issue; choose a side; and defend the choice.

BIOL 2628C. Ecology of Big Bend Lecture & Laboratory
Course Description
Not Available
Student Learning Outcomes
Not Available

BIOL 2630. General Botany
Course Description
This course is an introduction to the fundamental principles of plant biology and botanical science. Topics covered include plant biochemistry, plant and fungal cell biology, plant reproduction, plant morphology and anatomy, plant physiology, plant genetics, plant ecology, Archaean, bacterial, protistan, fungal and plant evolution.
Student Learning Outcomes
1. Be able to understand the cellular basis of plant life.
2. Understand plant and fungal development, growth, morphology, structure, and interaction with other species.
3. Describe basic cellular, morphological, and anatomical structure of representative plants and fungi.
4. Describe the function of representative plants and fungi including basic cellular and molecular processes such as membrane transport, photosynthesis, cellular respiration, life cycle of the cell, and methods of reproduction.
5. Understand the interrelationship of plants and fungi with their environment, how they adapt to their environment based on physiological requirements, and the role of plants and fungi in the ecosystem.
6. Understand relationships between plant and fungal communities, animal communities, and the ecosystems where they reside.
7. Hypothesize the directions of plant evolution and distribution based on interactions with pollination systems and the environment.

8. Examine plants using observational tools, scientific techniques, and empirical analysis.

BIOL 2630L. General Botany Lab
Course Description
This course is the laboratory course associated with the general botany lecture course. It will include an introduction to laboratory techniques dealing with plant biochemistry, plant, bacterial, and fungal cell biology, plant reproduction, plant morphology and anatomy, plant physiology, plant genetics, and plant evolution.
Student Learning Outcomes
1. Demonstrate appropriate skill levels in the use of the tools and technologies related to their major fields of study and obtain knowledge of the underlying theory and limitations of their use.
2. Learn the proper and safe use of all laboratory equipment, such as the use and care for the compound and dissecting microscope.
3. Learn to correctly measure, dispense and handle safely reagents and stains used in laboratory.
4. Apply critical thinking skills in the analysis of data and formation of well-developed arguments.
5. Be able to sort and assess the value of information and apply a variety of analysis techniques to arrive at rational answers to complex questions.
6. Demonstrate a thorough, up-to-date knowledge of the central concepts, theories, facts, and issues of botanical science.

BIOL 2630C. General Botany Lecture & Laboratory
Course Description
Combined BIOL 2630 and BIOL 2630L.

BIOL 2631C. Introduction to Tropical Biology Lecture & Laboratory
Course Description
Not Available
Student Learning Outcomes
Not Available

BIOL 2632. Systematic Botany
Course Description
A study of classification and taxonomy of vascular plants. Topics covered in lecture and laboratory deal with taxonomic principles and philosophy, nomenclature, terminology, use of keys, and history of classification systems. The use of cytogenetics, anatomy, ecology, palynology, chemistry, and the computer in modern systematics is discussed. Students will learn to recognize many of the major plant families and will be taught the methods of botanical fieldwork. A plant collection will be made. Field trips are required, including a three-day excursion to southeastern Utah.
Student Learning Outcomes
Upon successful completion of the course, the student will be able to:
1. Understand the components of scientific names.
2. Explain the difference between species, genus, and specific epithet.
3. Recognize the advantages and disadvantages of both scientific and common names.
4. Identify Four Corners examples of Lycopodiaceae, Selaginellaceae, Equisetaceae, Isoetaceae.
5. Identify selected Four Corners examples of Aspleniaceae, Dennstaedtiaceae, Dryopteridaceae, Marsileaceae, Ophioglossaceae, Polypodiaceae, and Pteridaceae.
6. Identify and explain the importance of Four Corners examples of Pinaceae and Cupressaceae.
7. Identify the Four Corners examples of Ephedraceae.
8. Understand terminology that applies to roots, stems, and leaves.

9. Understand terminology that applies to flowers, inflorescences, and fruits.
10. Identify examples from numerous Angiosperms found in the Four Corners region.

BIOL 2635. Plant & Animal Form and Function

Course Description

Focuses on comparative botany and zoology. Topics covered are plant structure and growth, transport, nutrition, reproduction and development in plants. Introduction to animal form and function, animal nutrition, circulation and gas exchange, immune system function and evolution, control of the internal environment, chemical signaling, reproduction and development, nervous systems, sensory and motor mechanisms.

Student Learning Outcomes

Upon successful completion of this course, students will be proficient in their ability to:

1. Describe the events that occur during fertilization, earliest cell divisions, and characteristics of distinct cell layers.
2. Describe the process of embryogenesis and mechanisms associated with transition from vegetative to reproductive development.
3. Describe the traits of green algae and land plants and describe their ecological importance.
4. Define distinctive animal characteristics and describe fundamental changes in morphology and development that occurred as animals diversified (symmetry, cephalization, germ layers, limbs, etc.).
5. Describe the major characteristics that differentiate the Ecdysozoa and the Lophotrochozoa and describe the basic traits of their phyla.
6. Describe the major evolutionary innovations that triggered the diversification of the protostomes, especially relating to the water-to-land transition, appendages and mouthparts, and metamorphosis.
7. List the basic traits of echinoderms and vertebrates and describe their ecological role.
8. Describe these innovations that occurred during the evolution of the vertebrates: jaws, limbs, flight, the amniotic egg, the placenta, and parental care.
9. Describe the main functions of the root and shoot systems and describe how variations in body size and shape contribute to harvesting water, light, and other resources in unique ways.
10. Describe the array of essential nutrients that plants require to support growth, how they are absorbed and specialized mechanisms plants use for obtaining nutrients.
11. Describe the selectivity of plant processing of sensory information, the processes of signal transduction and hormone production, and response of cells to hormonal stimulation.
12. Explain how animals maintain a constant environment inside their bodies and describe the various systems for generating and conserving heat and regulating body temperature.
13. Describe the structural and functional relationships of the vertebrate central nervous system and peripheral nervous system, and explain the mechanisms associated with electrical signaling and action potentials.
14. Describe how hormones affect embryonic development, sexual maturation, and homeostasis, and explain how hormone production and secretion are regulated by input from the nervous system, other hormones, and negative feedback.
15. Compare the innate and adaptive immune responses, and describe the mechanisms involved in innate immunity and adaptive immune responses.

BIOL 2635L. Plant & Animal Form and Function Lab

Course Description

Laboratory exercises and recitation to complement concepts presented in BIO 2510

Student Learning Outcomes

Upon successful completion of this laboratory course, students will be proficient in their ability to:

1. Identify laboratory safety equipment and explain lab safety protocol related to use of lab equipment and disposal of laboratory waste.

2. Identify the parts of the compound microscope and demonstrate appropriate use of compound microscope.
3. Identify the morphologic structures of a gymnosperm and describe the mechanisms of pollination and seed dispersal related to the environments in which they are found.
4. Identify the morphologic structures of angiosperm and describe the pollination strategies utilized by angiosperm.
5. Identify the surface structures of invertebrates and amphibians and describe their function related to protection and body support.
6. Identify the structures of animals associated with circulatory systems and gas exchange and compare these structures across different animal species.
7. Identify the structures of animals associated with the digestive and excretory systems and compare these structures across different animal species.
8. Identify the structures of animals associated with the reproductive system and compare these structures across different animal species.
9. Compare the developmental systems of different animal species.

BIOL 2640. Plant and Animal Form and Function

Course Description

Focuses on comparative botany and zoology. Topics covered are plant structure and growth, transport, nutrition, reproduction and development in plants. Introduction to animal form and function, animal nutrition, circulation and gas exchange, immune system function and evolution, control of the internal environment, chemical signaling, reproduction and development, nervous systems, sensory and motor mechanisms.

Student Learning Outcomes

1. Describe the diversity of animals and plants found on earth, how they function, and the processes/mechanisms that account for this diversity.
2. Identify the basic plant cell and tissue types, and describe their location and role in plant growth and nutrition.
3. Describe alternation of generations in plants from bryophytes to angiosperms, noting key evolutional trends.
4. Describe the basic structure and function of respiratory, circulatory, and nervous systems.
5. Identify the structures and describe the functions of animal muscle tissue, integuments and support systems.
6. Describe the major structures and functions of animal digestive and excretory systems.
7. Describe the structures and functions associated with mammalian immune systems, endocrine systems, and reproductive systems.

BIOL 2640L Plant and Animal Form and Function Laboratory

Course Description

This laboratory course complements concepts learned in the lecture, focusing on comparative botany and zoology. Plant concepts covered include plant structure and growth, transport, nutrition, reproduction and development. Animal concepts covered include an introduction to animal form and function, nutrition, circulation and gas exchange, immune system function and evolution, homeostasis, chemical signaling, reproduction and development, nervous systems, and sensory/motor systems.

Student Learning Outcomes

1. Demonstrate appropriate use of microscopes.
2. Draw and label sketches of observed specimens.
3. Describe the diversity of structures found in prokaryotes, protists, bryophytes and ferns.
4. Describe and contrast the life cycles of gymnosperm and angiosperm.
5. Describe floral morphology and fruit production.
6. Describe structures associated with protection and support in plants and animals.
7. Perform dissections of selected animals and compare their organ systems.
8. Compare selected plant tissue systems.

BIOL 2642. Plant Form, Function and Diversity

Course Description

Introduction to plant biology summarizes the major disciplines of botany and includes study of the more important plant groups.

Student Learning Outcomes

1. Students will describe the process of scientific inquiry. Students should:
    a. Understand that scientists rely on evidence obtained from observations rather than authority, tradition, doctrine, or intuition.
    b. Students should value science as a way to develop reliable knowledge about the world.
2. Students will solve problems scientifically. Students should:
    a. Be able to construct and test hypotheses using modern lab equipment (such as microscopes, scales, computer technology) and appropriate quantitative methods.
    b. Be able to evaluate isolated observations about the physical universe and relate them to hierarchically organized explanatory frameworks (theories).
6. Students will communicate scientific information. Students should:
    Communicate effectively about science (e.g., write lab reports in standard format and explain basic scientific concepts, procedures, and results using written, oral, and graphic presentation techniques.)
7. Students will apply quantitative analysis to scientific problems. Students should:
    a. Select and perform appropriate quantitative analyses of scientific observations.
    b. Show familiarity with the metric system, use a calculator to perform appropriate mathematical operations, and present results in tables and graphs.

BIOL 2642L. Plant Form, Function and Diversity Lab

Course Description

Introduction to plant biology lab: summarizes the major disciplines of botany and includes study of the more important plant groups.

Student Learning Outcomes

1. Students will describe the process of scientific inquiry. Students should:
    a. Understand that scientists rely on evidence obtained from observations rather than authority, tradition, doctrine, or intuition.
    b. Students should value science to develop reliable knowledge about the world.
2. Students will solve problems scientifically. Students should:
    a. Be able to construct and test hypotheses using modern lab equipment (such as microscopes, scales, computer technology) and appropriate quantitative methods.
    b. Be able to evaluate isolated observations about the physical universe and relate them to hierarchically organized explanatory frameworks (theories).
3. Students will communicate scientific information. Students should:
    a. Communicate effectively about science (e.g., write lab reports in standard format and explain basic scientific concepts, procedures, and results using written, oral, and graphic presentation techniques).
4. Students will apply quantitative analysis to scientific problems. Students should:
    a. Select and perform appropriate quantitative analyses of scientific observations.
    b. Show familiarity with the metric system, use a calculator to perform appropriate mathematical operations, and present results in tables and graphs.

BIOL 2644. Animal Form, Function and Diversity

Course Description

Introductory biology covering biological macromolecules, ecology, evolution, systematics, phylogeny, developmental biology, and a survey of major animal groups.

Student Learning Outcomes

Upon completion of this course the successful student should have an introduction and understanding of basic biological concepts, of the diversity of animals found on Planet Earth, how they function, and the processes and mechanisms that can account for that diversity.

BIOL 2644L. Animal Form, Function and Diversity Lab

Course Description

Introductory biology lab covering biological macromolecules, ecology, evolution, systematics, phylogeny, developmental biology, and a survey of major animal groups.

Student Learning Outcomes

Upon completion of this course, the successful student should have an understanding of basic biological concepts and the diversity of animals found on Planet Earth-including how individual animals function, as well as the processes and mechanisms that can account for the diversity of animals we encounter in our biosphere. Specifically, the lab portion of the course will introduce the student to the major animal phyla of the planet, with an emphasis on hands-on exploration and lab activities.

BIOL 2646. Field Biology

Course Description

A field-oriented course to be offered during semester break. spring break, interim session or summer. This course will consist of travel and field-based biological education at distant sites. The course may involve attendance at one or several preparatory classes before 6the fieldwork commences. The course may require additional travel and accommodation fees. The course may also involve rustic camping, swimming and/or strenuous field work although some offerings will be comfortable and accessible for all. Will present an opportunity for students too experience and learn about other organisms, habitats and biomes not available in the Four Corners area, such as coral reefs, humid tropical, cloud forest, arctic tundra, etc. No longer offered at San Juan College. Last semester offered was Summer 2007.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1.1 Discuss building and maintenance of a demonstration sustainable harvest
1.2 Discuss local Panamanian fam1ing practices and culture.
1.3 Discuss alternative farming practices.
1.4 Discuss some of the members of each of the main groups of animals and plants in Panama.
1.5 Discuss the ecological roles of some of the local species and describe some of the consequences of interactions and diversity.
1.6 Discuss factors involved in the stability of natural and man-made systems.
2.1 Demonstrate proper observation techniques for animals.
2.2 Demonstrate proper insect collecting techniques including inventory, identification, labeling, proper storage and organization of insects of Panama.
2.3 Demonstrate the use of GPS to navigate and record locations of work sites. travel sites and exact areas of collection.
4.1 Produce a journal and a formal report of summer activities including a review of the problems and solutions involved in farming of tropical rainforest areas, natural resources of Panama and their conservation and Panamanian culture.
4.2 Produce a topographic map showing farming areas. work sites, tour sites, collection information and sites using GJS software.
4.3 Assemble a working inventory of collected insect specimens

4.4 Participate in a voluntary presentation of documentation of the trip to staff and faculty at fall, 2006 convocation.

BIOL 2650. General Zoology

Course Description

Through systematic investigation of major animal groups, the student will apply structural, physiological, embryological, ecological characteristics, which exist in the field of zoology. The course will cover invertebrate and vertebrate representatives beginning at the microscopic level and advancing to the ecological realm.

Student Learning Outcomes

After successfully completing this course, the student should be able to:

1. Recall basic biological principles.
2. Apply basic biological concepts to the study of organisms.
3. Understand the origin and application of the binomial nomenclature and current taxonomy.
4. Recognize and correctly write scientific names and taxonomy.
5. Know characteristics of protozoans and animals.
6. Recognize and describe three common characteristics of protozoans .
7. Know characteristics of Phyla Porifera and Cnidaria .
8. Recognize and describe characteristics of Phyla Porifera and Cnidaria, and major classes of each.
9. Know characteristics of the worm phyla.
10. Recognize and describe characteristics of Phyla Platyhelminthes, Nematoda, and Annelia including major functions of each.
11. Know the characteristics of the invertebrate Phyla: Mollusca, Arthropoda, and Echniodermata.
12. Recognize and describe characteristics of each phyla and know the major classes and orders of Mollusca, Arthropoda and Echinodermata.
13. Distinguish characteristics of higher ordered organisms.
14. Describe characteristics and adaptations of chordates.
15. Know form, function, and characteristics of bony fish, cartilaginous fish and amphibians.
16. Recognize and describe form, function and classification of aquatic vertebrates from the Classes Osteoichthyes, Chrondricthyes, and Amphibia.
17. Know the classification of Class Reptilia and Class Aves.
18. Recognize and describe form, function and classification of species in each of these phyla.
19. Know adaptations and taxonomy of mammalian species.
20. Recognize and describe major orders, families and species of Class Mammalia.

BIOL 2650C. General Zoology with Lab

Course Description

Laboratory, which may require dissection, is an integral part of this course

Student Learning Outcomes

After successfully completing this course the student should be able to:

1. Recall basic laboratory safety, microscope skills.
2. Utilize proper procedure in the lab and with microscopes.
3. Give appropriate taxa of protists for all specimens provided.
4. Recognize by site specimen provided.
5. Know structures and vocabulary of sponges and cnidarians.
6. Recognize and describe structures for each phyla.
7. Know characteristics of worms specimen provided in lab.
8. Recognize and describe characteristics of Classes: Turbellaria, Trematoda, and Cestoda and Genera: Ascaris, Lubricus, and Hirudo

9. Know characteristics of the mollusk classes.
10. Recognize and describe characteristics of Classes: Bivalvia, Gastropoda, and Cephlapoda.
11. Know the characteristics and significance of Echniodermata.
12. Recognize and describe adaptations of starfish classes and Class Holothuroidea
13. Distinguish characteristics of major taxa of arthropods.
14. Recognize and describe characteristics and adaptations of Subphyla Chelicerata, Crustacea, and Uniramia.
15. Know form, function, and characteristics of chordates.
16. Recognize and describe form, function of the major taxa for Phylum Chordata and compare development of Subphyla: Urochordata, Cephalochordata, and Vertebrata.
17. Know the structure and classification of vertebrate.
18. Recognize and describe form, function and adaptations of organisms for Class Reptilia and Class Amphibia
19. Know adaptations and taxonomy of avian and mammalian species.
20. Recognize function in adaptation of Class Aves and Class Mammalia.

BIOL 2710. Biotechnology I

Course Description

The goal of this course is to provide you with the core conceptual foundation and hands on experience required to perform basic laboratory techniques used in a biotechnology laboratory. It is essential that these skills are mastered, since this will be the basis for all of the techniques used in future courses. This class will provide theory and experience in lab safety and measurement, bacterial transformations and cloning, recombinant DNA, gel electrophoresis, tissue culture and basic bioinformatics skills.

Student Learning Outcomes

Outcome #1: Discuss the elements of laboratory safety

Components:

a. Explain the four types of laboratory safety controls including how they are designed to keep laboratory workers safe
b. Identify individuals and organizations responsible for workplace safety
c. Recognize chemical, biological and physical hazards present in the biotechnology lab
d. Demonstrate the safe handling, labeling and disposal of chemical, biological and physical hazards

Outcome #2: Demonstrate techniques of laboratory measurement.

Components:

a. Explain the units of measurement used in the biotechnology laboratory
b. Define key terminology used in measurement and solution making
c. Demonstrate appropriate selection and usage of appropriate instruments for measurements based on the application they will be used for
d. Demonstrate the ability to accurately use pipet-aids (serological pipets), micropipettors, and electronic balances

Outcome #3: Demonstrate the preparation of solutions.

Components:

a. Solve basic equations used in making solutions including:
    i. mass/volume solutions
    ii. percent solution
    iii. molar solutions
    iv. making dilute solutions using a concentrated stock
b. Demonstrate the basic steps used in solution making including technical considerations and safety
c. Demonstrate the ability to accurately use pH meters

Outcome #4: Perform a bacterial transformation with plasmid DNA.

Components:

a. Explain the fundamentals of bacterial transformation
b. Define plasmid or vector DNA
c. Explain and utilize antibiotic selection
d. Demonstrate correct standard practices used in working with bacteria
e. Perform a bacterial transformation experiment and interpret results
f. Calculate the transfection efficiency of a bacterial transformation.

Outcome #5: Utilize a mini-prep to extract plasmid DNA from bacteria

Components:

a. Explain the purpose of a mini-prep
b. Explain the function of the major steps in an alkyline lysis mini-prep
c. Perform a mini-prep

Outcome #6: Utilize restriction enzymes to perform a restriction digest

Components:

a. Explain what restriction enzymes are and how they are used in the biotechnology laboratory
b. Demonstrate an understanding of the technical considerations associated with using restriction enzymes, both singly and in a double digest
c. Utilize restriction enzymes to cut lambda DNA and plasmid DNA

Outcome #7: Perform agarose gel electrophoresis

Components:

a. Explain how gel electrophoresis is used to separate macromolecules
b. Demonstrate an understanding of how DNA migrates through an agarose gel and factors which can influence its' mobility
c. Explain the use of loading dye, ethidium bromide and DNA size markers or ladders in gel electrophoresis
d. Prepare and run agarose gels of different percentage
e. Interpret agarose gel results and properly label a gel photograph

Outcome #8: Perform a basic subcloning experiment.

Components:

a. Define subcloning
b. Utilize previously taught skills to move a gene from one plasmid to another
c. Interpret results from subcloning experiment

Outcome #9: Perform a ligation reaction

Components:

a. Describe the use of ligations and their importance in recombinant DNA
b. Explain the chemical reaction involved in ligation and identify required reaction components
c. Utilize a ligation reaction in a cloning experiment

Outcome #10: Demonstrate Cell Culture Techniques

Components:

a. Define cell culture
b. Explain the usage of different cell lines, including immortalized and primary cells lines
c. Demonstrate knowledge of the proper selection, preparation and storage of media
d. Calculate quantities of reagents needed to formulate media
e. Describe important technical considerations associated with performing cell culture
f. Perform basic cell culture tasks, including:
    i. Starting cells
    ii. Feeding, splitting & counting cells
    iii. Harvesting cells
g. Utilize an on-line database to search for cell lines and appropriate growth media

Outcome #11: Utilize online resources to perform basic bioinformatics tasks.
Components:

a. Utilize PubMed to search for scientific papers by author, date, subject and relevance
b. Utilize an on-line search program to perform a basic restriction enzyme search and design a simple subcloning experiment

Outcome#12: Discuss the history and the current state of the field of biotechnology
Components:

a. Define biotechnology
b. Describe the many scientific disciplines that contribute to biotechnology
c. Provide examples of historic applications of biotechnology
d. Describe different types of biotechnology and their applications

Outcome #13: Discuss current topics of importance in Biotechnology
Components:

Stem Cells and Cloning

a. Explain what stem cells are and their origins
b. Explain why stem cells are so useful in biomedical research
c. Describe obstacles to using stem cells in research and/or therapies
d. Outline the ethical, religious and political concerns associated with embryonic stem cells
e. Identify the relationship between stem cells and cloning
f. Differentiate between therapeutic and reproductive cloning.

BIOL 2711. Biotechnology Laboratory Techniques I
Course Description
Not Available
Student Learning Outcomes
Not Available

BIOL 2715. Biotechnology II
Course Description
The goal of this course is to provide theory and experience with protocols used to characterize and manipulate nucleic acids. This course will reinforce and build upon techniques learned in Biotechnology I. Techniques include DNA isolation and quantification, PCR, qPCR, gel electrophoresis, recombinant DNA technology, cloning, DNA sequencing, site-directed mutagenesis, tissue culture, and basic bioinformatics skills. Current issues and topics related to biotechnology will be explored.
Student Learning Outcomes
Outcome #1: Perform phenol-chloroform DNA isolation.
Components:

a. Perform phenol-chloroform DNA isolation
b. Describe the function of the four basic steps of phenol-chloroform DNA isolation
c. Identify important technical considerations associated with working with DNA

Outcome #2: Analyze the quantity and quality of DNA in a sample.
Components:

a. Describe how a spectrophotometer works
b. Utilize a spectrophotometer to quantify DNA samples
c. Interpret data provided by a spectrophotometer
d. Utilize an agarose gel to verify the quality of a DNA sample

Outcome #3: Utilize the polymerase chain reaction (PCR) to amplify and analyze genetic sequences.

Components:

a. Explain the uses of the polymerase chain reaction and its importance in Biotechnology
b. Identify the essential components of a PCR reaction and technical consideration associated with their use
c. Explain the importance of primer design to the success of a PCR reaction
d. Describe the three steps of the PCR reaction
e. Perform multiple PCR- based experiments and identify how PCR is used differently in those experiments.

Outcome #4: Utilize real-time polymerase chain reaction (qPCR) to amplify and quantify a genetic sequence.

a. Explain the fundamental principle underlying real-time PCR
b. Describe the applications of real-time PCR
c. Explain similarities and differences in real-time versus traditional PCR
d. Describe the different types of reporter methods used in real-time PCR
e. Conduct a real-time PCR experiment and interpret results
f. Explain the use of and interpret results from a Melt Curve Analysis

Outcome #5: Demonstrate the procedures required to determine the DNA sequence of a gene.

Components:

a. Explain how the dideoxy or chain termination method of DNA sequencing works, both in manual and automated (i.e. dye terminator) sequencing reactions
b. Describe technical considerations associated with sequencing
c. Perform a sequencing reaction using fluorescently labeled dideoxy nucleotides
d. Interpret a sequencing gel
e. Discuss goals and benefits of genome sequencing including the Human Genome Project.
f. Describe the three steps of genome sequencing: preliminary sequencing, finishing and annotating
g. Describe “next generation” high-through put sequencing methods.

Outcome #6: Perform the techniques required to clone a gene.

Components:

a. Describe the process used to clone a gene
b. Identify the characteristics of a cloning vector
c. Perform a variety of previously learned techniques in order to clone a gene, including:
    i. ligation
    ii. bacterial transformation
    iii. antibiotic screening
    iv. mini-preps
    v. restriction enzyme digestion
d. Perform a variety of new techniques in order to clone a gene, including:
    i. TA Cloning method
    ii. Blue-white screening

Outcome #7: Perform a PCR-based site-directed mutagenesis protocol.

Components:

a. Define site-directed mutagenesis and explain the theory underlying PCR-based site-directed mutagenesis
b. Describe the uses of site-directed mutagenesis and its importance in biotechnology
c. Outline the function of the three steps utilized in PCR-based site-directed mutagenesis
d. Discuss technical considerations associated with site-directed mutagenesis, particularly primer design
e. Perform a site-directed mutagenesis experiment and interpret results

Outcome #8: Discuss techniques involved in DNA forensics and conduct a DNA fingerprinting protocol.

Components:

a. Describe the basic premise underlying DNA forensics
b. Explain the uses of DNA forensics, including emerging uses

c. Explain what short-tandem repeat (STR) analysis is and why it is currently the forensic DNA technique of choice
d. Perform a basic DNA fingerprinting experiment (STR analysis) and interpret results

Outcome #9: Utilize online resources to perform basic bioinformatics tasks.
Components:

a. Utilize Genbank to search for genomic sequences using gene name or accession number; interpret data found in Genbank entry and link to related entries
b. Utilize BLAST to compare genomic sequences, find unknown genomic sequences, and find homologous genes in different species; interpret data from BLAST search and link to related entries
c. Utilize on-line primer design software to design and evaluate PCR primers for a given genomic sequence

Outcome #10: Analyze scientific literature related to in-lab experiments
Components:

a. Explain aims and methods of assigned scientific papers
b. Interpret and critically analyze results and conclusions from scientific papers
c. Relate material found in literature to in-class experiments

Outcome #11: Discuss current topics of importance in Biotechnology
Components:
Genetically Modified Organisms:

a. Describe the impact of biotechnology and GM crops on the agricultural industry, both in the US and worldwide
b. Outline the pros and cons of GM crops, including environmental, societal, and health concerns
c. Identify GM crops currently available on the market, and those in production
d. Describe the role of the USDA and/or EPA in regulating genetically modified crops
e. Describe current regulations for labeling of biotechnology products
f. Describe methods used to identify GM crops including ELISA and PCR

Gene therapy:

a. Define gene therapy
b. Explain different methods used in gene therapy
c. Explain the history of gene therapy, including the current state of gene therapy in the U.S.
d. Describe obstacles to using gene therapy in research and/or therapies
e. Outline ethical concerns associated with gene therapy

BIOL 2720 Biotechnology III

Course Description

Provides theory and experience with protocols used to characterize and manipulate nucleic acids and proteins. Builds on techniques learned in Biotechnology II. Techniques include RNA and protein isolation and quantification, RT-PCR, RNA interference, mammalian transfections, polyacrylamide gel electrophoresis, 2-D gel analysis, Western blotting, ELISAs, and basic bioinformatics and proteomics skills. Current issues and topics related to biotechnology will be explored.

Student Learning Outcomes

Outcome #1: Demonstrate the isolation of RNA from cell pellets.
Components:

a. Identify technical consideration associated with working with RNA
b. Describe how the TRIzol or TriReagent method of RNA isolation works
c. Perform an RNA isolation from cell pellets
d. Quantify RNA using a spectrophotometer

Outcome #2: Employ reverse transcriptase PCR (RT-PCR) protocols.
Components:

a. Define RT-PCR
b. Describe the uses of RT-PCR and how these differ from traditional (DNA-based) PCR.

c. Describe the multi-step process used in RT-PCR
d. Explain the different methods of “priming” for cDNA synthesis and why one method might be chosen over another
e. Explain why primer design is critical when performing RT-PCR
f. Explain the importance of running a control PCR using a “housekeeping gene” following cDNA synthesis
g. Set up, run and interpret results from an RT-PCR reaction using freshly isolated RNA

Outcome #3: Employ and analyze a real-time reverse transcriptase PCR protocol.
Components:

a. Differentiate between applications of real-time PCR using DNA as a source versus real-time PCR using RNA as a source
b. Utilize real-time RT-PCR to quantify and analyze results from siRNA transfection

Outcome #4: Describe RNA interference (RNAi)
Components:

a. Define RNA interference and its role in transcriptional silencing
b. Explain the siRNA activation pathway
c. Describe the biological functions of RNAi
d. Explain the uses of siRNA technology in the field of biotechnology

Outcome #5: Perform a mammalian transfection using siRNA
Components:

a. Describe basic principles of transfection, including lipid-mediated transfections
b. Describe the applications of transfection in biotechnology
c. Describe factors which influence transfection efficiency
d. Perform a transfection of siRNA into mammalian cells
e. Utilize real-time PCR to analyze data from transfection and interpret results

Outcome #6: Examine and utilize a variety of tools and techniques to characterize proteins
Components:

a. Describe technical considerations associated with working with proteins
b. Define proteomics
c. Explain research applications of proteomics
d. Describe challenges associated with studying the proteome
e. Utilize low- and high-throughput proteomics techniques in the laboratory
f. Discuss proteins as biotechnology products in medicine, food and manufacturing

Outcome #7: Perform protein quantification using a Bradford Assay
Components:

a. Identify technical considerations associated with performing protein Set up and perform a Bradford assay to quantify protein
b. Utilize results from Bradford assay to generate a standard curve and quantify unknown protein samples

Outcome #8: Examine the applications of and perform polyacrylamide gel electrophoresis
Components:

a. Describe a polyacrylamide gel including its composition and construction
b. Identify uses, advantages and disadvantages of polyacrylamide gels versus agarose gels
c. Describe technical considerations associated with pouring and running polyacrylamide gels
d. Prepare and run a polyacrylamide gel to separate protein molecules by molecular weight

Outcome #9: Employ and analyze a 2-dimensional gel electrophoresis protocol
Components:

a. Describe the function of 2-D gels and identify the two dimensions used in 2-D gel electrophoresis
b. Define isoelectric point and relate this to the pH of a protein
c. Explain the function of the isoelectric focusing and polyacrylamide gel electrophoresis steps

d. Explain how pH range of a strip gel affects resolution
e. Identify proper protein sample preparation techniques and precautions used in 2-D gel electrophoresis
f. Prepare and run a 2-D gel electrophoresis to separate out molecules from a heterogeneous protein sample

Outcome #10: Demonstrate a western blotting protocol.
Components:

a. Describe the function of a Western blot
b. Describe steps used to prepare proteins prior to running on a Western blot
c. Explain how to correctly transfer a gel to a nitrocellulose membrane
d. Describe the principle behind blocking
e. Explain the principles and technique behind immunoblotting membranes for specific protein detection, including the function of the primary and secondary antibodies
f. Utilize a western blot protocol to detect a specific protein and interpret results including determining molecular weight

Outcome #11: Perform an ELISA assay
Components:

a. Define an ELISA
b. Identify the applications of ELISAs
c. Describe how an ELISA works; i.e. the roles of the different antibodies in the detection of specific proteins
d. Compare and contrast the function of an ELISA with that of a Western Blot
e. Utilize a simple quantitative ELISA protocol to detect a specific protein and interpret results

Outcome #12: Analyze scientific literature related to in-lab experiments
Components:

a. Explain aims and methods of assigned scientific papers
b. Interpret and critically analyze results and conclusions from scientific papers
c. Relate material found in literature to in-class experiments

Outcome #13: Utilize online resources to perform basic bioinformatics and proteomics tasks.
Components:

a. Utilize an on-line search program to search for transcription factors found within a given genomic sequence
b. Utilize appropriate on-line resources to identify unknown protein sequences

BIOL 2810. Scientific Writing
Course Description
Concentrates on the format and organization of scientific papers, as well as the ability to express ideas and concepts clearly and concisely.
Student Learning Outcomes
Upon completion of this course, students will:

1. Be able to perform comprehensive scientific literature reviews.
2. Understand the basic principles of scientific writing.
5. Be able to write an annotated bibliography, research proposal, and scientific paper.
6. Improve writing skills.
7. Follow and understand style guidelines for scientific writings.
8. Understand experimental design.
9. Critically review scientific writing of peers.

BIOL 2991. Directed Research/Studies in Biology
Course Description
Varies

Student Learning Outcomes
Varies

BIOL 2993. Workshop in Biology
Course Description
Varies
Student Learning Outcomes
Varies

BIOL 2996. Topics in Biology
Course Description
Varies. Specific subjects to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

BIOL 2998. Internship
Course Description
Varies
Student Learning Outcomes
Varies

Biomedical Technology (BMET)

BMET 1140 Applied Human Biology for Biomedical Technology
Course Description
Course Description
Essential human biology, anatomy, physiology and medical terminology for biomedical equipment technicians. Focus on the vocabulary necessary for effective communication in the hospital environment as part of the health care team.
Student Learning Outcomes

1. Define the anatomic terms used to refer to the body.
2. Define the basic units of life and how they interact and function.
3. Classify the organization of the body.
4. Explain the normal functions of each body system.
5. Discuss how the different body systems work together to maintain homeostasis.
6. Explain the nature of disease and how it affects each body system.

BMET 1141. Medical Electronics and Safety in Healthcare
Course Description
Introduction to the biomedical equipment technology field. Operation of common biomedical equipment to include pressure and temperature systems, infusion devices, patient monitors, and other physiologic and patient systems. Hospital safety and health regulations explained.
Student Learning Outcomes

1. Identify historical developments of devices, explain the role of BMET personnel, and categorize the usage and methods of medical devices relating to the human body.
2. Identify and define, contrast, explain, and demonstrate the use of medical diagnostic and measurement devices.
3. Identify and define, compare, explain, and demonstrate the use of medical treatment devices.

4. Identify and define, and demonstrate medical system safety procedures, troubleshooting techniques, and testing methods.
5. Identify and compare, define, and demonstrate usage of biomedical test and calibration equipment.

BMET 2211. CBET Exam Preparation

Course Description

An overview of the Certified Biomedical Equipment Technician exam. Topics include anatomy and physiology, electronics principles, safety issues, equipment operation, and equipment troubleshooting.

Student Learning Outcomes

1. Identify the fundamentals of anatomy and physiology and match them to the interaction with medical equipment.
2. Identify and differentiate between public safety measures in the healthcare industry.
3. Categorize electricity and electronic aspects of the biomedical field and contrast their operation functions.
4 Contrast healthcare medical devices related to their functions and operations.
5. Identify and categorize problem solving steps and procedures related to multiple medical devices.
6. Identify and compare healthcare information technology standards, regulations, and operational methods in modern medical facilities.

BMET 2241. Advanced Medical Electronics

Course Description

Advanced study in biomedical equipment to include cardiovascular, pulmonary, telemetry and other critical life support systems.

Student Learning Outcomes

1. Identify and define, contrast, and explain patient safety and demonstrate patient safety electrical risk device maintenance.
2. Identify and define, contrast, and explain medical facility guidelines, codes, and standards and their associated regulatory agencies.
3. Identify and define, contrast, and explain electrodes, sensors, and transducers used in health care instrumentation.
4. Identify and define, contrast, and explain patient respiratory needs and distinguish between their related medical devices.
5. Identify and define, contrast, and explain intensive care unit (ICU) characteristics, types, devices, and support and demonstrate maintenance procedures for (ICU) equipment and devices.
6. Identify and define, contrast, and explain operating room needs, environments, and procedures, and distinguish between their medical devices.
7. Identify and define, contrast, and explain the need for and support requirements of medical imaging devices.
8. Identify and define, contrast, and explain clinical laboratory needs, functions, and equipment and demonstrate maintenance procedures for laboratory equipment and devices.

BMET 2998. Biomedical Technology Internship

Course Description

Varies

Student Learning Outcomes

Varies

Business Administration (BUSA)

BUSA 1110. Introduction to Business
Course Description
Fundamental concepts and terminology of business including areas such as management, marketing, accounting, economics, personnel, and finance; and the global environment in which they operate.
Student Learning Outcomes
Students should be able to:

1. Explain how business and entrepreneurship affect the quality of life and the world around us.
2. Explain the characteristics of the different forms of business ownership.
3. Perform basic stakeholder analysis concerning accountability, ethics and social responsibility of business.
4. Demonstrate knowledge of the various dimensions of the business environment including political and legal, socio-cultural, environmental, diversity, economic, technological, and global.
5. Describe the purpose and functions of finance, operations, marketing, management, accounting, and information systems.
6. Demonstrate basic skills such as use of common business terminology, information search skills, presentation and writing skills, and team skills.
7. Describe the purpose and content of a business plan.

BUSA 1115. Business English I
Course Description
This course focuses on the skill development with an emphasis on correct grammar, punctuation, sentence structure, vocabulary, preparation of business letters and reports, and on presenting information in a logical, forceful and acceptable form.
Student Learning Outcomes
Students should be able to:

1. Identify basic parts of speech
2. Use nouns, pronouns, verbs, prepositions, and conjunctions correctly.
3. Use subject/verb agreement principles correctly.
4. Demonstrate proper use of phrases and clauses and compose simple, compound, complex, and compound/complex sentence structures.
5. Demonstrate proper use of commas, semicolons and colons correctly in sentences and paragraphs.
6. Demonstrate proper grammatical usage for effective spoken and written English, in the business environment.
7. Develop coherent sentences and paragraphs using transitions, pronouns, and repetition of key words.
8. Utilize English skills in proofreading, editing, and writing business documents and various forms of communication such as emails, text messages, letters, reports, etc.

BUSA 1117. Business English II
Course Description
Training and application of the fundamentals of punctuation, numbers, basic writing and editing skills.
Student Learning Outcomes
Students should be able to:

1. Effective written, oral, and electronic business communication skills.
2. Ability to work in a team-based environment.
3. Application of personal integrity and ethical behavior.
4. Initiative and analytical thinking.
5. Competence using current technology and software.

6. Proficiency in keyboarding, numeric keypad, and formatting skills.
7. Time management and organizational skills.

BUSA 1130. Business Professionalism

Course Description

Focuses on developing professional behavior appropriate for the business environment. Topics include: Life Management, goal setting, workplace etiquette, job search skills, interviewing, teamwork and team building, motivation, leadership, business communication and workplace interaction.

Student Learning Outcomes

Students should be able to:

1. Communicate and interact in various business settings using professional etiquette.
2. Leverage self-awareness in order to interact successfully with others in the business world.
3. Prepare for a successful business career by using a variety of professional planning tools.
4. Demonstrate effective life management skills such as goal-setting, leadership, stress & time management, organizational skills, and conflict resolution.
5. Apply ethical decision-making in business situations.

BUSA 1140. Conflict Resolution in the Workplace

Course Description

Examines techniques for identifying and resolving conflict in the work environment.

Student Learning Outcomes

Students should be able to:

1. Understand one's own reaction to a difficult person and/or behavior.
2. Explore one's own attitudes and reactions to difficult people and situations.
3. Devise alternative coping strategies for some of the more common difficult personalities, problems, behaviors and situations.

BUSA 1160. Ethics in organizations

Course Description

Introduction to ethical issues in business, government and non-profit organizations and how to deal with those issues. Emphasis on ethical reasoning and cases of ethical and unethical behavior in management and the professions.

Student Learning Outcomes

At the conclusion of the course, you should be able to:

1. Apply ethical reasoning and critical analysis to real world business situations.
2. Identify ethical issues that arise in everyday business and social situations.
3. Identify and analyze how businesspeople make ethical decisions and handle ethical issues.
4. Recognize how businesses evaluate social responsibility activities.
5. Understand how ethical concepts are incorporated into key business decisions.
6. Recognize major global ethics issues in international business.

BUSA 1170. Introduction to Quality Management

Course Description

Introductory practices of total quality management practices aimed at all levels of an organization to continually improve performance to include competitiveness in today's business world.

Student Learning Outcomes

Students should be able to:

1. Describe the critical connections between quality, organizational effectiveness, and professional advancement in today's competitive global economy.
2. Discuss the philosophies of quality management and continuous improvement.

3. Apply fundamental quality principles and tools in a specific organization and in personal life.
4. Explain how strategic plans guide effective organizations.
5. Describe the costs of quality.
6. Explain how benchmarking can be used to increase organizational effectiveness.
7. Demonstrate using a structured problem-solving process.
8. Describe why business results are key to effective organizations.

BUSA 1171. Fundamentals of Continuous Quality Improvement

Course Description

Focuses on data for clarifying customer expectations for service and product quality; choosing quality standards for business performance; selecting measures and indicators of quality and customer satisfaction; assessing effective ways to evaluate and improve both quality and customer satisfaction, improving quality based on customer feedback; and planning for practical application.

Student Learning Outcomes

Upon successful completion of this course, you will be able to:

1. Describe the critical connections between quality measurement, organizational effectiveness, customer satisfaction, and employee performance in today's competitive economy.
2. Explain how quality measurement is a powerful strategic management tool.
3. Use data driven measurement tools.
4. Identify key quality indicators for customer satisfaction and/or system performance in a specific organization.
5. Demonstrate practical application of quality measurements in a specific organization.

BUSA 1172. Quality Tools

Course Description

Focuses on recognizing and understanding applications for quality tools, developing skill and confidence in using quality tools, selecting and integrating quality tools to improve a specific work process; and planning for practical application of quality tools at work and in personal life.

Student Learning Outcomes

Upon successful completion of this course, you will be able to:

1. Select, use, and integrate multiply quality tools to improve a specific system or process.
2. Define statistical process control.
3. Describe potential applications for quality tools that improve employee productivity, organizational effectiveness, and customer satisfaction.
4. Identify opportunities for implementation of quality tools in a specific organization or personal life.

BUSA 1180. Business Math

Course Description

Applies basic mathematical operations to business and accounting applications.

Student Learning Outcomes

Students should be able to:

1. Select and interpret relevant information in narrative problems to solve a given business situation.
2. Choose appropriate formulas to solve quantitative business-related problems.
3. Use formulas accurately to solve quantitative business-related problems.

BUSA 1195. Introduction to Project Management

Course Description

This course teaches the basics of using Microsoft Project to help you manage projects, keep track of deadlines, resources, task distribution, constraints and contingencies. This is an inter-disciplinary course designed to assist in meeting project

deadlines in all fields of study.

Student Learning Outcomes

1. Be proficient in customizing a project management life cycle and developing a comprehensive project plan.
2. Have acquired proficiency in all basic PM tools and techniques with an emphasis in communications, risk analysis, cost estimation and budgeting, and quality control.
3. Have obtained knowledge of tools for project scheduling, templates for managing a project, and an in-depth knowledge of techniques to control cost schedule.
4. Be an effective communicator, and demonstrate effective interpersonal communications skills in a team setting.

BUSA 1197. Introduction to Project Management

Course Description

This course introduces and applies the concepts, techniques and tools of project management in terms of scope, duration and costs.

Student Learning Outcomes

At the conclusion of the course, you should be able to:

1. Recognize and correctly use the terminology of project management as well as simple project management techniques including Gantt charts.
2. Construct and read basic Gantt charts and track scheduling, budgeting, timelines and resource allocation.
3. Construct flowcharts and critical paths to document project management inputs.

BUSA 1198. Project Management Fundamentals

Course Description

Provides an introduction to the field of project management in theory and practice, addresses the role of project managers in the current world of rapid change, increased competitive forces and increased expectations for the successful delivery of projects in organizations and exposes the student to “hard” and “soft” techniques of project management.

Student Learning Outcomes

Students completing this course should be able to:

1. Understand principles and techniques used by project managers.
2. Master key concepts, techniques, and decision tools used by project managers.
3. Identify critical behavior for successfully managing projects.
4. Determine the components of a project life cycle.
5. Develop project objectives.
6. Utilize work breakdown structures.
7. Utilize resource leveling techniques.

BUSA 1210. Records Management

Course Description

Principles, methods and procedures for the selection, operation and control of manual and automated records systems.

Student Learning Outcomes

Students should be able to:

1. Recognize Records Control and Management systems.
2. Utilize vocabulary pertaining to records management.
3. Recognize the importance of using organized, efficient records management systems.
4. Recognize various kinds of filing equipment and supplies (paper and electronic).
5. Apply ARMA (Association for Records Managers and Administrators) rules in alphabetic card and correspondence filing exercises.
6. Apply procedures for maintaining and controlling records including: requisitioning, charging-out, returning, and reserving files.

7. Discuss records retention cycle including: control procedures for transferring, storing, and destruction of files.
8. Recognize the use of color as a method for improving efficiency in filing systems.

BUSA 1220. Non-profit Business Management
Course Description
Students will examine operational and philosophical bases for not-for-profit entities, including IRS designations, partnerships, project planning, marketing and funding sources.
Student Learning Outcomes
Upon successful completion of this course, the student will be able to:
1. Understand nonprofit management, the nonprofit sector, and nonprofit organizations.
2. Manage the nonprofit organizations.
3. Obtain and manage resources

BUSA 1240. Customer Service and Relations
Course Description
Examines the techniques for successful customer service, how to handle difficult and irate customers, customer complaints, and to build relationships with internal and external clients.
Student Learning Outcomes
Students should be able to:
1. Understand who are internal and external customers.
2. Recognize the 6 keys to becoming customer centric.
3. Analyze "moments of truth" in every customer interaction.
4. Build internal and external customer feedback processes to fix problems.
5. Connect customer service with sales.

BUSA 1245. Organizational Skills for the Workplace
Course Description
Examines techniques for organizing workplace space and filing systems.
Student Learning Outcomes
Students should be able to:
1. Understand the need to develop an organizational mindset.
2. Identify areas of self, home and work that need better organization.
3. Present before and after-action plans to address organizational deficiencies.
4. Analyze, implement and evaluate specific organizational techniques.

BUSA 1250. Stress Management for the Workplace
Course Description
Examines techniques for recognizing and managing stress in the work environment.
Student Learning Outcomes
Students should be able to:
1. Recognize and mitigate stress/distress triggers at home, in life, on the job.
2. Respond appropriately to stress and perceptions of stressful situations.
3. Understand long-term health consequences of chronic higher levels of stress.

BUSA 1270. Time Management
Course Description
Examines methods of managing personal and professional time during the workday.
Student Learning Outcomes
At the conclusion of the course, you should be able to:

1. Plot out significant personal and professional goals for short, intermediate and long-term time frames.
2. Learn rudiments of block scheduling to increase routine efficiency.
3. Recognize time wasters and how to overcome them.

BUSA 1280. Self-Presentation and Etiquette

Course Description

Introduction to business etiquette based on tradition, social expectations, and professional behavior standards.

Student Learning Outcomes

Students should be able to:

1. Define professionalism, personality and attitude; describe the importance of personal financial management.
2. Name methods of dealing with stress; describe and defend the importance of professional behavior.
3. Identify and define: ethics and its impact both personally and professionally.
4. Define describe, or identify the concepts of empowerment, responsibility, and accountability; define productivity and its impact on organizational success; identify the primary functions performed by the human resource department.
5. Describe, identify, name, or define: the impact effective communication has in the work-place; the three types of communications media; define the basics of: utilizing modern workplace telecommunication tools; identify what motivates people.
6. Describe, identify, name, display, or define the basics of: conflict and its impact on performance.
7. Utilize the self-discovery process to identify the right career; identify the steps for building a resume package.
8. Explain strategies to implement when invited to an interview.

BUSA 1310. Office Procedures

Course Description

Student will learn the importance of following the proper procedures for maintaining an efficient office required in today's technology advanced business environment. Through the use of a simulation, students will utilize the skills acquired through their training program and work experience to prepare documents and complete common business tasks.

Student Learning Outcomes

1. Demonstrate an awareness of the processes, available technologies, and tools used for each project; modify the processes as they progress developing more effective, efficient results.
2. Select appropriate technology and software applications using existing data files, company guidelines, supervisor instructions, and information from other team members to prepare documentation and complete assigned tasks.
3. Organize, interpret and evaluate the results of your own work and share information as appropriate with other team members and other teams in the class.
4. Work productively to analyze and manipulate raw data, prepare mailable materials that respond to situations and identified criteria, and determine the appropriate media through which to communicate results.
5. Work individually and collaboratively as a team member within the course and within the office simulation.
6. Create and execute a professional presentation using PowerPoint (or alternate) presentation software.
7. Evaluate the advantages and disadvantages of working in offices of different sizes and types.
8. Develop a list of prospective employers and identify the sources of job opportunities in the community. Including advancement opportunities within this area.
9. Prepare a work portfolio with a multiple example of common office documents and completed projects including but not limited to: personal resume, letter of application, reference, transcript, and certificate of recognition.
10. Prepare for and complete an employment interview with administrators at San Juan College. And demonstrate use of all common interview related processes.

BUSA 1320. Supervision

Course Description
This course is intended for those who either want to become supervisors or want to improve their present level of supervisory skills and knowledge. Management principles and their application to actual on-the-job situations are presented enabling student to contribute more effectively to the goals of the organization.
Student Learning Outcomes
Upon successful completion of this course, the student will be able to:

1. Describe the roles of a supervisor and identify general supervisor functions, and what makes a successful supervisor.
2. Discuss the supervisor as a leader, explaining leadership theories and management styles presented through examples.
3. Develop and communicate guidelines for groups and teams in the workplace, emphasizing social responsibility and ethics in the workplace.
4. Discuss in detail the function of the supervisor by creating goals, problem solving, and decision-making.
5. Identify, examine, and discuss the core skills of a supervisor.
6. Distinguish and describe the role of supervision in human resources in an organization and discuss effective processes in the selection of employees, training employees, and conducting performance appraisals.
7. Define modern communication theory and discuss the importance of effective communication.
8. Describe human motivation theory and effective methods for building relationships.
9. Identify the techniques of managing change and stress.

BUSA 1996. Business Administration Topics
Course Description
Varies
Student Learning Outcomes
Varies

BUSA 1997. Business Administration Independent Study
Course Description
Varies
Student Learning Outcomes
Varies

BUSA 1999. Business Co-op work phase
Course Description
Varies
Student Learning Outcomes
Varies

BUSA 2088. Business Administration Specialty
Course Description
This course is used to transfer approved courses from other colleges and universities. (Currently applicable for CNM only for transfer purposes).
Student Learning Outcomes
Varies

BUSA 2100. Agile Project Management
Course Description
Students will build off of their existing project management knowledge to dive deeply into Agile project management

methodologies. They will work through a summative project where they will use Agile concepts, tools and techniques to successfully manage a technical project from start to finish.

Student Learning Outcomes

Students will:

1. Manage a technical project from start to finish using key Agile methodologies, concepts, tools and frameworks.
2. Create and monitor a tracking board to organize sprints and share information with the project team throughout the lifecycle of an Agile project.
3. Initiate an Agile project by decomposing a release plan into user stories and analyzing project risks.
4. Plan an Agile kickoff sprint in PM software by grooming a backlog, establishing a point structure, and committing to the sprint.
5. Develop a hypothetical scrum team through executing a sprint by creating and analyzing a burn-down chart.
6. Develop a plan continuously improving team efficiency throughout sprint cycles by analyzing and resolving velocity issues.
7. Conduct a sprint review in PM software and close a project by facilitating a retrospective.

BUSA 2110. Business Communications

Course Description

Skill development in business writing with an emphasis on the preparation of letters and reports, and on presenting information in a logical, forceful and acceptable form. Included are strategies for effective oral communication in a professional environment.

Student Learning Outcomes

Students should be able to:

1. Identify the key terms and major theories relevant to business and professional communication.
2. Integrate communication and research skills to create a professional presentation.
3. Produce effective business and professional writing (reports and memos) samples.
4. Apply theory in order to effectively communicate as both a team member and as a leader.
5. Apply effective writing and formatting techniques to the composition of email messages, routine letters/memos, goodwill messages, negative messages, and persuasive messages.
6. Identify components of effective applications, resumes, and cover letters that demonstrate accurate English usage, employability skills, and overall interest and visual appeal.
7. Recognize effective interviewing techniques and employment follow-up procedures.
8. Distinguish business communication from personal and social communication.
9. Use of technology to communicate in the business world; and
10. Gain insights into ethics, etiquette, listening, teamwork, and nonverbal communication and make relevant observations.

BUSA 2118. Introduction to Supply Chain Management

Course Description

Students develop an understanding of the strategic importance of the supply chain design, planning and operation. Explore acquisition, control and delivery of materials, parts, equipment, and services - to include transportation, inventory and warehousing for end use in the organization. Introduce analytical tools necessary to solve supply chain problems and measure key drivers of supply chain performance. Special application to manufacturing.

Student Learning Outcomes

1. List historical milestones leading-to development of Supply Chain Management (SCM)practice (PLO 1)
2 Identify primary drivers of transportation cost (PLO 1)
3. Describe considerations for making warehousing decisions (PLO 1)
4. Describe principal differences in moving from domestic to cross-border operations (PLO 1)

5. Explain challenges Generally-Accepted Accounting Principles (GAAP) present todevelopment of SCM Key Performance Indicators - KPI (PLO 1)
6. Calculate a moving average to support time-series demand forecasting (PLO 2)
7. List chief concerns of upstream sourcing/purchasing/procurement (PLO 2)
8. Calculate Safety Stock levels to optimize the number of logistics network nodes (PLO 2)
9. Calculate Economic Order Quantity to support inventory planning (PLO 2)
10. Identify the key to effective SCM (PLO 3)
11. Identify the focus of Logistics planning (PLO 3)
12. Explain the functions of the Bill of Lading (PLO 3)

BUSA 2120. Introduction to Global Business

Course Description

Introduces international business and the globalization of the economy. The students are introduced to objectives, opportunities and challenges facing those who engage in business in foreign countries. Foreign organizations, cultural dynamics, trade channels, legal environment and political considerations are discussed.

Student Learning Outcomes

Students should be able to:

1. Describe important differences between international business and domestic business.
2. Synthesize the concept of globalization.
3. Define and use key terms relating to international business.
4. Identify basic trade patterns and underlying assumptions of trade theories.
5. Differentiate the major forms of operations, agreements, and organizational strategies firms may use to meet international objectives.
6. Discuss how home country, host country, and organizational cultures interact and how small business and the multinational enterprise are influenced by cultural variables.
7. Apply the strategy and structure of international business.

BUSA 2130. Business Statistics

Course Description

Use of statistics in business; techniques for describing and analyzing descriptive and numerical data; estimation, hypotheses testing, t-tests, and regression; application to business problems.

Student Learning Outcomes

1. Use descriptive statistics (graphic representation, numerical measures).
2. Apply basic probability concepts.
3. Use both discrete and continuous probability distributions.
4. Use the various sampling methods.
5. Calculate point estimates and construct confidence intervals.
6. Conduct one-sample and two-sample tests of hypothesis.
7. Develop a regression line and determine the strength of a correlation.
8. Apply statistical analysis to decision-making.
9. Use statistical software as available.

BUSA 2135. Business Statistical Analysis with Excel®®

Course Description

This introductory course in business statistics covers the collection, tabulation and analysis of business and economic data. Topics include averages, dispersion, statistical inference, correlation, regression and statistical decision-making. The student is expected to have an adequate knowledge of EXCEL®.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Use descriptive statistics (graphic representation, numerical measures).
2. Apply basic probability concepts.
3. Use both discrete and continuous probability distributions.
4. Use the various sampling methods.
5. Calculate point estimates and construct confidence intervals.
6. Conduct one-sample and two-sample tests of hypothesis.
7. Develop a regression line and determine the strength of a correlation.
8. Apply statistical analysis to decision-making.
9. Use statistical Software: Excel® and Pearson's PHStat2.

BUSA 2137. Employability Skills

Course Description

This course is designed to help students/potential employees recognize and develop positive personal qualities in preparation for successful employment. It also focuses on the communications skills, including interviewing and resume preparation, customer service skills, effective interpersonal skills, productivity, ethical standards and career development that are demanded by employers.

Student Learning Outcomes

1. Define ethics and its impact both personally and professionally.
2. Explain the importance of a professional appearance and guidelines for professional attire.
3. Describe appropriate professional etiquette in business situations.
4. Describe the relationship among responsibility, accountability, teamwork and leadership.
5. Define and describe personality traits, values and learning styles.
6. Identify individual personality traits, values and learning styles.
7. Describe the importance of goal setting and setting priorities.
8. Create short-term and long-term goals.
9. Explain the key principles of money management.
10. Define quality and its importance to the business.
11. Identify and describe the importance of customers and customer service.
12. Describe the causes and signs for stress and the impact on workplace performances.
13. List the techniques for effective time management.
14. Create a professional networking list.
15. Create a preliminary resume.
16. Identify proper situational leadership and teamwork activities.
17. Create the proper message of professionalism through personal appearance.
18. State the key steps in conducting a job search.
19. Identify interview process activities: pre-interview, during the interview, post-interview.
20. Demonstrate the proper way to respond in an interview situation.
21. Create a personal brand through written correspondence.
22. Develop a standardized cover letter and resume.

BUSA 2140. Integrated Management

Course Description

This course provides a management-simulated environment to make critical decisions based on the situations that arise in operating competitive business enterprises**.**

Student Learning Outcomes

1. Manage people, processes, and resources within a diverse organization.
2. Apply knowledge of leadership concepts in an integrated manner.
3. Analyze the internal/external factors affecting a business/organization to evaluate business opportunities.

BUSA 2150. Integrated Business Concepts

Course Description

Business Administration Capstone Course—A review and assessment of integrated concepts in accounting, ethics, economics, finance, marketing, and management. Students should take this course in their last semester.

Student Learning Outcomes

Students should be able to:

1. Identify and be able to apply accounting concepts to a real-world example, including GAAP and analysis of financial statements.
2. Identify and be able to apply economic concepts to a real-world example, including opportunity cost; supply/demand; GDP and inflation; unemployment, fiscal and monetary policy; and elasticity, utility, and product markets.
3. Identify and be able to apply marketing concepts to a real-world example, including the 4 Ps of marketing (product, price, place, promotion), marketing strategies, target markets, and value creation.
4. Identify and be able to apply finance concepts to a real-world example, including time value of money and its application in decision-making; knowledge of capital markets and securities (debt and equity).
5. Identify and be able to apply management concepts to a real-world example, including functions of management, theories of management, and leadership styles.
6. Identify and be able to apply ethical concepts to a real-world example as they apply to accounting, economics, marketing, finance, and management.

BUSA 2170. Quality Management

Course Description

Quality Management is an advanced course focusing on the role of leadership in a quality–management environment. Specifically, the course will examine the characteristics, functions, and influence of leaders within the interconnected strategies that emphasize the application of the five pillars of a Total Quality organization: Customer Satisfaction, Systematic Support, Total Involvement, Measurement, and Continuous Improvement. Topics will include leadership, quality teams, Lean Management techniques and Business Process Re-Engineering (BPR).

Students Learning Outcomes

1. Identify the 7 key components of a quality organization:
    a. Leadership (Characteristics; Organizational Culture)
    b. Strategic Planning (Internal and External Factors)
    c. Customer Focus (Relationships with Customers)
    d. Information and Analysis (Measurement)
    e. Human Resources (Employee Engagement)
    f. Process Management (Continuous Improvement)
    g. Results (Bottom Line Impacts)
2. Recognize how the components are inter-related within a quality system (systems thinking).

BUSA 2175. Personal Development

Course Description

Development of a marketable, employable office systems person, to include interview, voice, manners, and apparel.

Student Learning Outcomes

Students should be able to:

1. Plan, compose and create a resume, list of references, letter of application and other job search documents.
2. Research job leads.
3. Prepare for job interviews.
4. Perform self-assessment and self-examination in order to improve soft skills.
5. Develop soft skills to improve employability and job success.

BUSA 2180. Introduction to E-Commerce

Course Description

Survey of methods and practices in e-commerce. Topics include the evolution and forms of e- commerce, secure online business transactions, and basic business concepts of e-commerce.

Student Learning Outcomes

Students should be able to:

1. Discuss the foundations and importance of e-commerce.
2. Analyze the impact of e-commerce on business models and strategy.
3. Describe the infrastructure for e-commerce.
4. Discuss legal issues and privacy concerns in e-commerce.
5. Analyze electronic payment systems.
6. Identify and discuss global e-commerce issues.

BUSA 2185. Business Communications

Course Description

Practice in the writing and editing of workplace documents, including correspondence, reports, and proposals.

Student Learning Outcomes

At the conclusion of the course, students should be able to:

1. Conduct self-directed research for user-centered projects.
2. Express a primary purpose in a compelling statement and order supporting points logically and convincingly.
3. Use effective rhetorical strategies to persuade, inform, and engage.
4. Employ writing and/or speaking processes such as planning, collaborating, organizing, composing, revising, and editing to create presentations using correct diction, syntax, grammar, and mechanics.
5. Integrate research correctly and ethically from credible sources to support the primary purpose of a communication.
6. Engage in reasoned civic discourse while recognizing the distinctions among opinions, facts, and inferences.

BUSA 2195. Budget and Resource Management

Course Description

Exposes the student to earned value method and resource allocation to establish a realistic project baseline. Strategies used to effectively monitor, measure and control cost and schedule are also addressed. Emphasis will be placed on applying effective methods for keeping the project budget and schedule on target, setting project standards and effective use of metrics to measure project success.

Student Learning Outcomes

Students completing this course will be able to:

1. Create a Work Breakdown Structure (WBS) for a complex project and determine management control points within the WBS.
2. Demonstrate setting up Work Packages and Control Accounts.
3. Develop criteria for an Earned Value system.
4. Define different means of measuring progress on projects and understand which ones to select for a given type of project.
5. Calculate Earned Value variances and efficiency factors.

6. Evaluate the status of a project using Earned Value.
7. Be able to calculate different project Estimates at Completion and use them to predict where the project will actually finish compared to the baseline plan.

BUSA 2198. Project Management Applications

Course Description

This course applies the Project Management Body of Knowledge (PMBOK) to managing projects, schedules, labor, and resources. This body of knowledge aligns with the Certified Associate Project Manager (CAPM) certification, which is a nationally recognized documentation of the fundamental knowledge, terminology and processes of effective project management.

Student Learning Outcomes

Students completing this course will be able to:

1. Develop a project charter, project plan, and project proposal.
2. Create a Work Breakdown Structure (WBS) for a complex project and determine management control points within the WBS.
3. Formulate Work Packages and Control Accounts.
4. Characterize the range, scope, critical path, and complexity of modern projects.
5. Create a risk management plan.
6. Apply project management tools and techniques for a complex project.
7. Use critical thinking methods to analyze and incorporate various project management knowledge areas for a complex project.

BUSA 2210. Small Business Management

Course Description

The managerial functions and processes as related to the small business environment. These managerial functions include exploring entrepreneurial opportunities and analyzing new –venture activities needed for the successful operation of small firms. Students will also examine the benefits and risks or owning a small business. Topics include: facts about small business, essential management skills, how to prepare a business plan, financial needs, marketing strategies, and legal issues.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Recognize why entrepreneurship is important.
2. Explain small business management.
3. Recognize the general areas of management.
4. Discuss how business works.
5. Identify different ways to enter the business environment
6. Know how to search for information on the Web.
7. Identify the different forms of business ownership.
8. Discuss issues surrounding human resource management in a small business setting
9. Describe methods used to create breakeven points for business.
10. Compare and contrast creating a new business, purchasing an established business, or franchise.
11. Specify the different organization and management styles used for business.
12. Identify and describe the different financial statements.
13. Understand the startup process for a small business.
14. Explain the various types of security risks that can threaten businesses.
15. Recognize the various types of communication and marketing technologies used by business.
16. Discuss the commercial applications of information technology in business.

17. Address contemporary trends and issues in the business world.
18. Discuss how e-commerce has changed the way we do business.
19. Use productivity software such as PowerPoint, Excel® and Microsoft.
20. Discuss issues surrounding entrepreneurship.

BUSA 2220. Human Resource Management

Course Description

This course covers those topics which would be relevant to the role of human resource department in today's firm. Topics include: human resource management, compensation and benefits, labor relations, E.E.O., affirmative action, employment and placement, training and development, and other related topics.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to

1. Present the relevant details of human resource management as it applies to organizational effectiveness and competitive advantage.
2. Provide a framework to describe the ramifications of human resource decisions upon the organizational environment.
3. Understand the legal and ethical aspects of human resources in manner that highlights the relevance of these aspects in human resources and the business environment.
4. Describe how firms can use human resource (HR) initiatives to cope with workplace changes and trends such as a more diverse workforce, the global economy, downsizing, and new legislation, including how a firm's human resources can influence its performance.
5. Formulate and implement HR strategies that can help the firm achieve a sustained competitive advantage.
6. Describe the different organizational structures and the business environments as it related to human resources.
7. List the factors influencing worker motivation that are under a manager's control.

BUSA 2230. Human Relations in Business

Course Description

This course is an examination and application of personal and interpersonal competencies and skills needed in a business setting to understand oneself, one's co-workers, employers, and customers. Students will investigate and examine attitudes, behavior, ethical behavior and cultural influences that affect the business environment. It offers structured situations in which interpersonal relationships and communication skills are explored.

Student Learning Outcomes

Students should be able to:

1. Identify and describe the relevance and development of human relations theories as they apply to management, interpersonal interactions, leadership, conflict resolution and other behaviors in the workplace.
2. Critically examine how individual beliefs, values, attitudes and perceptions of the world are formed and discuss how they affect self-esteem and human interactions in the workplace individually and in formal and informal groups.
3. Recognize differing communication styles and apply effective communication skills to various workplace situations.
4. Examine the interrelationships between self, culture, ethnicity, gender and personal environment and analyze their effects on the development of individual work behaviors.
5. Articulate the factors that influence the development of communication, self-esteem, motivation, trust, leadership and conflict resolution skills.
6. Apply knowledge of human behavior and its origins to the analysis of workplace case studies and the development of solutions to workplace dilemmas.
7. Apply ethical decision-making in business situations.

BUSA 2240. Customer Service in Business

Course Description
Established concepts of service quality in relationship to business success and maximization of returns to the organization. Explores techniques for delivering quality and service in a variety of business settings.
Student Learning Outcomes
Students should be able to:
1. Define customer service and the role it plays in business.
2. Identify and discuss the needs of customers, including online customers.
3. Identify and describe exceptional customer service.
4. Explain customer service strategy and its role in business.
5. Identify the skills need in order to provide exceptional customer service.
6. Discuss ways to resolve customer service problems and challenges.
7. Discuss ways to manage diverse customers.

BUSA 2250. Work Readiness
Course Description
Instruction in methods of selecting, seeking, acquiring and retaining employment. Work success skills, business etiquette, employer expectations and workplace norms are addressed.
Student Learning Outcomes
Students should be able to:
1. Catalog personal and professional information that will be aid in career planning and job search processes.
2. Develop methods of establishing short- and long-term career goals.
3. Recognize the strengths of the various kinds of resumes and how they are used based on the one's career status and type of job being sought.
4. Explain the importance of good communication and work etiquette in job success.
5. Demonstrate how to create a professional image to increase job search success.
6. Explore career management opportunities and practices.
7. Demonstrate successful interview techniques.
8. Compare and contrast employee and employer expectations.
9. Discuss and ethical and appropriate work practices.
10. Prepare a job specific resume, cover letter, and follow up/thank you letter which are professional and appropriate.

BUSA 2260. Principles of Strategy
Course Description
Case studies and projects that prepare students to apply their management training will be emphasized. Assignments in planning, decision making and problem solving will promote the development of capabilities in all areas of management.
Student Learning Outcomes
1. Students will be able to formulate and implement strategies as part of realistic business case studies.
2. Students will be able to integrate their overall business knowledge with the social, political, ethical, technological, and international dimensions of managerial decision making.

BUSA 2270. Organizational Behavior
Course Description
Covers the fundamentals of human behavior within business organizations, organizational relationships and communication processes that affect motivation and human behavior.
Student Learning Outcomes
Students completing this course will:
1. Define Organizational Behavior terms and concepts.

2. Explain how Organizational Behavior theories have been applied to the understanding of the organizational dynamics of leadership, management, employee engagement, and effectiveness.
3. Apply Organizational Behavior studies to organizational culture, strategic planning, and Human Resource Management.
4. Describe how individual capabilities and organizational citizenship behaviors (OCB) can be improved at all levels of the organization with an understanding/application of Organizational Behavior theories.

BUSA 2280. Total Compensation

Course Description

Covers the fundamentals of human behavior within business organizations, organizational relationships and communication processes that affect motivation and human behavior.

Student Learning Outcomes

Students completing this course will:

1. Describe the types of compensation that organizations can utilize.
2. Discuss pay equity methodologies.
3. Weigh choices of and between employee benefits offerings.
4. Demonstrate understanding of employee recognition and rewards best practices.
5. Describe the function and key components of HR Information Systems.

BUSA 2290. Maximizing Human Capital

Course Description

A wide-ranging overview of training and development, performance management, discipline, and staffing and succession planning. Introduction of HR's role in fostering positive leadership and teamwork, and a summary of professional career paths in the Human Resources field.

Student Learning Outcomes

1. Identify the major components of and differences between training, coaching, and employee development.
2. Describe HR's role and the essential steps in performance management and discipline.
3. Weigh choices in recruitment and selection methodologies and best practices.
4. Explain basic steps in succession planning and strategic staffing to support long-term objectives.
5. Discuss HR's role in fostering effective leadership and teamwork behaviors in employees.
6. List and describe career paths and professional development in professional Human Resources.

BUSA 2310. Principles of Advertising

Course Description

This course is a survey of the history of the advertising media available today, taking into consideration the advantages/disadvantages of each. It discusses the psychological approach to consumer persuasion, the techniques used in media selection and the creative processes of advertising.

Student Learning Outcomes

Upon successful completion of this course, the student should be able to:

1. Discuss how advertising evolved, its history and its functions.
2. Identify the classifications of advertising used today and discuss why they are used.
3. Discuss the pros/cons of the economic impact of advertising.
4. Enumerate the social responsibilities and legal aspects of advertising today.
5. Recognize the major criticisms aimed at advertising and explain validity of these criticisms.
6. Locate and make use of specific laws that regulate advertising, (do's and don'ts).
7. List and describe the various regulatory bodies that influence advertisers' activities.

8. Explain the powers and limitations of these regulatory bodies.
9. List the steps that are involved in marketing and advertising research.
10. Discuss how market research relates to advertisement planning and strategy as it applies to consumer behavior and market segmentation.
11. List the creative processes used in advertising as they relate to the following items, (used by print media, electronic media, direct mail, out-of-home media, transit advertising, specialty advertising, and special promotional advertising):
    a. Copywriting or writing copy.
    b. Copy terminology.
    c. Creating names for products.
    d. Art direction.
    e. Layout of advertisements
    f. Packaging design.
    g. Typography.
    h. Typesetting methods.
    i. Printing processes.
12. Recognize the various media available for planning purposes. List and discuss the factors that determine media selection.
13. Identify the kinds of advertising done today, the objective to be achieved and various institutions or entities that use each. I.e. corporate advertising—image enhancing, patronage, local, regional, international.
14. List and discuss the differences between domestic and international advertising and show how they interact and interrelate.

BUSA 2330. Retail Management

Course Description

Focuses on the changing demographics of retail marketing, the growth of new retail formats, the phases of retailing, and the organization, management, and operation of retail enterprises.

Student Learning Outcomes

Students should be able to:

1. Define retailing in its various perspectives and explain its importance.
2. Explain the steps in strategic planning for retailing.
3. Describe consumer demographics, lifestyle factors, needs and desires.
4. Discuss consumer attitudes toward shopping and consumer shopping behavior, including the consumer decision process and its stages.
5. Analyze the retailing process (e.g., store location and layout, buying, receiving, pricing and merchandising, and inventory management), the environment, which it operates in, and the functions are that performed.
6. Explain and discuss merchandise mix, pricing, and assortment concepts and strategies.
7. Identify constraints placed on retail strategy by regulator and ethical environments.
8. Discuss the challenges and opportunities in managing a retailing organization.

BUSA 2340. Sales

Course Description

An analysis of the principles and techniques of personal selling as a form of persuasive communication. Sales principles, consumer behavior, the process of the sales interview, and demonstration of selling and promotional skills are explored.

Student Learning Outcomes

Students should be able to:

1. Define selling (considered from various perspectives); discuss its impact, and its special characteristics.
2. Explain the steps within the selling process.
3. Describe consumer behavior.
4. Explain the social and ethical responsibilities involved in sales transactions.
5. Identify opportunities in retail, industrial, and business-to-business sales.
6. Identify and discuss the six elements of the sales presentation mix.
7. Apply the seven techniques for handling customer objections.
8. Demonstrate effective communication and negotiation skills.

BUSA 2410. Leadership and Group Dynamics

Course Description

Focuses on the development of leadership skills. Course is designed to provide the basic steps in leadership and group dynamics to help individuals develop a personal philosophy of leadership of the moral and ethical responsibility of leadership.

Student Learning Outcomes

Students should be able to:

1. Demonstrate the importance of communication in achieving operational results in organizations.
2. Apply basic management theories to the supervisory/management of basic business functions.
3. Describe the interrelationship of resources in business operations and the importance of utilizing appropriate information technology to track resource allocation.
4. Apply a critical thinking /problem solving process for making a viable choice among a variety of options.
5. Demonstrate application of ethical standards in a socially responsible manner.
6. Explain the relationships among negotiation and conflict, influencing tactics, power, and politics.

BUSA 2420. Tribal Law

Course Description

This course will examine the special relationship that exists between the federal government and tribal governments. It includes jurisdiction in Indian country, state tribal relations and tribal governing structures.

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1. Compare tribal governments to modern day tribal governments.
2. Identify tribal sovereignty and the U.S. government's obligation to protect tribal lands.
3. Identify jurisdictions in Indian Country.
4. Discuss what federal statues mean and their implication in Indian Country.
5. Examine contemporary legal issues affecting tribes and how Supreme Court decisions affect tribal governments.
6. Discuss and utilize effective advocacy skills in moot court trial settings

BUSA 2430. Tribal Leadership

Course Description

This course will focus on the theories, practices and styles of Leadership, compared to the cultural theories and cultural styles of leadership among tribal leaders. Styles of leadership characteristics of tribal leaders of the past are also covered. Students will examine the foundations of community leadership in the areas of public policy and community development in Indian Country. The class will cover such topics as: (1) theory and fundamentals of leadership skills, (2) Tribal, State/Federal authority, (3) leadership issues unique to Indian communities, individuals within tribal government and within tribal businesses, and (3) the application of leadership skills in tribal leadership roles.

The course will also include biographies of and lectures by outstanding Native American community leaders throughout the trimester.

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1. Examine and apply the knowledge and skills needed in working towards Indian community renewal by applying native and western leadership theory.
2. Identify and apply adaptive styles and techniques that link general tribal traditional views to the reforming of basic traditional and non-traditional government and economic institutions to meet the needs of the community.
3. Develop and apply basic leadership skills through critical thinking and the understanding of traditional theories using traditional tribal and modern western philosophies.
4. Recognize and understand various sides of critical issues facing tribal councils in Indian Country today.

BUSA 2440. Tribal Management

Course Description

This course will focus on basic management principles of tribal governments, including the functions of management within tribal reservations, tribal councils, tribal casinos and other business ventures.

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1. Identify tribal values and styles of management that impact tribal management situations.
2. Identify principles of management within the various departments in traditional tribal government.
3. Distinguish principles of management and organization leadership in tribal councils, committees, casinos and other Indian business ventures.
4. Describe the management of tribal assets in the ceded territories
5. Apply the use of terminology in the preparation of written assignments.
6. Discuss global diversity issues.
7. Compare and contrast traditional management teachings and tribal management.

BUSA 2450. Tribal Resources and Economic Development

Course Description

This course will focus on current economic issues confronting tribes and the larger Indian society. Students will analyze and study the traditional economic systems in order to compare tribal and Western economic systems and concepts within cultural, legal and historical content. Students will explore new visions for the tribe and create a vision plan for economic development.

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1. Examine and apply the knowledge and skills necessary to evaluate and utilize current economic issues confronting tribes and the larger Indian society for the benefit of tribes.
2. Identify and compare tribal and western economic systems and concepts within cultural, legal, and historical contents as they relate to current native economic development.
3. Develop and apply basic leadership skills through critical thinking and the understanding of traditional theories using traditional tribal and modern western philosophies.
4. Examine and apply concepts, which underlie the success of either individual or tribal entrepreneurial business ventures.
5. Examine and apply different business models, which have been used to create new businesses on reservations and the values expressed by those businesses.

BUSA 2460. Business Ethics

Course Description

The course examines the underlying dimensions of ethics in business, investigating ethics in relationship to the organization and its culture, stakeholders, and society. Exploration of ethical issues from a historical perspective, analyzing actual events

through the lens of ethical business decision-making, including legal/political, sociocultural, economic and environmental considerations will be undertaken.

Student Learning Outcomes

1. Explain business ethics in the context of the varying demands and expectations of the organization's stakeholders.
2. Analyze how an organization's leadership impacts the ethical environment and culture of the workplace and the business decisions made by organizational members.
3. Examine the difference between personal ethical values and those of a business organization.
4. Discuss the ethical dilemmas presented by technology.
5. Discuss the consequences of unethical and ethical business decisions.
6. Examine the role of corporate social responsibility in the business enterprise.
7. Recognize the variety of social/ethical norms exhibited by business organizations internationally.
8. Develop a methodology for making ethical business decisions.

BUSA 2551. Applied Generative AI for Business

Course Description

Discover how generative AI is transforming the way businesses operate, create, and compete. In this hands-on course, students will explore the fundamentals of AI technologies, examine real-world business applications, and gain experience using generative AI tools in a business context. Students will also develop strategies for responsible AI integration and consider the ethical and legal implications of its use in modern business.

Student Learning Outcomes

1. Identify key concepts of generative AI and related technologies used in business.
2. Apply prompt engineering techniques and content structuring strategies to generate effective outputs in a business context.
3. Use generative AI tools to design solutions for real-world business tasks.
4. Develop a strategy for implementing generative AI in a business setting.
5. Analyze ethical, legal, and data-related risks of generative AI and propose responsible safeguards.

BUSA 2993. Business Administration Workshop

Course Description

Varies

Student Learning Outcomes

Varies

BUSA 2995. Business Administration Cooperative Work Experience

Course Description

Varies

Student Learning Outcomes

Varies

BUSA 2996. Business Administration Topics

Course Description

Varies

Student Learning Outcomes

Varies

BUSA 2997. Business Administration Independent Study

Course Description

Varies
Student Learning Outcomes
Varies

BUSA 2998. Business Administration Internship
Course Description
Varies
Student Learning Outcomes
Varies

BUSA 2999. Capstone
Course Description
Focuses on assessment of Student Learning Outcomes for Business program of study.
Student Learning Outcomes
Students should be able to:

1. Apply general business, marketing and management concepts in a global environment.
2. Create and interpret financial documents (income statements, balance sheet, and profit and loss statements).
3. Work and interact with others as part of a team.
4. Systematically research and evaluate issues and problems and develop and apply possible solution.
5. Organize and express ideas clearly in verbal and written form; and
6. Apply solutions using technology to general business, marketing, and management situation.

BUSA XXXX. Principles of Supervision (IS THIS BUSA 1320?)
Course Description
Principles of supervision emphasizing planning, organization, rating of employees and procedures to develop good morale. Introduction to interpretation of case studies.
Student Learning Outcomes
Students should be able to:

1. Describe the history of management/supervision; organizational environments and cultures; and ethics and social responsibility.
2. Identify the elements that are necessary to be a successful supervisor in today's workforce.
3. Explain planning, how to make a plan that works, steps involved with decision making, organizational strategy, innovation and change in the business environment, and the global business climate.
4. Explain concepts concerning organizing, organizational structure, adaptive organizations, supervising teams and individuals, job design, managing human resource systems, diversity, and supervising individuals and a diverse workforce.
5. Explain components of leadership to develop good morale and motivation, including defining theories of motivation and leadership, and managing effective communication.
6. Explain the control process and methods, managing information and describingwhy productivity and quality matters to supervisors.
7. Define and analyze essential supervisory skills including: team cohesiveness, human relations, decision making skills, planning and goal setting.
8. Summarize the importance of high ethical standards within the organization and for the employee.

Business Computer Information Systems (BCIS)

BCIS 1110. Fundamentals of Information Literacy & Systems

Course Description
Examination of information systems and their impact on commerce, education, and personal activities. Utilization of productivity tools for communications, data analysis, information management and decision-making. (Statement added 7.1.24 – This course is designed for Associate of Science and Associate of Applied Sciences business type (non-computer science) degree programs.)

Student Learning Outcomes
Students should be able to:

1. Describe the social impact of information literacy and systems in relation to commerce, education, and personal activities.
2. Explain how to use the information resources legally, safely, and responsibly in relation to ethical, security, and privacy issues.
3. Evaluate bias, accuracy and relevance of information and its sources.
4. Use productivity tools for communications, data analysis, information management and decision-making.
5. Describe and use current information systems and technologies.

BCIS 1111. PC Basics for Home and Office
Course Description
This course is an introduction to common PC management and maintenance issues typically encountered by home and office users. Topics include hardware identification, using Windows utilities, modifying Windows settings, basic PC maintenance processes, and troubleshooting popular Windows features and applications. Basic elements of computer network setup and configuring security features will be discussed.

Student Learning Outcomes

1. Locate, configure, and use basic Windows operating system (OS) features and utilities.
2 Identify major PC internal components and resolve common hardware issues.
3. Evaluate app/driver settings and correct common deficiencies.
4. Detect and resolve basic network connectivity issues.
5. Identify basic cybersecurity threats and solutions.

BCIS 1115. Introduction to Computers
Course Description
This is a lecture and hands-on course on different technologies commonly used in business and different agencies like computer, printer and other computer devices. It includes introduction to hardware, operating software, and MS Office® applications like Excel® Word, Access, PowerPoint, Publisher, & other MS Office Tools. The class will include an overview of the history of technology and its future, as well as giving a fundamental introduction to industry-standard application software for word processing, spreadsheet, database management, and graphics. Basic computer use, files and file structure, windows, the Internet, programming, ethics, and security will also be addressed. (Statement added 7.1.24 – This course is designed for Associate of Arts in a business curriculum.)

Student Learning Outcomes (Updated 7.1.24)
Upon successful completion of this course students should be able to:

1. Describe and apply basic information technology terminology.
2. Identify and use hardware components of IT systems.
3. Describe and apply concepts of file management.
4. Demonstrate basic concepts of application and operating systems software.
5. Identify and explain basic concepts of information management, the principles of databases, and database management systems.
6. Identify and explain important ethical, security, and privacy issues in information systems.
7. Create and use spreadsheets.
8. Use Internet search engines for research.

BCIS 1120. Computer Literacy

Course Description

Overview of computer hardware, software, and the Windows or Linux environment. You will cover basic computer operating principles, file management, the using the Internet, along with an introduction to word processors, spreadsheets, and database programs.

Student Learning Outcomes

1. PC and other types of Computer terminology doing hands-on and assignments.
2. Fundamentals of hardware usage inside and outside PC working on assigned projects.
3. Know the difference of Operating systems through lectures and textbooks.
4. Communicate with other classmates and instructor using school email system.
5. Use different software (hands-on) to work on assigned projects.
6. Students will be able to do a final presentation using PowerPoint.

BCIS 1160. Windows

Course Description

This course prepares students to develop the skills needed to deploy and manage Windows. Students will learn how to manage and troubleshoot Windows 10 devices in a secure network environment. Students will also learn to run multiple operating systems using client Hyper-V. Microsoft Intune will be utilized to teach students to manage Windows 10 mobile and desktop devices in a cloud-based environment. Out-of-class computer work is required.

Student Learning Outcomes

At the conclusion of the course, the student should be able to:

1. Demonstrate how to install Windows.
2. Execute System Utilities.
3. Explain how to manage disks and file systems.
4. Recount the features of user management.
5. Describe Windows security features.
6. Identify the features of user productivity tools and application support.
7. Highlight the steps to complete performance tuning and system recovery.
8. Outline in detail how Microsoft Intune Device Management is utilized.
9. Summarize how to run multiple operating systems inside a virtual machine using Client Hyper-V
10. Summarize Enterprise Computing.
11. Illustrate Remote Access and Client Support processes.

BCIS 1210. Introduction to MS Access

Course Description (Description updated 7.1.24)

This course introduces MS Access software. Students will learn design, development, and maintenance of relational database management systems. Students will be expected to implement the concepts by developing projects. Students will learn techniques for adding, updating, querying, and sorting data, create forms, queries and reports using the stored data.

Student Learning Outcomes (Student Learning Outcomes updated 7.1.24)

Upon successful completion of this course students should be able to:

1. Identify the basic Access (Database) concept.
2. Describe and apply basic skills in data importing, data formatting, and table creation.
3. Recognize and demonstrate the concepts of creating, editing, and formatting Databases.
4. Apply and demonstrate the concepts of creating and working with queries, forms, and reports.
5. Utilize tables in creating databases.
6. Analyze data using reports.

BCIS 1211. MS Outlook

Course Description (Description updated 7.1.24)

Covers concepts such as managing messages, appointments, contacts and tasks, as well as tracking activities. Students should have basic computer knowledge and skills, including Windows operating systems, keyboarding, file management.

Student Learning Outcomes

1. Create and send Email messages.
2. Use Outlook tools to manage and archive Email messages.
3. Create a Calendar of appointments and events.
4. Create Contacts and Distribution Lists.
5. Create, assign, track, respond to, and organize Tasks.
6. Create and manage Notes.

BCIS 1215. Introduction to MS Excel® I

Course Description (Description updated 7.1.24)

This course introduces Microsoft Excel spreadsheet software. Coverage includes creating, editing, manipulating, and printing workbooks, charts, features and commands, spreadsheet design, formulas, and functions.

Student Learning Outcomes (Updated 7.1.24)

Upon successful completion of this course students should be able to:

1. Identify the basic Excel (spreadsheet) concept.
2. Describe and apply basic skills of worksheet and cell formatting, charts, and tables.
3. Recognize and demonstrate the concepts of creating, editing, and formatting worksheets.
4. Apply and demonstrate the concepts of working with charts.
5. Apply formulas and functions.
6. Analyze data using formulas and compiling workbook data.

BCIS 1220. Introduction to MS Word®

Course Description (Description updated 7.1.24)

This course introduces MS Word software. Basic word processing techniques and applications will be covered. Students will create, revise, store, share and retrieve documents. Students will learn various formatting techniques, use of tables, use of references tools.

Student Learning Outcomes (Updated 7.1.24)

1. Manage documents: navigate within documents; format documents; save and share documents; and inspect documents for issues.
2. Insert and format text, paragraphs, and sections: Insert text and paragraphs; format text and paragraphs; create and configure document settings.
3. Manage tables and lists: create tables; modify tables; create and modify lists.
4. Create and manage references: create and manage reference elements; create and manage reference tabs.
5. Insert and format graphic elements: insert illustrations/text boxes; format illustrations and text boxes; add text to graphic elements; modify graphic elements.
6. Manage document collaboration: add and manage comments; manage change tracking.

BCIS 1230. Introduction to MS PowerPoint®

Course Description (Description updated 7.1.24)

Introduction to the electronic presentation, specifically how to use, design and edit presentation graphics for use in a variety of personal and business applications. Students will learn how to create and work with design templates, auto layouts, and background slides. Also covered are how to add tables, charts, clip art, pictures, video, sound and animation effects.

Student Learning Outcomes (Updated 7.1.24)

Upon successful completion of this course students should be able to:

1. Create, edit, format, and save PowerPoint presentations.
2. Create and change templates.
3. Create, apply, and customize Master slides.
4. Create, apply, and customize presentation themes.
5. Create, apply, and customize styles presentations.

BCIS 1310. AI in Business Information Systems

Course Description

This course explores the transformative impact of Artificial Intelligence (AI) on contemporary business operations, with a focus on the capabilities and limitations of large language models (LLMs) like OpenAI's ChatGPT. Students will examine the evolution of AI, analyze its growing applications across industries, and learn to design effective AI prompts for various platforms. Emphasis will be placed on ethical considerations, responsible deployment, and the broader societal implications of AI technologies. Through hands-on projects and case studies, students will gain practical experience in evaluating, creating, and applying AI-driven tools to solve real-world business challenges while maintaining ethical integrity.

Student Learning Outcomes

1. Explain how artificial intelligence (AI) is transforming various business operations.
2. Identify the capabilities, limitations, and ethical considerations of OpenAI's ChatGPT and other large language models (LLMs).
3. Analyze the evolution of AI and evaluate its applications in modern business operations.
4. Design and engineer effective AI prompts across multiple platforms.
5. Evaluate the ethical implications and societal impact of AI technologies.
6. Create and apply AI-driven tools ethically and responsibly.
7. Assess the role of AI in modern business operations.

B**CIS 1330. Introduction to Analytics and Data Visualization**

Course Description

This course introduces basic concepts and applications of analytics and key concepts in data visualization and reporting. Topics include an overview of the analytical process and the role of the analyst, applied descriptive statistics, exploratory data analysis and methods used in graphical representation of data, exploration and reporting of data, and basic linear regression methods.

Student Learning Outcomes

Students completing this course should be able to:

1. Explain the analytical process and the role of the analyst.
2. Utilize applied descriptive statistics to make basic business decisions.
3. Utilize exploratory data analysis to make basic business decisions.
4. Utilize concepts and methods in the graphical representation of data.
5. Utilize concepts and methods in the exploration and reporting of data.
6. Conduct basic linear regression methods.
7. Apply data visualization concepts to communicate insights about data.

BCIS 1410. Data and Information Management

Course Description
The course will also include coverage of basic database administration tasks and key concepts of data quality and data security. In addition to developing database applications, the course helps the students understand how large-scale packaged systems are highly dependent on the use of DBMSs. Building on the transactional database understanding, the course introduces data and information management technologies that provide decision support capabilities under the broad business intelligence umbrella.

Student Learning Outcomes

1. Understand and use at least one conceptual data modeling technique (such as entity-relationship modeling) to compute the information requirements for an enterprise domain.
2. Understand the basic mechanisms for accessing relational databases from various types of application development environments and ability to design high-quality relational databases.
3. Understand the purpose and principles of normalizing a relational database structure.
4. Implement a relational database design using an industrial strength database management system, including the principles of data type selection and indexing.

BCIS 1610. Intermediate Computing

Course Description
This course is a continuation of BCIS 1115 Introduction to Computers. This is the second course in a series of three that prepare the student to become Microsoft Office User Specialist (MOUS) certified. Word processing, spreadsheet, database, and presentations software are continued with intermediate skills being obtained. Out-of-class computer work is required.

Student Learning Outcomes
At the conclusion of the course, the student should be able to:
MS Word®

1. Create a personal planner MS Word®.
2. Develop a multi-page document.
3. Compose a resume and share documents.
4. Produce labels, letters, and envelopes using the mail merge feature MS PowerPoint®.
5. Generate custom slide masters and presentations.
6. Collaborate and add animation.
7. Format tables and charts within a presentation slide.
8. Enhance SmartArt and add media to slides.

MS Excel®

9. Implement financial functions, data tables, and amortization schedules.
10. Work with multiple worksheets and workbooks.
11. Create, sort and query a table.
12. Generate templates, import data and work with SmartArt, images and screenshots.

MS Access®

13. Maintain a database.
14. Construct reports and forms.
15. Compose advanced report techniques.
16. Design advanced form techniques.

BCIS 1750. Microsoft Outlook and Office Procedures

Course Catalog Description:

This course provides information about office principles and procedures that are used in the fast-paced offices of today. Student will become proficient using Microsoft Outlook and other current technologies to develop the foundational skills necessary to manage email, appointments, contacts, and tasks.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Demonstrate office skills in office communications, record management, proofreading, research techniques, planning meetings and conferences, writing and dictating correspondence.
2. Describe the technologies of the modern office such as electronic mail, word processing, information processing, and telecommunications.
3. Perform a mastery of punctuation, grammar, writing skills and indexing skills.
4. Manage records, make travel arrangements, and execute general administrative duties.
5. Define ethics and ethical behavior.
6. Manage the Outlook environment efficiently within a professional business setting.
7. Manage messages in an organized way for productivity.
8. Manage schedules to clearly communicate among professionals.
9. Manage contacts and groups to effectively connect business individuals.

BCIS 1890. Introduction to IT Support

Course Catalog Description:

This course is designed to provide an overview of the different types of helpdesks that exist as a single point of contact for managing customers' problems, and the varying roles and skills required within a typical helpdesk. In addition, the course will cover troubleshooting Microsoft Windows and Microsoft Office desktop applications, managing application updates and upgrades, as well as resolving folder and file issues.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Understand the history of end-user computing, how users increase their productivity with technology use, the resources users need to be productive, and common problems they encounter.
2. Describe the communication and customer service skills user support workers need.
3. Examine the many types of written communications a support specialist may be assigned to prepare, and explains how to plan, write, and evaluate end-user documents.
4. Learn problem-solving strategies that a user support specialist can apply to a troubleshooting situation.
5. Explore a multilevel support model and the incident management process.
6. Understand the mission of support groups and how to staff and train them.
7. Explore tools to help support workers analyze and assess user needs for technology solutions.
8. Understand how to plan training activities targeted at end users; how to prepare training materials; and how to present, evaluate, and improve training activities.

BCIS 1992. Directed Studies in Business Computer Information Systems

Course Description

Varies

Student Learning Outcomes

Varies

BCIS 1993. Workshop in Business Computer Information Systems

Course Description

Varies

Student Learning Outcomes

Varies

BCIS 1996. Topics in Business Computer Information Systems
Course Description
Varies
Student Learning Outcomes
Varies

BCIS 2110. Business Computer Applications
Course Description
The owner/manager approach to the use of microcomputers: systems design, software, business applications, and the Windows environment.
Student Learning Outcomes
1. Demonstrate an understanding of computing fundamentals terminology.
2. Be able to demonstrate and understand Essential Computer Skills.
3. Be able to use technology to solve problems.
4. Be able to use current applicable software.
5. Become knowledgeable consumers of technology.
6. Be able to use current information on emerging technologies (social networking, applications and converging technologies representing various fields which are in some way moving towards stronger inter-connection with existing technologies.

BCIS 2120. Desktop Publishing
Course Description
This course utilizes a variety of software packages to produce reports, brochures, advertisements, correspondence and newsletters. Various software packages are used such as Microsoft Office Publisher® and Adobe® InDesign CS Suite.
Student Learning Outcomes (Updated 7.1.24)
Upon Completion of this course with a grade of a 'C' or better, the student will be able to:
1. Effectively utilize the features of Microsoft Publisher, such as create, open, edit, save, view and print a publication.
2. Design and create top quality publications using templates, color schemes, text and graphics suitable for academic professional, and personal use.
3. Merge publications while working with advanced formatting.
4. Produce publications using design techniques, font schemes, object manipulation, and layout guides.

BCIS 2130. Web Design
Course Description
Design and create a website using HTML, CSS, web development tools and industry-recognized software while applying best practices in site management and business web presence.
Student Learning Outcomes
1. Identify and apply best practices for web design in a business setting
2. Create a basic web page utilizing WC# principles.
3. Explain the importance and impact of web presence in today's business environment.
4. Determine and utilize web page features and techniques for a specific business.
5. Create a web design management plan for business.
6. Discuss web page tools for performance and web traffic analytics.
7. Identify web design components for a mobile society.

BCIS 2140. Business Technology

Course Description

Focuses on how technologies are used to support business needs or initiatives. Course will cover such topics as Customer Relations Management (CRM), Enterprise Resource Planning (ERP), Point of Sale (POS), Accounting Information Systems, E-commerce, Artificial Intelligence (AI), Business Continuity Planning (BCP), risk management, operation security, and/or information security in addition to discussion of ethics as related to technology usage.

Student Learning Outcomes

1. Explain how technologies are used to support business needs.
2. Describe Accounting Information Systems, E-Commerce, and Artificial Intelligence.
3. Describe the functions of risk management.

BCIS 2150. Advanced Computing

Course Description

This course is a continuation of BCIS 1610 Intermediate Computing. This is the third course in a series of three that prepare the student to become Microsoft Office User Specialist (MOUS) certified. Word processing, spreadsheet, database, and presentations software are continued with advance skills being obtained. Out-of-class computer work is required.

Student Learning Outcomes

At the conclusion of the course, the student should be able to:

MS Word®

1. Demonstrate Collaborating, Integration and Charts in MS Word
2. Compose a reference document
3. Create on online form
4. Enhance an online form using Macros

MS PowerPoint®

5. Create Photo Albums and Deliver Presentations
6. Develop PowerPoint Skills using MOS Skills Training: Managing Presentations
7. Enhance PowerPoint Skills using MOS Skills Training: Managing Slides
8. Complete and Pass MOS Skills Exams: Managing Presentations and Managing Slides

MS Excel®®

9. Demonstrate working with Trendlines, Pivot Table Reports, PivotChart Reports, and Slicers
10. Analyze Formula Auditing, Data Validation, and Complex Problem Solving
11. Perform Data Analysis with Power Tools and Creating Macros
12. Demonstrate User Interfaces, Visual Basic for Applications (VBA), and Collaboration Features in Excel®

MS Access®

13. Design Macros, Navigation Forms, and Control Layouts
14. Administer a Database System
15. Design forms Administering a Database System

MOS Expert Exams®

16. Complete and pass the MOS Skills Exam for Word Expert: Using Advanced Word Features
17. Complete and pass the MOS Skills Exam for PowerPoint Associate: Applying Transitions and Animations
18. Complete and pass the MOS Skills Exam for Excel® Expert: Manage and Format Data
19. Complete and pass the MOS Skills Exam for Access Expert: Create and Modify Queries

BCIS 2210. Intermediate MS Access® (Title updated 7.1.24)
Course Description (Description updated 7.1.24)
This course provides an in-depth study of MS Access software. Students will develop intermediate to advanced projects that relate to supporting business needs and decision making. Intermediate topics include defining table relationships; import and export options; data validation; embedding; and use of the Table Analyzer for integrating and analyzing data.
Student Learning Outcomes (Updated 7.1.24)
Examine database concepts and explore the Microsoft Office Access environment.

1. Create, edit, format, and save Access databases.
2. Create, edit, and save tables, queries, forms, and reports.
3. Define a relationship between two tables.
4. Use the Like, In, Not, and & operators in queries.
5. Create a crosstab query.
6. Modify table designs using lookup fields, input masks, and data validation rules.
7. Use the Table Analyzer.
8. Understand the difference between importing, embedding, and linking external objects.

BCIS 2212. MS Access®
Course Description
This course provides an in-depth study of Microsoft Access® database software with a hands-on approach.
Student Learning Outcomes
Upon Completion of this course with a grade of a 'C' or better, the student will be able to:

1. Identify the basic Access (Database) concept.
2. Describe and apply basic to advanced skills.
3. Recognize and demonstrate the concepts of creating, editing, and formatting Databases.
4. Apply and demonstrate the concepts of working with queries, forms, and reports.
5. Utilize tables in creating databases.
6. Analyze data using reports from basic to advanced reports.

BCIS 2215. MS EXCEL®
Course Description
Microsoft Excel® 2010 is intended to provide comprehensive instruction in the major features of this spreadsheet application.
Student Learning Outcomes

1. Explore programs that comprise Microsoft Office 2010®.
2. Create MS Excel®® spreadsheets.
3. Format workbooks.
4. Apply formulas and functions.
5. Enhance workbooks with charts and graphics.
6. Apply concepts related to PivotTables and Pivot Charts when working with tables.
7. Use advanced functions and conditional formatting.

BCIS 2217. MS EXCEL®II CHANGED TO BCIS 2118 when reviewed by CS Working committee

BCIS 2218. MS EXCEL® II

This course provides an in-depth study of Microsoft Excel spreadsheet software. Coverage includes integration of Excel with other MS Office programs, using multiple worksheets/workbooks, what-if analyses, macros and forms, pivot tables and charts, and use of the Data Analysis Tool Pack.

Student Learning Outcomes (Updated 7.1.24)

Upon successful completion of this course students should be able to:

1. Develop and work with professional-looking worksheets.
2. Integrate Microsoft Excel with other Microsoft programs.
3. Work with multiple worksheets and workbooks.
4. Perform what-if analyses.
5. Enhance Microsoft Excel with Visual Basic.
6. Use and development of Pivot Tables and charts.
7. Introduction to the Data Analysis Tool Pack.

BCIS 2220. MS Word®II (Title updated 7.1.24) CHANGED TO BCIS 2221 to accommodate SIS course numbering logic as HEIs.

BCIS 2221. MS Word® II

Course Description (Description updated 7.1.124)

This course provides an in-depth study of MS Word software. Students will learn how to create professional business documents, templates, customize themes, mail merge, and reports with citations and references.

Student Learning Outcomes

Upon successful completion of this course students should be able to:

1. Create, edit, format, and save Word documents.
2. Create reports using chosen reference style which includes citations and bibliography.
3. Create a multiple-page report with tables, footnotes, and endnotes.
4. Create a professional newsletter, which includes inserting section breaks, formatting columns, inserting symbols, and distinguishing between online and inline objects.
5. Create and change templates.
6. Create, apply, and customize document themes.
7. Create, apply, and customize styles.
8. Create and edit documents using mail merge with data sources and main documents.

BCIS 2230. MS PowerPoint®

Course Description

Microsoft PowerPoint is a complete presentation graphics software program that produces a professional-looking presentation. PowerPoint enables informal presentations in a small conference room using overhead transparencies.

Student Learning Outcomes

1. Getting Started with Microsoft 2013.
2. Applying and Modifying Text and Graphic Objects.
3. Present several assigned presentations
4. Integration with other Programs

BCIS 2310. Spreadsheets and Data Analysis

Course Description

Evaluation of and advanced applications of electronic spreadsheets. Basic concepts of business statistics, data analysis, and management science integrated in a contemporary spreadsheet environment. Emphasizes practical applications and business decision making.

Student Learning Outcomes
Students will:
1. Develop and work with professional-looking worksheets.
2. Integrate Microsoft Excel®® with other Microsoft programs.
3. Work with multiple worksheets and workbooks.
4. Perform what-if analyses.
5. Enhance Microsoft Excel®® with Visual Basic®.
6. Use Microsoft Excel® to perform statistical analyses.

BCIS 2320. Introduction and Applied Analytical Programming
Course Description
This course introduces more advanced concepts of business analytics and the applications of statistical software for data management and reporting. Topics include an overview of data and text mining, forecasting and optimization techniques, data visualization, data security, ethics, data management, data preprocessing, and modeling including linear and logistic regression analysis using programming tools.
Student Learning Outcomes
Students completing this course should be able to:
1. Utilize statistical programming tools to conduct descriptive analytics.
2. Utilize business analytics and statistical software packages to solve advanced business analytical problems. Students will learn tools in predictive business analytics including:
    a. Correlation and Linear Regression
    b. Multiple Linear Regression
3. Logistic Regression

BCIS 2330. Introduction to Predictive Analysis and Applied Predictive Modeling
Course Description
This course introduces the foundations of predictive analytics and applying predictive models. Topics include basic predictive modeling methods for both classification and regression tasks, and the use of classification and regression models in real-world scenarios.
Student Learning Outcomes
Students completing this course should be able to:
1. Build and validate predictive models for classification tasks.
2. Build and validate predictive models for regression tasks.
3. Apply classification models to guide decisions.
4. Apply regression models to guide decisions.

BCIS 2340. Analytical Tools
Course Description
This course covers advanced statistical and analytic tools for use in decision-making, and the planning and execution of an analytics project that integrates the analytical knowledge and skills acquired through prior coursework. Topics include an overview of data mining, analysis of semi-structured and unstructured data, and text analytics. Students will define and carry out an analytics project from inception to final reporting.
Student Learning Outcomes
Students completing this course should be able to:
1. Analyze complex data, including semi-structured and unstructured data, using analytical tools and methods.
2. Apply analytical methods and best practices in a simulated business setting.

BCIS 2450. Social Media Management

Course Catalog Description:
In this introductory course, students will examine the role that social media plays in society, relationships, and enterprise. Learners will get hands-on experience with virtual communities and learn how to use a variety of social media tools to expand social awareness, create a digital presence, and develop a social media strategy. Upon completion, students should be able to create a blog, distribute digital content, lead a participative online community, and implement a social media campaign.

Student Learning Outcomes
Upon successful completion of this course, the student will:

1. Define different types of social media channels along with key trends in this evolving medium.
2. Describe and apply best practices for utilizing various social channels in marketing plans.
3. Research/ analyze audience behavior and needs in order to define target segments and develop appropriate marketing programs to achieve business objectives.
4. Describe and apply marketing techniques used in social/emerging media.
5. Create social media accounts with targeted objectives & outcome measurements.
6. Identify and define appropriate metrics of success for each medium.
7. Describe ethical issues of social media such as privacy, security, regulation, political impact, and new/emerging technologies.

BCIS 2993. Business Computer Information Systems Workshop
Course Description
Varies
Student Learning Outcomes
Varies

BCIS 2996. Topics in Business Computer Information Systems
Course Description
Varies
Student Learning Outcomes
Varies

BCIS 2998. CIT Internship
Course Catalog Description:
Students are required to work a minimum of nine hours per week in an office under the joint supervision of the employer and instructor. The instructor and student will meet with the employer to determine achievable student objectives for the semester. Students will meet in the Blackboard classroom every week to discuss their work placement and other work-related issues. They must also complete a Work Experience Handbook, time sheets totaling 135 hours, and present a detailed work experience report at the end of the semester.

Student Learning Outcomes
Upon successful completion of this course, the student will:

1. Get along well with co-workers and supervisors by receiving at least an average evaluation in this area.
2. Be cooperative and helpful in dealing with co-workers and supervisors by receiving at least an average evaluation in this area.
3. Be dependable and reliable in meeting all requirements and duties of your employer by receiving at least an average evaluation in this area.
4. Dress appropriately for the internship by receiving at least an average evaluation in this area.
5. Be productive and enthusiastic in performing the responsibilities required by your employer by receiving at least an average evaluation in this area.

6. Be prompt for work by receiving at least an average evaluation in this area.
7. Follow instructions by receiving at least an average evaluation in this area.
8. Display initiative by receiving at least an average evaluation is this area.
9. Produce acceptable work by receiving at least an average evaluation in this area.
10. Review and discuss workplace politics and personalities.
11. Present a detailed work experience report at the end of the semester.

Business Finance (BFIN)

BFIN 1010. Personal Financial Planning for College Students
Course Description
Introduces students to the basics of money management and financial skills necessary to meet real-world challenges. The course is interactive and will cover concepts and decision making through illustrations and real-life problems. Topics covered include budgeting, managing money, borrowing money and planning for the future.
Student Learning Outcomes
1. Explain how career selection is a financial decision.
2. Demonstrate the effect of career selection on personal budgeting.
3. Distinguish between types of consumer financial institutions.
4. Distinguish between types of consumer financial products.
5. Indicate the importance of personal history to consumer financial credit.
6. Explain how to select an appropriate consumer financial institution.
7. Describe personal tax responsibilities.
8. Describe types of personal risk and insurance products to help mitigate that risk.
9. Identify and use financial terminology appropriately.

BFIN 1110. Personal Financial Planning for College Students
Course Description
Introduces students to the basics of money management and financial skills necessary to meet real-world challenges. The course is interactive and will cover concepts and decision making through illustrations and real-life problems. Topics covered include budgeting, managing money, borrowing money and planning for the future.
Student Learning Outcomes
1. Explain how career selection is a financial decision.
2. Demonstrate the effect of career selection on personal budgeting.
3. Distinguish between types of consumer financial institutions.
4. Distinguish between types of consumer financial products.
5. Indicate the importance of personal history to consumer financial credit.
6. Explain how to select an appropriate consumer financial institution.
7. Describe personal tax responsibilities.
8. Describe types of personal risk and insurance products to help mitigate that risk.
9. Identify and use financial terminology appropriately.

BFIN 1115. Financial Services Career Exploration
Course Description
This course is designed to prepare students for a possible career in the financial services industry. Students will interact with financial industry experts, develop skills and knowledge necessary to obtain employment in the financial industry, and discover financial capability. Students will also gain personal finance, academic, and life skills necessary for successful transition into college and/or future employment.
Student Learning Outcomes
1. Describe methods of behavior and learning techniques to become more effective in school and the workplace.
2. Apply the personal and financial skills, knowledge and information needed to create and implement financial plans and be a good financial consumer.

3. Develop a career portfolio containing resume, cover letter, letter of recommendation and interview tip sheet.
4. Demonstrate effective interviewing techniques including appropriate dress, questions, responses, and non-verbal communication.
5. Collect key information regarding various employment opportunities within the financial services industry based on industry expert speakers and presenters.
6. Demonstrate knowledge of basic banking and non-banking services.
7. Examine the history of financial institutions in the United States and choices regarding financial empowerment and economic mobility.

BFIN 1210. Principles of Banking

Course Description

Survey of banking in today's economy. Topics include language, documents and processes of banking from the fundamentals of negotiable instruments to contemporary issues.

Student Learning Outcomes

Students should be able to:

1. Define and explain the importance of full-service commercial banking.
2. Explain the development of commercial banking in the United States and the federal legislation that shaped its development.
3. Explain the impacts of the banking industry on the economy, the community, and individuals.
4. Describe the major functions of commercial banks and their interrelationships.
5. Explain the functions and importance of the Federal Reserve System.
6. Compare and contrast time and demand deposits.
7. Define negotiable instrument and describe the features that make an instrument negotiable.
8. Explain check paying procedures and regulations.
9. Discuss the importance, necessity and process of bank investments.
10. Describe the role of the bank's board of directors in establishing and overseeing lending policy and identifying basic loan categories.
11. Explain the concepts of liquidity and its importance to the banking industry.

BFIN 1996. Special Topics in Business Finance

Course Description

Varies

Student Learning Outcomes

Varies

BFIN 2110. Introduction to Finance

Course Description

Introduces tools and techniques of financial management. Includes time value of money; financial planning, diversification and risk; debt and equity investment decisions; and financial statement analysis.

Student Learning Outcomes

Students should be able to:

Required

1. Explain the time value of money and its application in decision-making, including calculating present and future values of single payment and series of payments.
2. Identify the major sources of external long-term financing for corporations.
3. Explain risk-return tradeoff as it relates to diversification.
4. Differentiate the role of finance from other related disciplines such as accounting and economics.
5. Demonstrate knowledge of capital markets and securities (debt and equity).
6. Describe basic types of financial ratios and their uses.

7. Demonstrate the ability to prepare cash flows and make qualitative judgments on the relevance of the changes from one time frame to another.

Optional

1. Personal finance topics such as managing credit and investments.

BFIN 2120. Corporate Finance

Course Description

Introduces tools and techniques of financial management. Includes time value of money, financial planning, diversification, and risk; debt and equity investment decisions; and financial statement analysis.

Student Learning Outcomes

None Available

BFIN 2140. Personal Finance

Course Description

Introduces tools and techniques of personal financial management. Includes budgeting, credit, insurance, personal income tax, and retirement/estate financial planning.

Student Learning Outcomes

Students should be able to:

Required

1. Explain the importance and relevance of personal financial planning.
2. Discuss personal financial goals; identify strategies for achieving personal financial goals; and develop a personal budget.
3. Analyze the advantages and disadvantages of credit; determine the cost of credit; and explain how to protect credit and manage debt.
4. Identify strategies for consumer purchasing and evaluate purchase options.
5. Determine insurance needs and distinguish between the different types of policies and companies.
6. Discuss personal income tax basics and select optimal tax strategies for financial planning.
7. Describe retirement planning and its importance.

Optional

1. Analyze the personal and legal aspects of estate planning and distinguish various types of wills and trusts.
2. Compare and contrast various personal investment options.

BFIN 2210. Healthcare Finance

Course Description

This course provides an overview of the general principles of healthcare accounting. It includes the fundamentals pertaining to revenues, expenses, financial reporting, capital planning, operating budgets, and vendor management applied in the health care environment.

Student Learning Outcomes

1. Explain the structure of the finance department, the role of finance in healthcare organizations, and issues currently facing healthcare managers.
2. Distinguish between the key differences of for-profit and not-for-profit businesses including the implications of tax laws for individuals, for-profit businesses, and not-for-profit corporations.
3. Explain the process of coding, billing, and reimbursement for healthcare systems through government and third-party payers.
4. Apply managerial accounting in determining, classifying, and allocating healthcare costs.
5. Describe the overall planning process and the key components of the financial plan as well as create a simple operating budget.
6. Describe the revenue cycle and its importance to healthcare managers and how managers monitor and control operations.

7. Analyze debt and equity financing options and their features and how to utilize it for capital investment.
8. Identify the elements of balance sheets, income statements, and statement of cash flows to determine profitability and financial stability.

BFIN 2993. Workshop in Business Finance
Course Description
Varies
Student Learning Outcomes
Varies

BFIN 2995. Cooperative Work Experience in Business Finance
Course Description
Varies
Student Learning Outcomes
Varies

BFIN 2996. Topics in Business Finance
Course Description
Varies
Student Learning Outcomes
Varies

BFIN 2997. Independent Study in Business Finance
Course Description
Varies
Student Learning Outcomes
Varies

BFIN 2998. Internship in Business Finance
Course Description
Varies
Student Learning Outcomes
Varies

Business Law (BLAW)

BLAW 2110. Business Law I
Course Description
Survey of the legal environment of business and common legal principles including: the sources of law, dispute resolution and the U.S. court systems, administrative law, tort law, contract law, agency and employment law, business structure and governance, ethics and corporate social responsibility. Explores sources of liability and presents strategies to minimize legal risk.
Student Learning Outcomes
Students should be able to: Required:
1. Describe the sources of law.
2. Describe and explain dispute resolution and the court systems in the United States.
3. Describe the concepts of negligence, intentional torts and strict liability.

4. Describe and apply the essential aspects of contracts from creation, performance, breach and remedies, including basic contract law from Article 2 of the Uniform Commercial Code.
5. Explain the concept of ethics.

BLAW 2120. Business Law II
Course Description
Property, advanced contract law, debtor-creditor relations, bankruptcy and Uniform Commercial Code topics including sales, negotiable instruments, secured transactions and documents of title.
Student Learning Outcomes
Students should be able to: Required:
1. Explain the Uniform Commercial Code law of sales, negotiable instruments and secured transactions.
2. Explain the law of property, including the characteristics of real and personal property.

BLAW 2130. Survey of Business Law
Course Description
This course is a survey of the legal environment of business, including the sources of law, dispute resolution, the New Mexico and U.S. court systems, intentional torts, negligence, strict liability, contracts, introduction to the Uniform Commercial Code, organizational social responsibility, ethical applications of the law and the relationship between ethics and the law.
Student Learning Outcomes
1. Describe the sources of law.
2. Describe and explain dispute resolution and the court systems in the United States.
3. Explain the concepts of negligence, intentional torts and strict liability.
4. Describe and apply the essential aspects of contracts from creation, performance, breach and remedies, including basic contract law from Article 2 of the Uniform Commercial Code.
5. Explain the concepts of social responsibility, the ethical application of the law, and the relationship between ethics and the law.
6. Explain the law of property, including the characteristics of real and personal property and the ways property rights are transferred.
7. Recognize how an agency relationship is formed and discuss its legal implications.

Chemical Dependency (CHDP)

CHDP 2110. Introduction to Addiction Counseling
Course Description
This course provides the knowledge of the basic components in the field of addiction counseling. The following areas will be examined: models, functions, meanings, assessment, family, adult children, codependency, shame, intervention, co-occurring disorders, treatment, and prevention.
Student Learning Outcomes
Students will:
1. Demonstrate knowledge of the basic components in the field of addiction counseling.
2. Demonstrate knowledge of the origin and development of the addiction counseling field.
3. Be provided with practical experiences in the field of addiction counseling.
4. Recognize, understand, and utilize the basic concepts of addiction counseling in their everyday lives.
5. Exhibit college-level writing skills.

Chemical Engineering (CHME)

CHME 1110. Introduction to Chemical Engineering

Course Description
Students will gain fundamental engineering skills that apply to all engineering disciplines through problem and cooperative based learning exercises and attain a clear understanding of what chemical engineers practice versus other engineering disciplines, in both traditional and contemporary work environments and careers. This course will introduce engineering calculations such as material and energy balances, cost analysis, and engineering software programs. The lab focuses on firsthand experience of engineering design, calculations, and simulations using ChemCAD, Lab VIEW, and Excel. Additionally, data acquisition and analysis will be introduced. Small teams will design, build, and test a system, resulting in a written report, oral presentation, and design competition.

Student Learning Outcomes:

1. Gain fundamental engineering skills that apply to all engineering disciplines, such as the ability to solve word problems by demonstrating basic engineering concepts such as force, energy, and pressure.
2. Explain the engineering design process.
3. Form relationships with other first-year engineering students.
4. Evaluate/analyze ethical situations using the Engineering Code of Ethics; Give an example of a violation of an ethical situation.
5. Generate and give technical presentations using Microsoft PowerPoint.
6. Collect and analyze engineering data using Microsoft Excel and National Instruments LabVIEW.
7. Attain a clear understanding of what chemical engineers practice versus other engineering disciplines, in both traditional and contemporary work environments and what careers are possible with a degree in chemical engineering.
8. Design and create a small car powered by a chemical reaction.
9. Demonstrate correct uses of unit systems and unit conversions.
10. Solve engineering problems as a member of a team.
11. Acquire an appreciation for the role of laboratory safety in the field of chemical engineering.
12. Construct a four-year academic plan using input from his/her academic advisor and course instructor.

CHME 1110L. Introduction to Chemical Engineering Laboratory
Students will gain fundamental engineering skills that apply to all engineering disciplines through problem and cooperative based learning exercises and attain a clear understanding of what chemical engineers practice versus other engineering disciplines, in both traditional and contemporary work environments and careers. This course will introduce engineering calculations such as material and energy balances, cost analysis, and engineering software programs. The lab focuses on firsthand experience of engineering design, calculations, and simulations using ChemCAD, Lab VIEW, and Excel. Additionally, data acquisition and analysis will be introduced. Small teams will design, build, and test a system, resulting in a written report, oral presentation, and design competition. Lab Component.

Student Learning Outcomes

1. Gain fundamental engineering skills that apply to all engineering disciplines, such as the ability to solve word problems demonstrating basic engineering concepts such as force, energy, and pressure.
2. Explain the engineering design process.
3. Form relationships with other first-year engineering students.
4. Evaluate/analyze ethical situations using the Engineering Code of Ethics; Give an example of a violation of an ethical situation.
5. Generate and give technical presentations using Microsoft PowerPoint.
6. Collect and analyze engineering data using Microsoft Excel and National Instruments LabVIEW.
7. Attain a clear understanding of what chemical engineers practice versus other engineering disciplines, in both traditional and contemporary work environments and what careers are possible with a degree in chemical engineering.
8. Design and create a small car powered by a chemical reaction.

9. Demonstrate correct uses of unit systems and unit conversions.
10. Solve engineering problems as a member of a team
11. Acquire an appreciation for the role laboratory safety in the field of chemical engineering.
12. Construct a four-year academic plan using input from his/her academic advisor and course instructor.

Chemistry (CHEM)

CHEM 1105. Preparation for College Chemistry

Course Description

A preparatory course for students who feel they are not prepared or who do not have the pre-requisite requirements.

Student Learning Outcome

Students will be able to

1. Apply mathematical knowledge of college algebra, graphing, exponential, and logarithm in chemistry word problems.
2. Handle significant figures for addition, subtraction, multiplication, and division;
3. Carry out simple unit conversions.
4. Use periodic table.
5. Balance simple chemical equations
6. Solve fundamental stoichiometric problems of chemical formula and reactions
7. Do calculations involving moles, molarity, weight percent
8. Understand and explain the relationship between pH and acidity

CHEM 1106. Foundations of Chemistry

Course Description

Chemistry 1106 is a unique preparatory course for Chemistry 1215 and your subsequent chemistry courses. It has a dual purpose; firstly, to help you obtain a solid foundation in the chemical concepts that are essential to your future Chemistry and Science classes, and secondly to optimize your set of learning skills to help you learn more efficiently, demonstrate your knowledge and succeed in your future fast-paced high-level science courses.

Student Learning Outcomes

1. Express uncertainty in measurements using appropriate significant figures. Determine the appropriate significant figures to express the result of any series of calculations involving simple arithmetic operations.
2. Use dimensional analysis to solve multi-step unit conversion problems.
3. Use the concept of density in qualitative and quantitative problems.
4. Describe the structure of the atom in terms of location, charge and relative size of subatomic particles. Use atomic notation for atoms and their isotopes and ions.
5. Determine average atomic mass of an element and use the mole concept to determine the number of atoms or moles in a particular mass.
6. Use the periodic table to predict the nature of bonding between two elements and name the resulting compound based on IUPAC convention.
7. Use the mole concept to relate numbers of molecules to moles and masses.
8. Classify matter by state and composition. Distinguish between physical & chemical properties & states.
9. GeolWrite and balance equations to describe chemical reactions.
10. Relate quantities of reactants and products in chemical equations in stoichiometric calculations.

CHEM 1107. Foundational Chemistry for STEM

Course Description

This course prepares students for further work in STEM disciplines, especially in chemistry. Students are introduced to the foundations of chemistry using a historically oriented approach, followed by detailed introduction to some aspects of

modern chemistry. A significant portion of the course is devoted to atomic structure (quantum chemistry). Students engage in extensive laboratory work. Each lecture topic is explored further with a laboratory exercise, generally emphasizing reactions and chemical experimentation. Students learn to reason quantitatively and qualitatively within the context of chemistry.

Student Learning Outcomes

1. Characterize and separate compounds, elements, and mixtures.
2. Use dimensional analysis to carry out various calculations.
3. Quantitatively apply fundamental laws of matter, such as conservation of mass, definite proportions, multiple proportions, and combining volumes.
4. Represent reactions using chemical equations.
5. Distinguish accuracy and precision, and evaluate the uncertainty of measured values.
6. Use significant figures to represent uncertainty in measured and calculated quantities.
7. Predict the products of precipitation reactions.
8. Describe matter in terms of atoms and subatomic particles.
9. Use the periodic table of elements to calculate quantities such as molar mass and to predict properties such as metallic character.
10. Describe the electronic structure of atoms, in terms of orbitals and allowed states.
11. Relate atomic line spectra to transitions among electronic states.
12. Write electron configurations for atoms.
13. Distinguish ionic and covalent compounds.
14 Use standard chemical nomenclature for various classes of compounds.
15. Draw Lewis structures of molecules.
16. Balance chemical equations and apply reaction stoichiometry.
17. Demonstrate proficiency with common chemistry laboratory techniques.
18. Analyze data and draw conclusions from laboratory experiments.

CHEM 1110. Chemistry in Our Community

Course Description

This course will introduce nonscience majors to the basic chemistry required to understand topics of current interest affecting their communities, such as air and water quality, global climate change, use of fossil fuels, nuclear power, and alternative energy sources, to illustrate chemical principles, acquaint students with scientific methods, and to critically evaluate scientific claims as presented in the media and in other communicative forums.

Student Learning Outcomes

1. Define and explain basic chemical terms, principles and concepts.
2. Recognize simple compounds.
3. Utilize the scientific method to analyze arguments.
4. Interpret information from data presented in charts, graphs, tables and spreadsheets.
5. Balance chemical and nuclear reactions and solve simple stoichiometry problems.
6. Analyze the quality of an argument provided in support of a position.
7. Identify reliable government and scientific websites for accessing data relevant to current local, national and international issues.
8. Understand and explain the basic chemistry behind and major issues of debate concerning topics such as air and water quality, global climate change, use of fossil fuels, nuclear power, and alternative energy sources.

CHEM 1110L. Chemistry in Our Community Laboratory

Course Description

This course will introduce nonscience majors to the basic chemistry required to understand topics of current interest affecting their communities, such as air and water quality, global climate change, use of fossil fuels, nuclear power, and alternative energy sources. Experiments will illustrate chemical principles and acquaint students with scientific methods, data processing, critical thinking and scientific writing.

Student Learning Outcomes

1. Define and explain basic chemical terms, principles and concepts.
2. Evaluate safety issues in chemical reactions, laboratories and industry.
3. Observe the operation of laboratory equipment to collect data and as used in industry.
4. Discuss chemical reactions that take place in various environments and their effects on air and water quality, climate change, nuclear power, fossil fuels, and alternative energy sources.
5. Discuss the use and harmful effects of chemicals to the environment, including the importance of safe disposal of toxic chemicals.
6. Examine the effects of public policy on environment.
7. Examine how energy production affects climate change, including basic calculations.
8. Interpret information from data represented in charts, graphs, tables and spreadsheets.

CHEM 1110C. Chemistry in Our Community Lecture and Laboratory

Course Description

This course will introduce nonscience majors to the basic chemistry required to understand topics of current interest affecting their communities, such as air and water quality, global climate change, use of fossil fuels, nuclear power, and alternative energy sources. Experiments will illustrate chemical principles and acquaint students with scientific methods, data processing, critical thinking and scientific writing.

Lecture Student Learning Outcomes

1. Define and explain basic chemical terms, principles and concepts.
2. Recognize simple compounds.
3. Utilize the scientific method to analyze arguments.
4. Interpret information from data presented in charts, graphs, tables and spreadsheets.
5. Balance chemical and nuclear reactions and solve simple stoichiometry problems.
6. Analyze the quality of an argument provided in support of a position.
7. Identify reliable government and scientific websites for accessing data relevant to current local, national and international issues.
8. Understand and explain the basic chemistry behind and major issues of debate concerning topics such as air and water quality, global climate change, use of fossil fuels, nuclear power, and alternative energy sources.

Laboratory Student Learning Outcomes

1. Define and explain basic chemical terms, principles and concepts.
2. Evaluate safety issues in chemical reactions, laboratories and industry.
3. Observe the operation of laboratory equipment to collect data and as used in industry.
4. Discuss chemical reactions that take place in various environments and their effects on air and water quality, climate change, nuclear power, fossil fuels, and alternative energy sources.
5. Discuss the use and harmful effects of chemicals to the environment, including the importance of safe disposal of toxic chemicals.
6. Examine the effects of public policy on environment.
7. Examine how energy production affects climate change, including basic calculations.
8. Interpret information from data represented in charts, graphs, tables and spreadsheets.

CHEM 1111. Basic Chemistry

Course Description

For students whose preparatory science or math training has been deficient. Does not meet the chemistry requirement in any curriculum.

Student Learning Outcomes

The goals and objectives for CHEM 1111 are to equip students with the necessary problem solving skills to be successful in CHEM 1216C/1226C

CHEM 1115. Chemistry in Art

Course Description

This course will introduce non-science majors to the basic chemistry required to understand topics of interest to the artistic community, such as solubility, color and preparation of pigments, electrochemistry, chemical safety and toxicity. The course will illustrate chemical principles, acquaint students with scientific methods, allow them to critically evaluate scientific claims as presented in the media and in other communicative forums, and emphasize the creation of works of art using their knowledge of chemistry.

Student Learning Outcomes

1. Define and explain basic chemical terms, principles and concepts including the scientific method, atoms, molecules, elements, and compounds.
2. Use dimensional analysis and the SI system of units to solve quantitative scientific calculations.
3. Recognize simple chemical compounds and describe differences between physical and chemical properties.
4. Discuss the relationship of color to electromagnetic radiation.
5. Calculate molar mass of chemical compounds, and molarities of solutions to prepare solutions to be used in the art studio.
6. Use Lewis structures to describe formation of ionic and covalent compounds and describe how electronic structure determines the three-dimensional spatial arrangement of atoms in compounds and ultimately, molecular polarity as it relates to solvents and solubility.
7. Balance chemical reactions and solve simple stoichiometry problems relevant to the synthesis of pigments, binders, and other art materials.
8. Recognize periodic trends of elements in the periodic table and their electron configurations to relate these properties to chemical structure, bonding and reactivity.
9. Explain the differences between covalent, ionic, network covalent and metallic bonding and give examples of art materials that exhibit these types of bonding.
10. Recognize and name simple hydrocarbons and organic functional groups and identify the properties of organic compounds used in the world of art.

CHEM 1115L. Chemistry in Art Laboratory

Course Description

Chemistry in Art Laboratory is a laboratory course designed to complement the theory and concepts presented in the Chemistry in Art lecture component. The laboratory allows students to develop basic chemical laboratory techniques for obtaining and analyzing experimental observations pertaining to chemistry and art using diverse methods and equipment.

Student Learning Outcomes

1. Define and explain basic chemical terms, principles and concepts presented in the lecture.
2. Properly operate laboratory equipment to collect data to be used in art projects.
3. Master basic laboratory techniques including, but not limited to weighing samples (liquid and solid), determining sample volumes, measuring the temperature of samples, heating and cooling a sample or reaction mixture, decantation and filtration.
4. Discuss chemical reactions that take place under various circumstances and their uses in the creation of both 2 and 3-dimensional works of art.

5. Discuss the use and harmful effects of chemicals to the environment and to human health, including the importance of safe disposal of toxic chemicals.
6. Evaluate safety issues in chemical reactions, laboratories and the art studio and take precautions to minimize risk.
7. Utilize chemical mixtures prepared in the laboratory to create works of art.
8. Calculate molar mass of chemical compounds, and molarities of solutions to prepare solutions to be used in art projects.
9. Understand qualitative chemical techniques for determining the presence of particular chemicals in a piece of art and relate this information to the art's authenticity.
10. Interpret information from data represented in charts, graphs, tables to relate laboratory experimental observations, calculations, and findings to theoretical concepts presented in the complementary lecture course.

CHEM 1120. Introduction to Chemistry

Course Description

This course covers qualitative and quantitative areas of non-organic general chemistry for nonscience majors and some health professions. Students will learn and apply principles pertaining, but not limited to, atomic and molecular structure, the periodic table, acids and bases, mass relationships, and solutions.

Student Learning Outcomes

1. Use the different systems of measurements and perform conversions within the same system of measurement and between different systems of measurements
2. Identify elements from their name or symbol, use the periodic table to describe reactivity patterns of elements and to predict compound formation.
3. Describe the basic structure of an atom using subatomic particles and apply these concepts to nuclear reactions.
4. Describe ion formation and the difference between covalent and ionic compounds. Name and write formulas for ionic and simple molecular compounds.
5. Write and balance chemical reactions. Use balanced reactions in stoichiometric calculations.
6. Describe the differences between the solid, liquid and gas phases. Use the gas laws in calculations and apply these laws to everyday situations.
7. Explain different types of energy, and how energy is released or absorbed in a reaction
8. Describe acid and base behavior and the nature of buffer solutions.

CHEM 1120L. Introduction to Chemistry Laboratory

Course Description

Introduction to Chemistry Laboratory is a laboratory course designed to complement the theory and concepts presented in the Introduction to Chemistry lecture component and will introduce students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.

Student Learning Outcomes

1. Practice concepts associated with laboratory safety, including the possible consequences of not adhering to appropriate safety guidelines.
2. Demonstrate the computational skills needed to perform appropriate laboratory related calculations to include, but not be limited to determining the number of significant figures in numerical value, solving problems using values represented in exponential notation, solving dimensional analysis problems, and manipulating mathematical formulas as needed to determine the value of a variable.
3. Perform laboratory observations (both qualitative and quantitative) using sensory experience and appropriate measurement instrumentation (both analog and digital).
4. Record quantitatively measured values to the correct number of significant figures and assign the correct units.

5. Master basic laboratory techniques including, but not limited to weighing samples (liquid and solid), determining sample volumes, measuring the temperature of samples, heating and cooling a sample or reaction mixture, decantation, filtration, and titration.
6. Draw appropriate conclusions based on data and analyses.
7. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required.
8. Determine chemical formulas and classify different types of reactions.
9. Relate laboratory experimental observations, operations, calculations, and findings to theoretical concepts presented in the complementary lecture course.

CHEM 1120C. Introduction to Chemistry Lecture and Laboratory

Course Description

This course covers qualitative and quantitative areas of non-organic general chemistry for non-science majors and some health professions. Students will learn and apply principles pertaining, but not limited to, atomic and molecular structure, the periodic table, acids and bases, mass relationships, and solutions. The laboratory component introduces students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.

Lecture Student Learning Outcomes

1. Use the different systems of measurements and perform conversions within the same system of measurement and between different systems of measurements
2. Identify elements from their name or symbol, use the periodic table to describe reactivity patterns of elements and to predict compound formation.
3. Describe the basic structure of an atom using subatomic particles, and apply these concepts to nuclear reactions.
4. Describe ion formation and the difference between covalent and ionic compounds. Name and write formulas for ionic and simple molecular compounds.
5. Write and balance chemical reactions. Use balanced reactions in stoichiometric calculations.
6. Describe the differences between the solid, liquid and gas phases. Use the gas laws in calculations, and apply these laws to everyday situations.
7. Explain different types of energy, and how energy is released or absorbed in a reaction
8. Describe acid and base behavior.
9. Explain the intermolecular attractive forces that determine physical properties; apply this knowledge to qualitatively evaluate these forces and predict the physical properties that result.
10. Explain the intermolecular attractive forces that determine physical properties; apply this knowledge to qualitatively evaluate these forces and predict the physical properties that result

Laboratory Student Learning Outcomes

1. Practice concepts associated with laboratory safety, including the possible consequences of not adhering to appropriate safety guidelines.
2. Demonstrate the computational skills needed to perform appropriate laboratory-related calculations to include, but not be limited to determining the number of significant figures in numerical value, solving problems using values represented in exponential notation, solving dimensional analysis problems, and manipulating mathematical formulas as needed to determine the value of a variable.
3. Perform laboratory observations (both qualitative and quantitative) using sensory experience and appropriate measurement instrumentation (both analog and digital).
4. Record quantitatively measured values to the correct number of significant figures and assign the correct units.
5. Master basic laboratory techniques including, but not limited to weighing samples (liquid and solid), determining sample volumes, measuring the temperature of samples, heating and cooling a sample or reaction mixture, decantation, filtration, and titration.

6. Draw appropriate conclusions based on data and analyses.
7. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required.
8. Determine chemical formulas and classify different types of reactions.
9. Relate laboratory experimental observations, operations, calculations, and findings to theoretical concepts presented in the complementary lecture course.

CHEM 1121. General Supplemental Instruction I
Course Description
Collaborative workshop for students in General Chemistry I. Course does not count toward departmental degree requirements.
Student Learning Outcomes
Not Available

CHEM 1122. General Supplemental Instruction II
Course Description
Collaborative workshop for students in General Chemistry II. Course does not count toward departmental degree requirements.
Student Learning Outcomes
Not Available

CHEM 1123. Principles of Supplemental Instruction III
Course Description
Collaborative workshop for students in CHEM 1120G, Principles and Applications of Chemistry. Course does not count toward departmental degree requirements.
Student Learning Outcomes
Not Available

CHEM 1215. General Chemistry I for STEM Majors
Course Description
This course is intended to serve as an introduction to General Chemistry for students enrolled in science, engineering, and certain preprofessional programs. Students will be introduced to several fundamental concepts, including mole, concentration, heat, atomic and molecular structure, periodicity, bonding, physical states, stoichiometry, and reactions.
Student Learning Outcomes
1. Use dimensional analysis, the SI system of units and appropriate significant figures to solve quantitative calculations in science.
2. Explain the structure of atoms, isotopes and ions in terms of subatomic particles.
3. Understand the differences between physical and chemical changes to matter and utilize the IUPAC system of nomenclature and knowledge of reaction types to describe chemical changes, predict products and represent the process as a balanced equation.
4. Apply the mole concept to amounts on a macroscopic and a microscopic level and use this to perform stoichiometric calculations including for reactions in solution, gases and thermochemistry.
5. Apply the gas laws and kinetic molecular theory to relate atomic level behavior to macroscopic properties.
6. Describe the energy conversions that occur in chemical reactions and state changes, relating heat of reaction to thermodynamic properties such as enthalpy and internal energy, and apply these principles to measure and calculate energy changes in reaction.

7. Use different bonding models to describe formation of compounds (ionic and covalent), and apply knowledge of electronic structure to determine molecular spatial arrangement and polarity.
8. Analyze how periodic properties (e.g. electronegativity, atomic and ionic radii, ionization energy, electron affinity, metallic character) and reactivity of elements results from electron configurations of atoms.

CHEM 1215L. General Chemistry I Laboratory for STEM Majors

Course Description

General Chemistry I Laboratory for Science Majors is the first semester laboratory course designed to complement the theory and concepts presented in General Chemistry I lecture. The laboratory component will introduce students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.

Student Learning Outcomes

1. Demonstrate and apply concepts associated with laboratory safety, including the possible consequences of not adhering to appropriate safety guidelines.
2. Demonstrate the computational skills needed to perform appropriate laboratory related calculations to include, but not be limited to determining the number of significant figures in numerical value with the correct units, solving problems using values represented in exponential notation, solving dimensional analysis problems, and manipulating mathematical formulas as needed to determine the value of a variable.
3. Perform laboratory observations (both qualitative and quantitative) using sensory experience and appropriate measurement instrumentation (both analog and digital).
4. Prepare solutions with an acceptable accuracy to a known concentration using appropriate glassware.
5. Master basic laboratory techniques including, but not limited to weighing samples (liquid and solid), determining sample volumes, measuring the temperature of samples, heating and cooling a sample or reaction mixture, decantation, filtration, and titration.
6. Demonstrate mastery in experimental techniques, such as pressure measurements, calorimetric measurements, and spectrophotometric measurements
7. Draw conclusions based on data and analyses from laboratory experiments.
8. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required.
9. Relate laboratory experimental observations, operations, calculations, and findings to theoretical concepts presented in the complementary lecture course.
10. Design experimental procedures to study chemical phenomena.

CHEM 1215C. General Chemistry I Lecture and Laboratory for STEM Majors

Course Description

This course covers descriptive and theoretical chemistry.

Student Learning Outcomes

Upon completion of this course all students will be able to demonstrate an appropriate level of mastery of: The Metric system, Heat, Density, Atomic Theory, Moles and Stoichiometry, Solutions, Chemical Formulas and Equations, Gas Laws, Kinetic Theory, Electronic Structure, Periodic Relationships, Calorimetry and Enthalpy, Bonding, Molecular Structure, Liquid and Solid States.

1. Students will describe the process of scientific inquiry.
    a. Understand that scientists rely on evidence obtained from observations rather than authority, tradition, doctrine, or intuition.
    b. Students should value science as a way to develop reliable knowledge about the world.
2. Students will solve problems scientifically.

a. Be able to construct and test hypotheses using modern lab equipment (such as microscopes, scales, computer technology) and appropriate quantitative methods.
b. Be able to evaluate isolated observations about the physical universe and relate them to hierarchically organized explanatory frameworks (theories).

3. Students will communicate scientific information.
    a. Communicate effectively about science (e.g., write lab reports in standard format and explain basic scientific concepts, procedures, and results using written, oral, and graphic presentation techniques).
4. Students will apply quantitative analysis to scientific problems.
    a. Select and perform appropriate quantitative analyses of scientific observations.
    b. Show familiarity with the metric system, use a calculator to perform appropriate mathematical operations, and present results in tables and graphs.
5. Students will apply scientific thinking to real world problems.
    a. Critically evaluate scientific reports or accounts presented in the popular media.
    b. Understand the basic scientific facts related to important contemporary issues (e.g., global warming, stem cell research, cosmology), and ask informed questions about those issues.

CHEM 1216. General Chemistry

Course Description

This course explores all the realms of basic chemistry. Students will examine and explore such topics as the periodic table, the structure of atoms and molecules, chemical properties, chemical reactions, chemical equations, bonding, chemical equilibrium and scientific laboratory procedures. Laboratory exercises are included.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Students of chemistry basics will:
    a. Describe the main features of atoms and molecules.
    b. Explain the Periodic Table.
    c. List methods of measurement in chemistry.
2. Students of the structure of atoms and molecules will:
    a. Describe atomic structure.
    b. Describe molecular structure.
3. Students of chemical reactions will:
    a. Explain the principles of chemical equations.
    b. Describe the main elements of stoichiometry.
4. Students of gases, light and periodicity will:
    a. Describe the behavior of gases.
    b. Explain the relationship between atoms and light.
    c. Atomic structure and periodicity.
5. Students of bonding and intermolecular forces will:
    a. Outline the fundamentals of bonding.
    b. Describe the nature of multiple bonds.
    c. Explain the structure of macromolecules.
    d. Describe the principal intermolecular forces.
6. Students of the rates of chemical reactions will:
    a. Describe the principles that govern the rates of reactions.

b. Explain the main features of experimental kinetics.

7. Students of chemical equilibria will:
   a. Outline the main features of dynamic equilibrium.
   b. List the types of equilibria.
   c. Explain the principles thermodynamics and equilibrium.

CHEM 1216C. General Chemistry I

Course Description

As the first of a two-semester sequence, this course teaches fundamental concepts in chemistry, including the electronic structure of atoms, chemical periodicity, nature of chemical bonds, molecular structure, the three phases of matter, etc. Designed for majors in chemical and other physical sciences, including engineering. May be appropriate for the life science major. It is assumed that the students are familiar with college algebra, chemical nomenclature, stoichiometry, and scientific measurements. The laboratory component is designed to complement the theory and concepts presented in lecture and will introduce students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.

Student Learning Outcomes

1.Apply the mole concept to amounts at a microscopic level and use this to perform stoichiometric calculations for reactions in solution, gases and thermochemistry.

2.Calculate solution concentrations in various units.

3.Apply the gas laws and kinetic molecular theory to relate atomic level behavior to macroscopic properties.

4.Explain the electronic structure of atoms, isotopes and ions in terms of its subatomic particles.

5.Analyze how periodic properties (e.g. electronegativity, atomic and ionic radii, ionization energy, electron affinity, metallic character) and reactivity of elements results from electronic configurations of atoms.

6.Understand the nature of chemical bonds (ionic and covalent). Apply knowledge of electronic structure to determine molecular structure and polarity.

7.Understand the formation of different phases of matter and the underlying fundamental intermolecular interactions.

8.Describe physical states and changes and distinguish these from chemical changes.

9. Describe the energy conversions that occur in chemical reactions and state changes, relating heat of reaction to thermodynamic properties such as enthalpy and internal energy; apply these principles to measure and calculate energy changes in reaction.

10. Apply principles of general chemistry to specific real-world problems in environment, engineering and health-related fields.

CHEM 1217. Principles of Chemistry I

Course Description

As the first of a two-semester sequence, this course teaches fundamental concepts in chemistry, including the electronic structure of atoms, chemical periodicity, nature of chemical bonds, molecular structure, the three phases of matter, etc. In addition, the application of these concepts to various chemical sub-disciplines, such as organic chemistry, biochemistry, and materials chemistry. Designed for majors in chemical sciences and engineering, it is assumed that the students are familiar with college algebra, chemical nomenclature, stoichiometry, and scientific measurements.

Student Learning Outcomes

1. Apply the mole concept to amounts at a microscopic level and use this to perform stoichiometric calculations for reactions in solution, gases and thermochemistry.
2. Calculate solution concentrations in various units.
3. Apply the gas laws and kinetic molecular theory to relate atomic level behavior to macroscopic properties.
4. Explain the electronic structure of atoms, isotopes and ions in terms of its subatomic particles.

5. Analyze how periodic properties (e.g. electronegativity, atomic and ionic radii, ionization energy, electron affinity, metallic character) and reactivity of elements results from electronic configurations of atoms.
6. Understand the nature of chemical bonds (ionic and covalent). Apply knowledge of electronic structure to determine molecular structure and polarity.
7. Understand the formation of different phases of matter and the underlying fundamental intermolecular interactions.
8. Describe physical states and changes, and distinguish these from chemical changes.
9. Describe the energy conversions that occur in chemical reactions and state changes, relating heat of reaction to thermodynamic properties such as enthalpy and internal energy; apply these principles to measure and calculate energy changes in reaction.
10. Apply principles of general chemistry to specific real-world problems in environment, engineering and health-related fields.

CHEM 1217C. General Chemistry I Lecture and Laboratory

Course Description

This course introduces students to chemistry measurements, atomic structure, chemical reactions, stoichiometry, thermochemistry, quantum chemistry, periodic properties, atomic and electronic structures of atoms, and bonding.

Student Learning Outcomes

1. Use the scientific method to carry out an experiment
2. Understand and perform measurements used in chemistry
3. Analyze chemical reactions and predict products
4. Study the energies involved in chemical reactions
5. Examine atomic structure
6. Explore the periodic table, electron activities, and reactivity of elements.

CHEM 1225. General Chemistry II for STEM Majors

Course Description

This course is intended to serve as a continuation of general chemistry principles for students enrolled in science, engineering, and certain preprofessional programs. The course includes but is not limited to a theoretical and quantitative coverage of solutions and their properties, kinetics, chemical equilibrium, acids and bases, entropy and free energy, electrochemistry, and nuclear chemistry. Additional topics may include (as time permits) organic, polymer, atmospheric, and biochemistry.

Student Learning Outcomes

1. Explain the intermolecular attractive forces that determine physical properties and phase transitions, and apply this knowledge to qualitatively evaluate these forces from structure and to predict the physical properties that result.
2. Calculate solution concentrations in various units, explain the effects of temperature, pressure and structure on solubility, and describe the colligative properties of solutions, and determine solution concentrations using colligative property values and vice versa.
3. Explain rates of reaction, rate laws, and half-life, determine the rate, rate law and rate constant of a reaction and calculate concentration as a function of time and vice versa, as well as explain the collision model of reaction dynamics and derive a rate law from a reaction mechanism, evaluating the consistency of a mechanism of a given rate law.
4. Describe the dynamic nature of chemical equilibrium and its relation to reaction rates, and apply Le Chatelier's Principle to predict the effect of concentration, pressure and temperature changes on equilibrium mixtures as well as describe the equilibrium constant and use it to determine whether equilibrium has been established, and calculate equilibrium constants from equilibrium concentrations and vice versa.

5. Describe the different models of acids and base behavior and the molecular basis for acid strength, as well as apply equilibrium principles to aqueous solutions, including acid base and solubility reactions, and calculate pH and species concentrations in buffered and unbuffered solutions.
6. Explain titration curves and speciation diagrams, as well as calculate concentrations of reactants from the former and determine dominant species as a function of pH from the latter.
7. Explain and calculate the thermodynamic functions, enthalpy, entropy and Gibbs free energy, for a chemical system, and relate these functions to equilibrium constants and reaction spontaneity; balance redox equations, express them as two half reactions and evaluate the potential, free energy and equilibrium K for the reaction, as well as predict the spontaneous direction.
8. Construct a model of a galvanic or electrolytic cell; or describe organic reactions.
9. Describe bonding theories, such as valence and molecular orbital theory.

CHEM 1225L. General Chemistry II Laboratory for STEM Majors

Course Description

General Chemistry II Laboratory for Science Majors is the second of a two-semester sequence of laboratory courses designed to complement the theory and concepts presented in General Chemistry II lecture. The laboratory component will introduce students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.

Student Learning Outcomes

1. Demonstrate and apply concepts associated with laboratory safety, including the possible consequences of not adhering to appropriate safety guidelines.
2. Demonstrate the computational skills needed to perform appropriate laboratory related calculations to include, but not be limited to determining the number of significant figures in numerical value with the correct units, solving problems using values represented in exponential notation, solving dimensional analysis problems, and manipulating mathematical formulas as needed to determine the value of a variable.
3. Perform laboratory observations (both qualitative and quantitative) using sensory experience and appropriate measurement instrumentation (both analog and digital).
4. Prepare solutions with an acceptable accuracy to a known concentration using appropriate glassware.
5. Perform basic laboratory operations related to, but not limited to, gas behavior, colligative properties of solutions, calorimetry, chemical kinetics, chemical equilibria, acid/base titrations, electrochemistry, metal reactivity, and qualitative analyses of ions.
6. Draw conclusions based on data and analyses from laboratory experiments.
7. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes, as required.
8. Relate laboratory experimental observations, operations, calculations, and findings to theoretical concepts presented in the complementary lecture course.
9. Design experimental procedures to study chemical phenomena

CHEM 1225C. General Chemistry II Lecture and Laboratory for STEM Majors

Course Description

This course is a continuation of General Chemistry I and emphasizes the quantitative aspects of chemical behavior. To succeed in this course, daily work on practice problems must be done. Exams will test both conceptual understanding as well as quantitative manipulations. Practice will build the required critical thinking and problem-solving skills required on the exams.

Student Learning Outcomes

1. Describe the process of scientific inquiry.
2. Solve problems scientifically.

3. Communicate scientific information.
4. Apply quantitative analysis to scientific problems.
5. Apply scientific thinking to real world problems.

CHEM 1226C. General Chemistry II Lecture and Laboratory for STEM Majors

Course Description

As the second of a two-semester sequence, this course teaches fundamental concepts in chemistry, including solutions, equilibria, electrochemistry, thermodynamics and kinetics. Designed for majors in chemical and other physical sciences, including engineering. May be appropriate for the life science major. It is assumed that the students are familiar with college algebra, chemical nomenclature, stoichiometry, and scientific measurements. The laboratory component is designed to complement the theory and concepts presented in lecture and will introduce students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.

Student Learning Outcomes

1. Describe the colligative properties of solutions and explain them using intermolecular forces. Determine solution concentrations using colligative property values and vice versa.
2. Explain rates of reactions, rate laws, and half-life; determine the rate, rate law and rate constant of a reaction and calculate concentration as a function of time and vice versa. Understand the principle of catalysis.
3. Explain the collision model of reaction dynamics, including activation energy, catalysts and temperature; Derive a rate law from a reaction mechanism and evaluate the consistency of a mechanism with a given rate law.
4. Describe the dynamic nature of chemical equilibrium and its relation to reaction rates; apply Le Chatelier's Principle to predict the effect of concentration, pressure and temperature changes on equilibrium mixtures.
5. Describe the equilibrium constant and use it to determine whether equilibrium has been established; calculate equilibrium constants from equilibrium concentrations (including pressures) and vice versa.
6. Describe the different models of acids and base behavior, and the molecular basis for acid strength.

CHEM 1227. General Chemistry II

Course Description

As the second of a two-semester sequence, this course teaches fundamental concepts in chemistry, including solutions, equilibria, electrochemistry, thermodynamics and kinetics. Designed for majors in chemical sciences and engineering, it is assumed that the students are familiar with college algebra, chemical nomenclature, stoichiometry, and scientific measurements.

Student Learning Outcomes

1. Describe the colligative properties of solutions and explain them using intermolecular forces. Determine solution concentrations using colligative property values and vice versa.
2. Explain rates of reactions, rate laws, and half-life; determine the rate, rate law and rate constant of a reaction and calculate concentration as a function of time and vice versa. Understand the principle of catalysis.
3. Explain the collision model of reaction dynamics, including activation energy, catalysts and temperature; Derive a rate law from a reaction mechanism and evaluate the consistency of a mechanism with a given rate law.
4. Describe the dynamic nature of chemical equilibrium and its relation to reaction rates; apply Le Chatelier's Principle to predict the effect of concentration, pressure and temperature changes on equilibrium mixtures.
5. Describe the equilibrium constant and use it to determine whether equilibrium has been established; calculate equilibrium constants from equilibrium concentrations (including pressures) and vice versa.
6. Describe the different models of acids and base behavior, and the molecular basis for acid strength.
7. Apply equilibrium principles to aqueous solutions, including acid-base and solubility reactions; calculate pH and species concentrations in buffered and unbuffered solutions.
8. Explain titration curves and speciation diagrams; calculate concentrations of reactants from the former and determine dominant species as a function of pH from the latter.

9. Explain and calculate the thermodynamic functions enthalpy, entropy and Gibbs free energy for a chemical system; relate these to equilibrium constants and reaction spontaneity.
10. Balance redox equations, express them as two half reactions and evaluate the potential, free energy and equilibrium K for the reaction, as well as predict the spontaneous direction.
11. Construct a galvanic or electrolytic cell; determine the standard (and non-standard) cell potential of the former and relate current to electron transfer rates in the latter.
12. Understand the basic chemical properties of main group and transition metal elements and develop a broad understanding of several key branches of chemistry.

CHEM 1996. Topics in Chemistry
Course Description
Varies
Student Learning Outcomes
Varies

CHEM 1997. Chemistry Independent Study
Course Description
Varies
Student Learning Outcomes
Varies

CHEM 2111. Explorations in Chemistry and Biochemistry
Course Description
An introduction to the experience of chemistry and biochemistry degrees. In this course, students will prepare a degree plan and personal statement. Career opportunities in chemistry and biochemistry will be presented and discussed.
Student Learning Outcomes
1. Demonstrate knowledge and understanding of the subdisciplines of Chemistry and Biochemistry.
2. Demonstrate knowledge and understanding of the requirements for the Chemistry and Biochemistry majors and career opportunities available to these majors.
3. Adopt strategies to prepare for future success in a job search or graduate school application.
4. Learn about undergraduate research opportunities in chemistry and biochemistry.

CHEM 2115C. Survey of Organic Chemistry and Laboratory
Course Description
This course is a one semester survey of organic and biological chemicals. Students will be introduced to nomenclature, molecular structure, properties, and reactions of hydrocarbons, alcohols, carbonyls, organic acids and bases, carbohydrates, lipids, and proteins. The handling of organic chemicals, simple organic reactions, tests for functional groups, and synthesis will be learned in the laboratory component of this course.
Student Learning Outcomes
1. Identify common organic functional groups.
2. Translate between the IUPAC names and structures of simple organic molecules.
3. Predict the products of certain organic chemical reactions from reagents and conditions presented.
4. Predict physical and chemical behavior of organic molecules based on structure.
5. Synthesize several classes of organic compounds in the laboratory that were previously studied in the lecture component of this course.
6. Recognize and name the four basic bioorganic units and certain of their derivatives and macromolecules.
7. Construct 3 dimensional models of organic compounds.

8. Understand and apply safety principles associated with Organic Chemistry laboratory operations and activities.
9. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required.
10. Draw/recognize stereochemistry and explain its relevance to bioorganic molecules.

CHEM 2120. Integrated Organic Chemistry and Biochemistry

Course Description

This course is a one semester introduction to Organic Chemistry and Biochemistry designed for students in health and environmental occupations. The course surveys organic compounds in terms of structure, physical, and chemical properties, followed by coverage of the chemistry of specific classes of organic compounds in the biological environment. Students will apply course concepts to everyday organic and biological chemistry problems in preparation for careers in health and environmental fields.

Student Learning Outcomes

1. Identify and name basic organic compounds.
2. Construct/draw organic compounds from the names.
3. Predict the products of certain organic chemical reactions from reagents and conditions presented.
4. Recognize and name the four basic bioorganic units and certain of their derivatives and macromolecules.
5. Compare and contrast the function and location of the four bioorganic units and their macromolecules and cofactors.
6. Draw/recognize stereochemistry and explain its relevance to bioorganic molecules.
7. Discuss the pathways and functions of some of the cellular metabolic processes.
8. Recognize and describe metabolic cellular processes and macromolecular structure with respect to health and/or disease states.

CHEM 2120L. Integrated Organic & Biochemistry Lab

Course Description

This course provides experiences with the physical properties and laboratory synthesis of organic compounds.

Student Learning Outcomes

Course content upon which a student's level of mastery will be assessed includes the capability to…

1. Discuss the chemical, structural, and physical differences among the different functional groups
2. Prepare, label, and use solutions of appropriate and known concentrations
3. Recognize chiral organic molecules, and explain their biological significance.
4. Understand and be able to identify the process of organic reactions: nucleophilic and electrophilic, redox reactions, and enzyme catalyzed reactions.
5. Predict the products of substitution, elimination, condensation, and redox reactions.
6. Explain why certain lipids and amino acids are essential while others are not.

CHEM 2130. ORGANIC CHEMISTRY I

Course Description

This course is the first of a two- semester sequence of Organic Chemistry, the chemistry of carbon containing compounds, as required for chemistry, medical science, and engineering majors. The course includes theoretical, qualitative, and quantitative discussion of Organic Chemistry concepts, including but not limited to a review of electronic structure and bonding, acids and bases, stereochemistry, an introduction to organic compounds, isomers, substitution and elimination reactions of alkyl halides, reactions of alkenes, alkynes, alcohols, ethers, epoxides, amines, and thiols, mass and infrared spectrometry, ultraviolet/visible spectroscopy, and nuclear magnetic resonance.

Student Learning Outcomes

1. Review properties of elements and molecules discussed in general chemistry (electronegativity, bonding, formal charge, octet rule).
2. Review chemical reactions discussed in general chemistry (products, reactants, balanced equations, byproducts).
3. Classify organic compounds and their properties by functional group, including substitution and elimination reactions of alkyl halides, reactions of alkenes, alkynes, alcohols, ethers, epoxides, amines, and thiols.
4. Use common and IUPAC rules of nomenclature to name organic compounds.
5. Review the structure and stability of compounds.
6. Comprehend the relationship between structure and reactivity.
7. Comprehend configurations of organic compounds (resonance structures, stereochemistry, isomers).
8. Interpret spectral properties and use in structure determination.
9. Correctly describe the 4-5 step synthesis of a simple organic molecule using reactions learned in the class.

CHEM 2130L. Organic Chemistry I Laboratory

Course Description

Organic Chemistry I Laboratory is the first semester laboratory course designed to complement the theory and concepts presented in Organic Chemistry I lecture. The laboratory component will introduce students to techniques for obtaining and analyzing experimental observations pertaining to Organic Chemistry using diverse methods and equipment.

Student Learning Outcomes

1. Appreciate, understand, and conduct experiments safely in the laboratory, being aware of the possible consequences of not adhering to appropriate safety guidelines.
2. Practice and demonstrate skill in the use of molecular drawing and modeling software.
3. Conduct laboratory scale separations to include, but not be limited to distillation, filtration, extraction, recrystallization and chromatography.
4. Conduct characterization experiments using the following techniques: melting points, solubility tests, IR spectroscopy, MS, TLC, and GC.
5. Synthesize, purify, and characterize simple organic compounds.
6. Apply theory and practice in the interpretation of spectroscopic data including, but not limited to FTIR, MS, 1H NMR, 13C NMR and UV/VIS.
7. Assess and account for sources of error in data collection and analysis.
8. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required.

CHEM 2135. Organic Chemistry II

Course Description

This course is the second of a two-semester sequence of Organic Chemistry, the chemistry of carbon containing compounds, as required for chemistry, medical science, and engineering majors. The course will emphasize structure, main physical properties, chemical reactivity, and reaction mechanisms relating to alcohols, arenes and carbonyl compounds, as well as continued integration of mass and infrared spectrometry, ultraviolet/visible spectroscopy, and nuclear magnetic resonance technique and analysis.

Student Learning Outcomes

1. Identify functional groups and other key features of different organic compounds.
2. Correctly name organic compounds using the proper nomenclature (IUPAC and common names).
3. Analyze relationships among molecular structure, chemical reactivity, physical and spectral properties.
4. Understand chemical reactivity and reaction mechanisms relating, but not limited to dienes, arenes, alcohols, ethers, amines, phenols, and carbonyl compounds, i.e. aldehydes, ketones, carboxylic acids and derivatives.
5. Write out correctly the mechanisms of electrophilic aromatic substitution, formation and hydrolysis of acetals and ketals, formation and hydrolysis of imines and enamines, conjugate addition of nucleophiles to α,β-unsaturated

carbonyl compounds, Fischer esterification and hydrolysis of esters under both acidic and basic conditions, transesterification under acidic and basic conditions, amide hydrolysis under acidic and basic conditions, the aldol reaction and condensation, and the Claisen condensation/Dieckmann cyclization for examples that are different than those studied in class.

6. Relate structures to spectral properties, interpreting IR, 13C and 1H NMR.
7. Describe the 6-7 step synthesis of a simple organic molecule using reactions learned in this class.
8. Convert the Fischer projection of a carbohydrate to its corresponding Haworth projection, or convert the Haworth projection of a carbohydrate to its Fischer projection.
9. Recognize derivatives of carbonic and phosphoric acids, alkaloids, carbohydrates, peptides, steroids, prostaglandins, aglycones, carbohydrate anomers, reducing sugars, waxes, fats, and oils.

CHEM 2135L. Organic Chemistry II Laboratory

Course Description

Organic Chemistry II Laboratory is the second semester laboratory course designed to complement the theory and concepts presented in Organic Chemistry II lecture. The laboratory component will introduce students to techniques for obtaining and analyzing experimental observations pertaining to Organic Chemistry using diverse methods and equipment.

Student Learning Outcomes

1. Appreciate, understand, and conduct experiments safely in the laboratory, being aware of the possible consequences of not adhering to appropriate safety guidelines.
2. Practice and demonstrate skill in the use of molecular drawing and modeling software.
3. Conduct laboratory scale separations to include, but not be limited to distillation, filtration, extraction, recrystallization and chromatography.
4. Conduct characterization experiments using the following techniques: melting points, solubility tests, IR spectroscopy, MS, TLC, and GC.
5. Synthesize, purify, and characterize simple organic compounds.
6. Apply theory and practice in the interpretation of spectroscopic data including, but not limited to FTIR, MS, 1H NMR, 13C NMR and UV/VIS.
7. Assess and account for sources of error in data collection and analysis.
8. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required.

CHEM 2226. General Chemistry III

Course Description

Quantitative aspects of general chemistry: solid state structure, equilibrium, thermodynamics, and kinetics.

Student Learning Outcomes

The Higher Education Department has identified several common core competencies which the student will achieve through science courses. The student will:

1. describe the process of scientific inquiry
2. solve problems scientifically
3. communicate scientific information
4. apply quantitative analysis to scientific problems
5. apply scientific thinking to real world problems

CHEM 2305. Analytical Chemistry

Course Description

Fundamentals of instrumental chemical analysis. Topics include: statistical methods, digital control and data acquisition, gas/liquid chromatography, emission/absorption spectroscopy, capillary electrophoresis, volumetric, gravimetric, and electrochemical analysis. For chemistry and some pre-professional majors.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Prepare solutions of desired molarity.
2. Interconvert between molarity, weight percent, parts per million, and parts per billion.
3. Perform equilibrium constant calculations, manipulations, and apply towards Le Chatelier's principle.
4. Use the buoyancy equation and correct for buoyancy.
5. Correctly use volumetric glassware such as burets, flasks, and pipets.
6. Calibrate volumetric glassware.
7. Describe and perform filtration, and drying procedures.
8. Describe and perform dissolution, fusion, digestion, and extraction sample prep procedures.
9. Use correct significant figures in calculations.
10. Describe and distinguish systematic and random errors.
11. Compute absolute and relative uncertainty.
12. Propagate errors in calculations.
13. Properly set up, annotate, and use spreadsheets.
14. Use spreadsheets for graphing.
15. Calculate mean, standard deviation, and relative standard deviation.
16. Compute and use the F test to determine if two sets of measurements are statistically different.
17. Use student's t to compute the confidence interval of replicate measurements.
18. Compare means with student's t test to determine if they are statistically different.
19. Set up a spread sheet for the t test.
20. Use Grubbs test for determining outliers.
21. Construct a calibration curve including error bars using a spread sheet.
22. Set up a spreadsheet to compute slope and intercept with errors using least squares analysis.
23. Outline quality assurance procedures and methods.
24. Perform analysis by standard addition.
25. Set up and use a spreadsheet for standard addition.
26. Perform analysis using internal standards.
27. Perform a back titration.
28. Perform a blank titration.
29. Perform a direct titration.
30. Perform a standardization.
31. Perform Volhard and Fajans argentometric titrations.
32. Perform gravimetric analysis.
33. Calculate pH and concentrations involved in acid base equilibria.
34. Prepare buffer solutions.
35. Use pH electrode and spreadsheet to find the endpoint numerically in an acid base titration.
36. Perform a Kjeldahl nitrogen analysis.
37. Compute ionic strength of solutions.
38. Compute activity coefficients.
39. Compute activities of species in solution.
40. Perform an EDTA titration.
41. Analyze and diagram an electrochemical cell.
42. Compute electrode and cell potentials.

43. Describe and use reference electrodes.
44. Describe how a AgCl electrode works.
45. Describe how a calomel electrode works.
46. Interconvert potentials between different reference electrodes.
47. Describe and use a silver indicator electrode.
48. Describe and use ion selective electrodes.
49. Describe and use pH electrodes.
50. Describe and use amperometry and voltammetry techniques.
51. Perform cyclic voltammetry in chemical analysis.
52. Describe and calculate properties and quantities involving light.
53. Use Beer's law.
54. Describe single and double beam spectrophotometers.
55. Describe photo-detection schemes including diode array and photo-multiplier-tubes.
56. Describe fluorescence and phosphorescence physical processes.
57. Describe absorbance and luminescence instrumentation.
58. Describe processes and components of an atomic absorption spectrophotometer.
59. Describe processes and components of an inductively coupled plasma spectrophotometer.
60. Perform analysis using an inductively coupled plasma spectrophotometer.
61. Describe gas/liquid chromatographic theory, equipment, and techniques.
62. Describe capillary electrophoresis theory, equipment, and techniques.
63. Calculate theoretical plates and resolution of columns.
64. Describe band dynamics.
65. Perform quantitative analysis using Gas Chromatography Mass Spectroscopy.

CHEM 2305L. Analytical Chemistry I Laboratory

Course Description

This laboratory course provides hands-on training in quantitative chemical analysis with an emphasis on solution preparation, titration techniques, and sample preparation methods. Students gain experience using volumetric glassware, electrodes, spectrophotometers, and electroanalytical techniques while applying statistical methods and spreadsheet tools to analyze and present data. The course integrates classical and instrumental methods, preparing students for advanced study and professional laboratory work.

Student Learning Outcomes

1. Prepare solutions of desired molarity.
2. Interconvert between molarity, weight percent, parts per million, and parts per billion.
3. Correctly use volumetric glassware such as burets, flasks, and pipets.
4. Calibrate volumetric glassware.
5. Describe and perform dissolution, fusion, digestion, and extraction sample prep procedures. This laboratory course provides hands-on training in quantitative chemical analysis with an emphasis on solution preparation, titration techniques, and sample preparation methods. Students gain experience using volumetric glassware, electrodes, spectrophotometers, and electroanalytical techniques while applying statistical methods and spreadsheet tools to analyze and present data. The course integrates classical and instrumental methods, preparing students for advanced study and professional laboratory work.
6. Use correct significant figures in calculations.
7. Properly set up, annotate, and use spreadsheets.
8. Use spreadsheets for graphing.
9. Calculate mean, standard deviation, and relative standard deviation.
10. Construct a calibration curve including error bars using a spread sheet.

11. Set up a spreadsheet to compute slope and intercept with errors using least squares analysis.
12. Perform analysis by standard addition.
13 Set up and use a spreadsheet for standard addition.
14. Perform a back titration.
15. Perform a blank titration.
16. Perform a direct titration.
17. Perform a standardization. 1
18. Prepare buffer solutions.
19. Perform a Kjeldahl nitrogen analysis.
20. Perform an EDTA titration.
21. Describe and use reference electrodes.
22. Describe and use pH electrodes.
23. Describe and use amperometry and voltammetry techniques.
24. Perform linear sweep voltammetry in chemical analysis.
25. Use Beer's law.
26. Perform analysis using an inductively coupled plasma spectrophotometer.

CHEM 2307. Analytical Chemistry
Course Description
This course familiarizes the student with basic laboratory techniques for chemical analysis, and the appropriate selection and use of analytical methods. It includes an overview to analytical chemistry, the importance of measurements and data management, along with good laboratory practices. The topics will include equilibrium, solubility, gravimetric analysis, and acid-base/redox reactions/titrations.
Student Learning Outcomes
Not Available

CHEM 2307L. Analytical Chemistry Laboratory
Course Description
The laboratory is an integral part of the course and must be taken at the same time. The experiments will include good laboratory practices and the proper procedures for mass and volume measurements. In addition, basic laboratory techniques, such as titration, precipitation, and electrochemical analysis will be covered. The laboratory experiments are designed to support the lecture topics.
Student Learning Outcomes
Not Available

CHEM 2310. Quantitative Analysis
Course Description
Quantitative Analysis is a subdiscipline within analytical chemistry which deals with the identification and assay of a material or its components. Students will learn how chemical characterization involves chemical reactivity, physical measurement, and data interpretation with an emphasis on solution equilibria and electrochemistry. The study of precise and reliable chemical characterization is fundamental to further study and practice in chemistry, biology, medicine, geology, chemical engineering, and many other related fields. The understanding of the methods and limitations of chemical characterization can aid in making informed judgments on a large variety of social and political issues.
Student Learning Outcomes
1. Gain fundamental understanding of the principles and methodologies of quantitative analysis.
2. Understand how random measurement errors lead to the Gaussian distribution, and how to use this distribution for probability calculations.

3. Use and interpret statistical tests like the T-test, F-test, Grubbs test and linear regression.
4. Understand the basis of equilibrium treatment for aqueous reactions, proton transfer, electron transfer, solubility, metal complexation.
5. Predict (calculate) equilibrium speciation in complex systems, accounting for multiple reactions and ionic activities.
6. Understand the physical/chemical basis for common classical (volumetric, gravimetric) and instrumental (potentiometric, spectrophotometric, chromatographic, mass spectrometric) methods.
7. Recognize interferences in chemical and instrumental analysis.
8. Comprehend and analyze applications of quantitative analysis to everyday social and political issues.

CHEM 2310L. Quantitative Analysis Lab

Course Description

This course is designed to introduce you to techniques of Quantitative Analysis and complement the theory and concepts presented in lecture. Students will obtain reproducible quantitative laboratory data using classical (volumetric, gravimetric) and simple instrumental (potentiometric, spectrophotometric, chromatographic) methods, as well as analyze and interpret laboratory data using standard statistical and validation approaches.

Student Learning Outcomes

1. Comprehend the importance of stoichiometry, chemical equilibrium and kinetics in analysis.
2. Apply and assess concepts of availability and evaluation of analytical standards and formulate standardization methodology.
3. Comprehend concept of and perform calibration of measurement instruments.
4. Demonstrate knowledge of sampling methods for states of matter.
5. Use statistical and validation methods for evaluating and interpreting data.
6. Assess and account for sources of error in data collection and analysis.
7. Appreciate, understand, and practice concepts associated with laboratory safety, including the possible consequences of not adhering to appropriate safety guidelines.
8. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required.

CHEM 2310C. Quantitative Analysis Lecture and Laboratory

Course Description

Quantitative Analysis is a subdiscipline within analytical chemistry which deals with the identification and assay of a material or its components. Students will learn how chemical characterization involves chemical reactivity, physical measurement, and data interpretation with an emphasis on solution equilibria and electrochemistry. The study of precise and reliable chemical characterization is fundamental to further study and practice in chemistry, biology, medicine, geology, chemical engineering, and many other related fields. The understanding of the methods and limitations of chemical characterization can aid in making informed judgments on a large variety of social and political issues. This course is designed to introduce you to techniques of Quantitative Analysis and complement the theory and concepts presented in lecture. Students will obtain reproducible quantitative laboratory data using classical (volumetric, gravimetric) and simple instrumental (potentiometric, spectrophotometric, chromatographic) methods, as well as analyze and interpret laboratory data using standard statistical and validation approaches.

Student Learning Outcomes – Lecture

1. Gain fundamental understanding of the principles and methodologies of Quantitative Analysis.
2. Understand how random measurement errors lead to the Gaussian distribution, and how to use this distribution for probability calculations.
3. Use and interpret statistical tests like the T-test, F-test, Grubbs test and linear regression.

4. Understand the basis of equilibrium treatment for aqueous reactions proton transfer, electron transfer, solubility, metal complexation.
5. Predict (calculate) equilibrium speciation in complex systems, accounting for multiple reactions and ionic activities.
6. Understand the physical/chemical basis for common classical (volumetric, gravimetric) and instrumental (potentiometric, spectrophotometric, chromatographic, mass spectrometric) methods.
7. Recognize interferences in chemical and instrumental analysis.
8. Comprehend and analyze applications of Quantitative Analysis to everyday social and political issues.

Student Learning Outcomes – Lab

1. Comprehend the importance of stoichiometry, chemical equilibrium and kinetics in analysis.
2. Apply and assess concepts of availability and evaluation of analytical standards and formulate standardization methodology.
3. Comprehend concept of and perform calibration of measurement instruments.
4. Demonstrate knowledge of sampling methods for states of matter.
5. Use statistical and validation methods for evaluating and interpreting data.
6. Assess and account for sources of error in data collection and analysis.
7. Appreciate, understand, and practice concepts associated with laboratory safety, including the possible consequences of not adhering to appropriate safety guidelines.
8. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required.

CHEM 2325. Environmental Chemistry

Course Description

This course introduces students with a topics-based approach to chemistry of the environment. They are expected to have some knowledge of chemistry, with a desire of applying this knowledge to the environment. Topics of interest include environmental of water, water pollution, water treatment, geochemistry, atmospheric chemistry, air pollution, radioactivity, hazardous materials and resources.

Student Learning Outcomes

The students will be able to discuss the:

1. A strong understanding of environmental issues in Navajo Nation, state, federal, and global issues.
2. The present concepts and application into the environment.
3. The basic theories and methods of environmental chemistry.
4. Be able to describe and understand environmental threats to air, water, soil, ozone depletion, groundwater pollution, and agricultural impact to water and soil.

CHEM 2991. Introduction to Research in Chemistry

Course Description

Techniques and procedures of chemical research.

Student Learning Outcomes

Varies

CHEM 2993. Workshop in Chemistry

Course Description

Varies

Student Learning Outcomes

Varies

CHEM 2996. Topics in Chemistry

Course Description
Specific subjects in Chemistry. These subjects will be announced in the 'Schedule of Classes'.
Student Learning Outcomes
Varies

Child Advocacy Studies (CAST)

CAST 1110. Introduction to Child Advocacy
Course Description
This is the introductory course for child advocacy studies (CAST). It covers different models for understanding child maltreatment, types and indicators of child maltreatment, controversial topics in the field, and issues and laws related to child maltreatment in various countries around the world. Students will develop critical thinking and analytical skills in assessing child maltreatment. Restricted to Dona Ana campus only.
Student Learning Outcomes
1. Demonstrate how to apply a model of critical thinking and analysis to child maltreatment issues.
2. Describe historical trends in child maltreatment and child advocacy.
3. Compare and contrast theories and models of child maltreatment.
4. Compare and contrast the indicators and consequences of different types of maltreatment.
5. Discuss cultural issues related to assessing and working with families.

CAST 2110. Professional and Systems Responses to Child Maltreatment
Course Description
Course examines the professionals and systems that respond to allegations of child abuse and neglect. Includes the differences between civil and criminal proceedings; components of a court-worthy child abuse and neglect investigation; basic child forensic interviewing; an overview of child sex offenders; and current research and controversial issues affecting the field. Restricted to Dona Ana campus only.
Student Learning Outcomes
1. Define neglect, abuse, and violence including psychological, emotional, and spiritual maltreatment.
2. Describe the interpersonal dynamic of violence and abuse, and the varied and changing types of violence and abuse.
3. Identify risk factors for various categories of child abuse in the general population and identify high-risk population.
4. Describe the physical and behavioral health effects of violence, neglect, and abuse, including mental health impacts.
5. Identify the barriers to help-seeking for victimized children.
6. Describe models for intervention and prevention of child maltreatment.
7. Discuss various factors that affect children's motivation for disclosure.
8. Discuss how values, attitudes, beliefs, and experiences related to child maltreatment may effect interaction with children and families

CAST 2120. Prevention, Trauma Informed Treatment and Advocacy
Course Description
The purpose of this course is to prepare students to recognize the effects of child maltreatment and apply interventions strategies for children and their families. Multidisciplinary approaches to prevention, advocacy and treatment of child maltreatment survivors will be presented and discussed. Topics include violence prevention research, interdisciplinary family programs, how to advocate for survivors of child abuse, case management, working with families, mental health service and controversial issues.
Student Learning Outcomes
1. Be able to create goals and identify services needed by maltreating families.
2. Understand the development of psychopathology in the child related to maltreatment

3. Understand the documented effects of maltreatment such as depression, anxiety, sexualized behavior, neurobiological, suicide, and damaged ego development/ sense of self
4. Describe interdisciplinary family intervention programs such as in-home parenting programs, Stay Safe program, Incredible Years, Project Safe Care, ECFE, etc.
5. Explain mental health assessment, diagnosis, treatment, and availability of services for the survivor, the family and the offender.
6. Understand PTSD, reactive attachment disorder and other trauma responses; assessment and treatment
7. Describe issues for adolescent and adult survivors of maltreatment such as eating disorders, low self-esteem and personality disorders.
8. Identify professional issues related to maltreatment such as how to approach families and an awareness of the effect of working with families on the professional.
9. Discuss the role of interdisciplinary approaches to child maltreatment intervention in planning for the future and advocating for the rights of children
10. Explain violence prevention research, strategies, and programs
11. Understand how battering, chemical dependency/maltreatment, mental illness, chronic illnesses, disabilities, and other family stressors influence intervention with survivors, their families and the offender
12. Explain how issues of race, class, sexual orientation, religion, gender and social justice can influence professional practice with children who have been maltreated
13. Explain the role of the child advocate in addressing social justice issues associated with intervention and prevention of child maltreatment, and in promoting social change that will result in fewer incidents of child maltreatment.

Chicano and Chicana Studies (CCST)

CCST 1110. Introduction to Comparative Global and Ethnic Societies

Course Description

The course explores historical and contemporary social forces that impact ethnic communities across the Americas. Students will examine social and economic dynamics of Indigenous, Latino, Asian Pacific, Africana communities and women's experiences in these societies.

Student Learning Outcomes

By the end of the course, students will

1. Apply various transdisciplinary perspectives and processes used by social scientists to discover, describe and understand human behavior across a range of diverse ethnic and gendered societies.
2. Write informed analytical essays that comprehensively explores key issues or events in order to provide the reader will a full understanding of the subject under evaluation.
3. Effectively identify, evaluate, and share information for the problem or issue at hand in all course assignments and discussions.
4. Articulate their roles as citizens in a global context; and develop an awareness and appreciation for diverse value systems in order to critically examine and work toward quality of life within a framework of human understanding and social justice.
5. Develop and explicate arguments supported by quantitative evidence (words, tables, and graphs) based in the authentic contexts of everyday life situations.

CCST 1125. Chicana/o Latina/o Musical Cultures and Expressions

Course Description

The course explores diverse musical expressions of Chicana/o and Latina/o peoples in the present geographical boundaries of the United States. The course emphasizes the intercultural dynamics in the formation of Chicano and Latino music, which incorporates American, Latin American, African, Native American, and European roots.

Student Learning Outcomes
Students will:

1. Apply intercultural reasoning and intercultural competence in analyzing contemporary Chicano Latino Music in the United States.
2. Develop conclusions about cultural sources and outcomes of creativity among Latina/o populations in the arts.
3. Analyze the influence of musical cultural diversity and its applications to multicultural populations in the United States.
4. Applying diverse theoretical lens (e.g. cultural, political, economic) to understand and evaluate messages in terms of aesthetic rhetorical situation (audience, purpose, and context).
5. Develop critical thinking and communication skills through the use of surveys, quizzes, creative projects, identification analysis, on-line essays and exams.
6. Produce a music album reflective of intercultural practices and theories.

CCST 1996. Topics in Chicana/o Studies
Course Description
Varies
Student Learning Outcomes
Varies

CCST 2088.Chicana and Chicano Studies Specialty
Course Description
This course is used to transfer approved courses from other colleges and universities. (Currently applicable for CNM only for transfer purposes).
Student Learning Outcomes
NA

CCST 2110. Introduction to Chicana and Chicano Studies
Course Description
Introductory survey of the Mexican American experience in the United States, with special reference to New Mexico. Exploration of historical, political, social and cultural dimensions.
Student Learning Outcomes
By the end of the course, students will

1. Apply various transdisciplinary perspectives and processes to understand humanist expressions through a variety of creative productions.
2. Assess and apply social, historical, economic and cultural perspectives as they impact diverse populations over a period of time.
3. Explain the ways in which narratives help people understand one another more clearly and profoundly across ethnic and cultural groups.
4. Design presentations that foster and increase a full understanding of a subject in order to promote change in the listeners' attitudes, values, beliefs, or behaviors.
5. Apply qualitative and numerical data to explain diverse human actions in an everyday context of life.

CCST 2332. Introduction to Chicana Studies
Course Description
This general survey course introduces students to Chicana women’s diverse and changing social statuses from the times of Indigenous sovereignties preceding European interventions in Mexico to the 21st century. The purpose is to familiarize students with the diversity and complexity of Chicana experiences and to introduce some key issues central to those

experiences. Course materials will highlight Chicana/Mexican/Indigenous women's attempts to challenge notions of inferiority and rationalizations for dominance through actions and power contestations and, in turn, contextualize these actions socially, economically and politically. In Mexico and the U.S., women served as agents of social and political change in the formation of the society and the state.

Student Learning Outcomes

By the end of the course, students will

1. Summarize the major economic, political, social and cultural forces influencing Chicana women's status and experience in the United States
2. Explain the multidisciplinary diversity and intellectual rigor that make up the field of Chicana Studies
3. Develop compelling and logical arguments for class discussion, individual and group presentations and writing assignments, based on course readings and discussions
4. Interpret, understand, and engage literary works within cultural, social and historical contexts
5. Gather, analyze, and evaluate information from a variety of sources
6. Compose texts in a variety of media formats.

CCST 2996. Topics in Chicana/o Studies

Course Description

Varies

Student Learning Outcomes

Varies

Chinese (CHIN)

CHIN 1110. Mandarin Chinese I

Course Description

This is the first semester of a two-semester sequence in first year modern standard Chinese ("Mandarin"). This course is recommended for students who have had little or no experience in the Chinese language. A beginning Mandarin Chinese course is designed to introduce the Mandarin sound system ("pinyin"), basic vocabulary, Chinese characters (either in Simplified or Traditional characters), and basic grammatical concepts and structures. In order to help beginners develop their communicative competence in the four basic skills, the 5Cs (Communication, Cultures, Comparisons, Connections, and Communities) will be integrated consistently into the content and exercises in the course.

Student Learning Outcomes

At the conclusion of this course, students should be able to:

1. Approach a novice--mid proficiency (ACTFL) in speaking, listening, reading, writing, as well as to develop their cultural awareness.
2. Demonstrate knowledge of the phonetic system in Mandarin Chinese
3. Pronounce Chinese pinyin in correct tones.
4. Demonstrate the mastery of the most commonly used characters (approximately 400-500)
5. Understand basic Chinese grammatical concepts.
6. Use basic Mandarin vocabulary, introductory phrases and sentences in both oral and written forms.
7. Understand greetings in China, countries and nationalities, Chinese family values, hobbies, and being someone's guest in China.
8. Apply the language to greet each other, identify countries and nationalities, talk about his/her family, discuss important dates, talk about hobbies, and visit a friend in China.
9. Develop basic reading and writing skills in Chinese.
10. Develop initial understanding of Chinese culture, compare aspects of different cultures, make connections to their daily life, and build links among communities.

CHIN 1120. Mandarin Chinese II

Course Description

This is the second semester of a two-semester sequence in first year modern standard Chinese ("Mandarin"). This course is designed for students who have taken 1st Semester Mandarin Chinese, and focuses on enhancing pronunciation and expanding the vocabulary and grammar dealing with daily activities. In order to help beginners develop their communicative competence in the four basic skills, the 5Cs (Communication, Cultures, Comparisons, Connections, and Communities) will be integrated consistently into the content and exercises in the course.

Student Learning Outcomes

At the conclusion of this course, student should be able to:

1. Maintain a novice-mid and approach a novice--high proficiency (ACTFL) in speaking, listening, reading and writing, as well as to enhance their cultural awareness
2. Demonstrate continued mastery of the four tones used in Mandarin Chinese
3. Demonstrate continued mastery of the most commonly used characters (approximately 500-600)
4. Apply basic grammatical concepts and structures, and begin exploring intermediate grammatical concepts
5. Demonstrate continued growth in vocabulary and expressions necessary for conversation in and about real life situations
6. Understand basic phone calls, discussion of studies, school life, shopping and transportation
7. Apply the language to make simple phone calls, discuss studies, talk about school life, go shopping and use transportation
8. Continue developing basic reading and writing skills in Chinese
9. Develop further understanding of Chinese culture, compare aspects of different cultures, make connections to their daily life, and build links among communities.

CHIN 1130. Mandarin Chinese I Intensive

Course Description

This is the first semester of a two-semester sequence in first year modern standard Chinese ("Mandarin"). This course is recommended for students who have had little or no experience in the Chinese language. The 1st year intensive Mandarin Chinese course is designed to introduce the Mandarin sound system ("pinyin"), basic vocabulary, and Mandarin Chinese characters (Simplified), and basic grammatical concepts and structures. In order to help beginners develop their communicative competence in the four basic skills, the 5Cs (Communication, Cultures, Comparisons, Connections, and Communities) will be integrated consistently into the content and exercises in the course.

Student Learning Outcomes

At the conclusion of this course, students should be able to:

1. Achieve a novice-mid proficiency (ACTFL) in speaking, listening, reading, writing, as well as to develop their cultural awareness
2. Demonstrate solid knowledge of the phonetic system in Mandarin Chinese
3. Pronounce Chinese pinyin in correct tones comfortably
4. Demonstrate skillful mastery of the most commonly used characters (approximately 400-500)
5. Understand and apply basic Chinese grammatical concepts
6. Use basic Mandarin vocabulary, introductory phrases and sentences in both oral and written forms with confidence
7. Understand the following topics with no hesitation: greetings in China, countries and nationalities, Chinese family values, hobbies, and being someone's guest in China
8. Apply the language instantly to greet each other, identify countries and nationalities, talk about his/her family, discuss important dates, talk about hobbies, and visit a friend in China
9. Develop reading and writing skills in Chinese
10. Develop understanding of Chinese culture, compare aspects of different cultures, make connections to their daily life, and build links among communities.

CHIN 1140. Mandarin Chinese II Intensive

Course Description

This is the second semester of a two-semester sequence in first year modern standard Chinese ("Mandarin"). This course is designed for students who have taken 1st Semester Intensive Mandarin Chinese, and focuses on enhancing pronunciation and expanding the vocabulary and grammar dealing with daily activities. In order to help beginners develop their communicative competence in the four basic skills, the 5Cs (Communication, Cultures, Comparisons, Connections, and Communities) will be integrated consistently into the content and exercises in the course.

Student Learning Outcomes

At the conclusion of this course, student should be able to:

1. Maintain a novice-mid and achieve a novice-high proficiency (ACTFL) in speaking, listening, reading and writing, as well as to enhance their cultural awareness
2. Demonstrate continued fluent mastery of the four tones used in Mandarin Chinese
3. Demonstrate continued skillful mastery of the most commonly used characters (approximately 500-600)
4. Apply basic grammatical concepts and structures with confidence, and begin exploring intermediate grammatical concepts
5. Demonstrate continued fast growth in vocabulary and expressions necessary for conversation in and about real life situations
6. Understand the following topics with no hesitation: basic phone calls, discussion of studies, school life, shopping and transportation
7. Apply the language instantly to make simple phone calls, discuss studies, talk about school life, go shopping and use transportation
8. Continue developing reading and writing skills in Chinese
9. Develop further understanding of Chinese culture, compare aspects of different cultures, make connections to their daily life, and build links among communities.

CHIN 1145L. Chinese Language Lab

Course Description

A self-paced language lab designed to accelerate, reinforce and support all levels of Chinese. The course provides an opportunity to practice and strengthen listening, speaking, reading, and writing skills through the use of software, audio and video tapes, and other technologies.

Student Learning Outcomes

Varies

CHIN 1997. Chinese Independent Study

Course Description

Varies

Student Learning Outcomes

Varies

CHIN 2110. Mandarin Chinese III

Course Description

This is the first semester of a two-semester sequence in second year modern standard Chinese ("Mandarin"). This course is designed for students who have taken 1st and 2nd Semester Mandarin Chinese (or equivalence), and have a basic foundation on Chinese phonetics, characters, and grammars. In order to help students develop their communicative

competence in the four basic skills, the 5Cs (Communication, Cultures, Comparisons, Connections, and Communities) will be integrated consistently into the content and exercises in the course.

Student Learning Outcomes

At the end of this course, students should be able to:

1. Maintain a novice-high and approach an intermediate-low proficiency (ACTFL) in speaking, listening, reading and writing, as well as to enhance their cultural understanding
2. Pronounce the four tones used in Mandarin Chinese comfortably
3. Demonstrate continued mastery of the most commonly used characters (approximately 600-800)
4. Apply intermediate grammatical concepts and structures
5. Demonstrate continued growth in vocabulary and expressions in a variety for conversation in and about real life situations
6. Understand topics including but not limited to simple weather reports, dinning, directions, birthday party stories, and seeing a doctor
7. Apply the language to talk about weather, order food, ask and give directions, describe birthday parties, and see a doctor (these are suggested topics, no intention to limit the topic range)
8. Continue developing paragraph-length reading and writing skills in Chinese
9. Deepen understanding of Chinese culture, compare aspects of different cultures, make further connections to their daily life, and build stronger links among communities.

CHIN 2120. Mandarin Chinese IV

Course Description

This is the second semester of a two-semester sequence in second year modern standard Chinese ("Mandarin"). This course is designed for students who have taken 1st, 2nd, and 3rd Semester Mandarin Chinese (or equivalence), and have a good foundation on Chinese phonetics, characters, and grammars. In order to help students develop their communicative competence in the four basic skills, the 5Cs (Communication, Cultures, Comparisons, Connections, and Communities) will be integrated consistently into the content and exercises in the course.

Student Learning Outcomes

At the end of this course, students should be able to:

1. Maintain an intermediate-low and approach an intermediate-mid proficiency (ACTFL) in speaking, listening, reading and writing, as well as strengthening their cultural understanding
2. Pronounce the four tones used in Mandarin Chinese fluently
3. Demonstrate continued mastery of the most commonly used characters (approximately 800-1000)
4. Apply more intermediate grammatical concepts and structures
5. Demonstrate continued growth in vocabulary and expressions in a variety for conversation in and about real life situations as well as simple academic settings
6. Demonstrate language skills that would help them travel or live in China
7. Understand topics including but not limited to dating, renting an apartment, sports, traveling, conversations at an airport
8. Apply the language to extend/decline invitations, rent an apartment, talk about sports, travel, check in and arrive at an airport (these are suggested topics, no intention to limit the topic range)
9. Continue developing multiple-paragraph-length reading and writing skills in Chinese
10. Deepen understanding of Chinese culture, compare aspects of different cultures, make further connections to their daily life, and build stronger links among communities

CHIN 2150. Chinese Calligraphy

Course Description

This course will include lectures about the history of Chinese calligraphy, the tools used in calligraphy, the five major writing scripts/styles, and strategies to effectively memorize and write Chinese characters. A major part of class time will be dedicated to actual calligraphy writing practice. Student will be practicing and mastering the basic writing techniques of the Standard script/style.
The pre-requisite is CHIN 1140 or equivalent of two semesters of college-level Chinese language courses.

Student Learning Outcomes

1. Upon completion of this course, students will be able to:
2. Identify five major calligraphy scripts/styles, namely Seal, Clerical, Standard, Running, and Cursive.
3. Write Chinese characters in the Standard script/style using calligraphy techniques.
4. Fluently and confidently write 300-400 Chinese characters.
5. Develop individualized strategies to memorize Chinese characters efficiently.

Classical Studies (CLST)

CLST 1110. Greek Mythology

Course Description

Introduction to mythology; primary readings in stories about the gods and heroes, usually including Homer, Hesiod, Homeric Hymns and Tragedies. All texts will be in English.

Student Learning Outcomes

1. By the end of this class, students will gain a broader understanding and appreciation of the representation, interpretation and influence of the classical Greek myths.
2. Students will gain factual knowledge about the archetypal figures and narratives in Greek mythology and the development of patterns in different representational media and literary genres.
3. Students will gain understanding about how the Greek myths continue to influence culture today.

CLST 2110. Greek Civilization

Course Description

An interdisciplinary introduction to ancient Greece. Lectures on Greek art, history, literature and philosophy.

Student Learning Outcomes

By the end of this class, students will

1. Gain a broader understanding and appreciation of the intellectual and cultural activity of ancient Greece (esp. in terms of its art and literature).
2. Gain factual knowledge about the history and culture of ancient Greece.
3. Develop skill in expressing their critical ideas in writing.

CLST 2120. Roman Civilization

Course Description

An interdisciplinary introduction to ancient Rome. Lectures on Roman literature, history, art and philosophy.

Student Learning Outcomes

By the end of this class, students will

1. Gain a broader understanding and appreciation of the intellectual and cultural activity of ancient Rome.
2. Gain factual knowledge about the history and culture of ancient Rome.
3. Develop skill in expressing their critical ideas in writing essays organized around a clearly articulated argument.

Clothing, Textiles & Fashion Merchandising (CTFM)

CTFM 1110. Fundamentals of Fashion

Course Description

Survey of the fashion business from fiber to end product.

Student Learning Outcomes

Through a variety of learning activities, students will demonstrate their ability to:

1. Describe the roles and functions of industry jobs and sectors involved in the designing, production, marketing, and distribution of fashion brands within the global context.
2. Describe the business strategies of industry sectors involved in the designing, production, marketing, and distribution of fashion brands within the global context.
3. Describe the interrelationships among line planning, line development, and line presentation at manufacturing and retail levels.
4. Provide examples of the fashion industry's environmental and social impact.
5. Learn about all career tracks involved in the fashion industry and the global fashion supply chain.
6. Synthesize industry-relevant information on current issues in the fashion industry.

CTFM 2110. Fashion Studio I

Course Description

Applied principles in the criteria of pattern making: flat pattern and draping techniques. Projects will require three dimensional approaches in apparel design. Restricted to: CTFM majors. Restricted to Las Cruces campus only.

Student Learning Outcomes

Upon completion of the course, student will be able to:

1. Explain the basic relationship of the 2-dimensional plane to the 3- dimensional body in developing pattern shapes.
2. Utilize flat pattern manipulation to vary pattern style while maintaining size in the design of clothing.
3. Examine, evaluate, and utilize pattern development techniques as appropriate for selected clothing designs.
4. Demonstrate an understanding of the basic process of clothing design ideation through use of a variety of research techniques.
5. Implement the basic process of apparel pre-production, from design concept through finished sample.

CTFM 2120. Fashion Illustration

Course Description

This course explores aspects of fashion illustration, from drawing basic fashion figures to producing finished professional illustrations in color. This course provides the opportunity for students to integrate their fashion design development with computer-aided systems. The emphasis is on fashion innovation and concept design exploration enhanced by computer applications.

Student Learning Outcomes

1. To learn Adobe® Illustrator and Adobe® Photoshop® as drawing and design tools for electronic design and rendering.
2. To understand and utilize the computer as a tool for fashion design.
3. To understand methods of design input, including scanning, digitizing and resizing.
4. To develop customer profiles
5. To Understand Concept & Style.

CTFM 2130. Concepts in Apparel Construction

Course Description

Students are introduced to professional standard sewing techniques and apparel construction. The techniques learned are applied to produce finished garments.

Student Learning Outcomes

Upon the completion of this course, student will be able to:

1. Define sewing construction terminology, equipment and sewing machine parts.
2. Learn to select suitable patterns and fabrics for garments.

3. Learn to alter commercial patterns for different body types.
4. Identify fabric types, finishes, and labeling.
5. Perform standard operating procedures on sewing machines.
6. Perform clothing construction techniques for various garments.
7. Apply knowledge of industry sewing methods to recognition of garment workmanship.

CTFM 2990. Fashion Practicum

Course Description

Applied field experience in the related areas of apparel design, fashion merchandising, and textile science. May be repeated up to 3 credits. Restricted to: CTFM majors. Restricted to Las Cruces campus only.

Student Learning Outcomes

1. Gain hands-on knowledge of the fashion industry.
2. Demonstrate the ability to analyze the practices of management, as observed in the industry.
3. Demonstrate an attitude that is appropriate for a prospective manager in the industry.
4. Demonstrate the understanding of, and the ability to use research and problem solving methods to develop, analyze, and present a critical incident analysis.

Communication (COMM)

COMM 1115. Introduction to Communication

Course Description

This survey course introduces the principles of communication in the areas of interpersonal, intercultural, small group, organizational, public speaking, and mass and social media.

Student Learning Outcomes

1. Describe basic communication terms, forms and concepts.
2. Identify basic communication research methods and theories.
3. Explain the significance of ethics and diversity in communication processes.
4. Apply various concepts and skills in multiple communication contexts.

COMM 1120. Beginning Television Production

Course Description

An introduction to the principles and techniques of studio production for television. This includes producing, directing, camera, lighting, switching, sound and graphic design. Course covers the technical and creative aspects of the television production process and the basics of non-linear editing.

Student Learning Outcomes

1. Have a general understanding of how a variety of television programming is created
2. Run television cameras, lighting the studio, live editing, sound design, and live graphics.
3. Analyze television shows and other media.
4. Apply television production skills in individual and group projects.
5. Identify and analyze effects of television production on society.

COMM 1130. Public Speaking

Course Description

This course introduces the theory and fundamental principles of public speaking, emphasizing audience analysis, reasoning, the use of evidence, and effective delivery. Students will study principles of communication theory and rhetoric and apply them in the analysis, preparation and presentation of speeches, including informative, persuasive, and impromptu speeches.

Student Learning Outcomes

1. Demonstrate effective speech preparation.

2. Demonstrate effective speech delivery through use of language, nonverbal elements and the creation of presentation aids.
3. Analyze a potential audience and tailor a speech to that audience.
4. Evaluate presentations according to specific criteria.
5. Explain common propaganda techniques and logical fallacies, and identify them in the speeches of others.
6. Recognize diversity and ethical considerations in public speaking.

COMM 1140. Introduction to Media Writing

Course Description

This course combines a theoretical foundation with practical applications. It provides an introduction to journalism, as well as an overview of the most common types of writing required in public relations, advertising and strategic communication.

Student Learning Outcomes

1. Explain basic concepts of journalism and strategic communication, as well as some of the legal restraints and ethical issues facing media workers.
2. Write accurately, fairly, ethically, correctly, and clearly in forms and styles appropriate for communication professionals.
3. Recognize news values and the way that professionals critically evaluate information, including an introduction to basic statistics.
4. Apply media literacy knowledge and skills.

COMM 1144. Introduction to Social Media

Course Description

This course develops knowledge and skills needed to understand, critique, and implement communication strategies using social media platforms. Course content focuses on professional and ethical use of social media. Topics includes: history of social media, critical analysis of relationships between social media and audiences, and relationships with traditional media, as well as using strategic communication in personal and professional settings. Students will develop projects for nonprofit organizations.

Student Learning Outcomes

None Available

COMM 1145. Sex, Lies, and Fake News: How to Use Media Wisely

Course Description

A preponderance of fake news, propaganda, rumors, advertising and opinion that masquerade as news make it difficult to separate fact from fiction. The resulting confusion and distrust has potential to harm society and institutions. This survey course will help students recognize the differences between truth and rumor, news and advertising, fact and opinion, and bias and fairness. It will emphasize responsible and ethical decision-making in consuming media and in producing media.

Student Learning Outcomes

1. Analyze, compare, appraise and think critically about media.
2. Identify, recognize and summarize knowledge of journalism ethics.
3. Describe and express a coherent understanding of the media environment.
4. Demonstrate and practice fact-checking skills and verification methods.
5. Analyze news reports, weighing evidence, evaluating sources, noting context and transparency - to judge reliability.
6. Distinguish between journalism, opinion journalism and unsupported assertion.
7. Identify and distinguish between news media bias and audience bias.
8. Produce writing that blends scholarship and course materials to write effectively about journalism standards and practices, fairness and bias, First Amendment issues and individual rights and responsibilities.

COMM 1150. Introduction to Mass Communication

Course Description

This course introduces students to the history, models, theories, concepts, and terminology of mass communication, focusing on various media and professions. The course will enable students to develop media literacy skills to interpret mass communication and understand the effects of media on society and their lives.

Student Learning Outcomes

1. Explain various applications of media literacy knowledge and skills
2. Identify components that guide the creation, distribution and exhibition of media.
3. Describe the goals and methods of various media industries
4. Analyze current mass media issues, including ethical issues.
5. Describe the evolution of media and its cultural, social, geopolitical and economic impact.

COMM 1155. Communication across Cultures

Course Description

Not Available

Student Learning Outcomes

Not Available

COMM 1996. Communication Topics

Course Description

Varies

Student Learning Outcomes

Varies

COMM 1997. Communication Independent Study

Course Description

Varies

Student Learning Outcomes

Varies

COMM 2110. Communication Theory

Course Description

This course provides an exploration of major theories, concepts and methods of research in the study of human communication.

Student Learning Outcomes

1. Identify, explain, and illustrate key concepts and principles of the major traditions of communication theory.
2. Analyze practical problems and situations using theories.
3. Integrate research correctly and ethically from credible sources to support the primary purpose of communication.

COMM 2111. Introduction to Communication Major

Course Description

This is a one-credit course for new Communication Studies majors. It helps them get acquainted with the department, the department head (professor for this course, the professors, other students, and the department student organizations. It also deals with degree mapping and career mapping and any problems the students are having in their first year. Finally, the students learn about the Communication Studies discipline and various communication careers they can pursue with their

degree. The class meets one day each week for one hour. Restricted to: Communication Studies majors. Restricted to Las Cruces campus only.

Student Learning Outcomes

1. To give you some knowledge about your major and this department.
2. To help you learn more about the study of human communication in general and we approach it in our various courses.
3. To make you comfortable with the department, its professors and graduate students, as well as staff.
4. To assist you in finding important resources for earning your degree in Communication Studies with a high GPA.
5. To engage you and your concerns in earning your degree.
6. To advise you in ways that match your goals with the department goals.

COMM 2115. Graphics for Television/Video

Course Description

This course will develop necessary skills needed in broadcast production through hands-on projects and "real world" activities, to include designing still graphics for television production, designing animation elements for television production, incorporating graphic elements with live video, live character generation/Chyron operation, and processing video for web publication.

Student Learning Outcomes

1. Understand the definitions and functions of media in relationship to culture.
2. Will be able to engage in critical and analytical discussions about media.
3. Will be able to construct a paper/performance that explores the complexities of mediated mass media phenomenon.

COMM 2120. Interpersonal Communication

Course Description

This course introduces the study of interpersonal communication. Students will examine the application of interpersonal communication in personal and professional relationships.

Student Learning Outcomes

1. Define and describe basic interpersonal communication terms and concepts
2. Identify and analyze interpersonal communication across a variety of personal and professional contexts in both face-to-face and mediated forms.
3. Identify and demonstrate a variety of skills that will enhance interpersonal communication
4. Analyze a variety of purposes of and goals in interpersonal communication interactions
5. Recognize diversity and ethical considerations in interpersonal interactions.

COMM 2121. Introduction to Interpersonal Health Communication

Course Description

The goal in of this class is to enhance students' understanding of the major theories and processes of health communication in interpersonal settings, to support students in becoming effective communicators who can apply different communication strategies in diverse health settings.

Student Learning Outcomes

1. Identify at least two medical models and their approach to health communication
2. List major issues facing health care and their implications for health communication
3. Understand the impact of health communication on patients' health outcomes
4. Apply concepts of the medical talk in patient-provider simulations

5. List major approaches to effective communication in culturally diverse health care organizations
6. Identify underserved communities and groups and inclusive communication strategies
7. Describe the role of technology in health communication
8. Understand basic methods of health communication research

COMM 2130. Media Theories

Course Description

Introduces students to a variety of media theories and models. Focuses on the key issues in media theory, including the nature of mass media, influences on human behavior, and the media as reflector and creator of society.

Student Learning Outcomes

1. Compare and contrast various theories and models of media in society.
2. Explain historical development of media theories and link developments to historically important societal, political, and technological events or issues
3. Recognize recurring criticisms of media, and the strengths and imitations of these criticisms
4. Identify origins, advantages and disadvantages of media professionalization
5. Recognize how conceptualizations of media roles have changed over the years, and explain advantages and limitations of these ideas.

COMM 2135. Media Ethics and Law

Course Description

The material will introduce you to the history of ethics and sources of our American legal system. We will examine how the law and ethical action are chosen and evolve through resolution of a dilemma - a choice between countervailing interests. Foundational principles, expressed in our charter documents, carry through those areas of law which are most critical to media: We'll examine fundamentals of law, of First Amendment, libel, privacy, open government, copyright and commercial speech. Consequently, this course's content will be relevant in every other Journalism and Mass Communication course you take between now and your completion of your degree program.

Student Learning Outcomes

1. Develop an appreciation for the relationship of truth, accuracy and fairness through analysis of principles and practices in media law and ethics.
2. Gain understanding of the fundamentals of constitutional interpretive theories, especially the First Amendment; law of libel, privacy, open government, intellectual property and regulation of political and commercial speck; and of how law develops.
3. Examine ethical principles, including well-established ethical theories, to better understand what constitute ethical ways of thinking and acting.
4. Learn history and role of the media in development and refinement of media law. Gain awareness of contemporary legal issues posed by new technology.
5. Become careful and critical producers and consumers of media messages.
6. Use research and critical evaluation skills to articulate our analysis and resolution of an issue in media ethics.

COMM 2140. Small Group Communication

Course Description

Explores the principles and practices of effective participation in small groups, with emphasis on critical thinking, problem solving, organizational skills, role theory, conflict resolution, and creative decision-making methods. It combines a theoretical foundation with practical application to help students better understand the dynamics of group communication in both professional and social contexts.

Student Learning Outcomes

1. Apply basic group communication principles in a variety of contexts.

2. Demonstrate effective group interaction skills in a variety of contexts.
3. Identify and apply group communication strategies and skills that facilitate the achievement of group goals in a variety of contexts.
4. Explain and apply the principles and practices of ethical communication in a variety of group contexts.

COMM 2150. Communication for Teachers

Course Description

This course will investigate and critically evaluate the influence of identity, communication, and culture on instruction, learning, engagement, classroom community, and the teacher-student relationship.

Student Learning Outcomes

1. Define and demonstrate various components of effective classroom communication.
2. Recognize one's own strengths and weaknesses in classroom communication and describe ways to improve
3. Recognize how culture shapes classroom communication strategies and describe ways to ethically connect and communicate with a diverse student population
4. Design communication strategies to achieve particular classroom goals.

COMM 2160. Gender Communication

Course Description

This course focuses on exploring gendered identities and how they inform and are informed by communication. It includes consideration of the development and influence of gender over the lifespan, cultural understandings and critiques of gender, strategies for understanding gendered communication differences, and the implications and consequences of these differences in business, media, and educational and intimate contexts.

Student Learning Outcomes

1. Describe and define basic communication terms and concepts that relate to gender from a communication perspective.
2. Identify the influence of gender norms and roles on how people communicate, including listening, use of language, and nonverbal communication.
3. Explain the complex relationship between gender and communication
4. Analyze the role of gendered communication differences in a variety of communication contexts: business, media, education, interpersonal.

COMM 2170. Intercultural Communication

Course Description

This course introduces students to the basic concepts, theories and skills necessary to succeed in an increasingly multicultural world.

Student Learning Outcomes

1. Define and describe basic intercultural communication terms and concepts
2. Differentiate between key theories related to intercultural communication
3. Explain how cultural values, cultural patterns, and belief systems affect self and others in a variety of communication contexts
4. Recognize obstacles to competent intercultural communication
5. Identify and demonstrate skills that could lead to intercultural communication competence

COMM 2180. Business and Professional Communication

Course Description

This course develops the interpersonal, small group, and public communication skills most useful in business relationships and professional organizations.

Student Learning Outcomes

1. Identify ways in which communication creates and defines personal and professional relationships.
2. Analyze the impact of particular techniques in differing communication contexts.
3. Demonstrate skills in these areas: communicating in dyads, listening, interviewing, functioning in problem-solving groups, conducting meetings, presenting to large groups, and handling questions and answer sessions.
4. Explain the nature and impact of diversity in the workplace.

COMM 2182. Introduction to Public Relations

Course Description

Introduction to the theory and practice of public relations, including its functions in organizations and society, as well as issues, concepts and theories. Emphasis on practical applications.

Student Learning Outcomes

The primary objective of this course is to familiarize you with the basic concepts, principles, practice and profession of public relations. It is the foundation course for other courses in public relations and a supplemental course for students majoring in other fields. At the end of the course students should have attained knowledge and understanding of the following central concepts:

1. The role and functions of public relations in a contemporary society.
2. The contingency views of public relations practice in the worlds of managing competition and conflict
3. The historical evolution of public relations, career opportunities in the field, and professional/ethical/legal responsibilities.
4. The basic process of public relations - research, planning, communication, evaluation - and the use of communications strategies and tactics to achieve organizational goals and objectives.
5. The persuasion of public opinion and audience analyses and how to reach diverse audiences.
6. Practical guidelines for utilizing written, spoken, and visual techniques to reach selected audience(s).
7. An understanding of how public relations is a global phenomenon.
8. How the Internet and social media are changing the way public relations professionals build and sustain relationships between an organization and its constituents.
9. An understanding of public relations activities in business, sports, tourism and entertainment.
10. An understanding of public relations activities in nonprofit, education and government organizations.

COMM 2185. Multimedia & Visual Communication

Course Description

This course is an exploration of visual images in mass media. It emphasizes the visual world and promotes visual literacy by helping students to decipher the language of pictures through studying history, technique and imagery.

Student Learning Outcomes

1. Develop competencies in the use of multimedia production technologies.
2. Develop an understanding of research and critical evaluation skills including use of the Internet and visual media, to become visually literate.
3. Learn to shoot professional multimedia content.
4. To identify principles of visual communication.
5. To acquire basic visual/technical communications skills.
6. To create visual presentations that demonstrate an understanding of visual communication principles.
7. To develop competencies in the use of computer design and editing technologies.
8. To become familiar with current multimedia knowledge and theory.
9. To provide practical experience in evaluating visual communication.

COMM 2190. Writing and Editing for Multimedia Journalism

Course Description
This course builds on the skills you have learned, focusing more deeply on the theory and practice of journalism in the digital age. Classes are in a lecture/discussion format, with emphasis on participation by students. We will practice strict adherence to deadlines, writing under pressure sometimes, rewriting, peer editing of stories, constructive criticism, coaching and teamwork. Students will hone skills in grammar, accuracy, attribution, interviews and story structure. We will also study what constitutes a compelling and well-reported, well-written news story — and the multimedia possibilities that go hand-in-hand with such stories.

Student Learning Outcomes
This course is intended to:

1. Develop professional newswriting skills, with particular attention to truth, accuracy, fairness, objectivity, ethics and diversity of voices
2. Obtain writing and editing skills necessary in a convergent newsroom
3. Develop a clear understanding and appreciation for the role of journalism in a democratic society
4. Hone students' critical and creative thinking skills
5. Cultivate a practice of regular news-reading

COMM 2210. Audio Production

Course Description
Basic orientation of principles and techniques of radio and television audio production equipment. Course includes technical and creative use of microphones, mixing consoles, music, sound effects and recorders for radio, television and film sound tracks.

Student Learning Outcomes
The objectives in this course are geared to the understanding of audio and the skills needed to obtain professional results. Specific objectives are:

1. Learn basic audio principles.
2. Understanding signal flow and how the various modules work within the audio chain
3. Development of the student producer in the areas of pre-production planning, and production techniques, and basic trouble shooting
4. Cultivating additional producer skills such as field recording, music recording (studio and field).

COMM 2220. Intermediate Television Production

Course Description
Emphasis on electronic field production (EFP), and post production editing. Principles and techniques of single- camera field production for television, including camera and lighting. Nonlinear editing includes continuity editing for informational and dramatic television forms. This class will concentrate on the use of Adobe® Premiere Pro CC non-linear editing software.

Student Learning Outcomes
Students will use Premiere video editing skills, and the field production skills they learn in this class, to produce, shoot, and edit their own creative projects.

COMM 2222. Asian American Communication

Course Description
This course introduces students to issues and concerns of Asian Americans in communication. By communication, we mean a process of articulation and rearticulation about culture, society, and media. Specifically, this course will not only be committed to questioning the historical and political context in which "Asian Americans" have been socially constructed as a racial category. But it also reevaluates how "Asian Americans" are ongoing communication projects ignoring, erasing, and marginalizing complexities of differences such as ethnicity, gender, sexuality, class, religion, citizenship, migration, national

origin, language, and the body. Doing so, this course invites students to re-approach Asian Americans as multidimensional concepts of possibilities suggesting networks of collective resistances and solidarities.

Student Learning Outcomes (required):

After finishing this course, students will be able to

1. Read and analyze the literature related to communication studies focusing on Asian Americans.
2. Discuss multidimensional issues and concerns of Asian Americans in communication.
3. Deliver contemporary issues in Asian American communication.
4. Acquire writing skills to assess Asian American communication.
5. Obtain fundamental understandings of Asian American communication.

COMM 2223. Nonverbal Communication Studies

Course Description

Examines how the face and eyes, gestures, touch, voice, physical appearance, space, time and environment communicate in personal and professional interactions.

Student Learning Outcomes

1. discuss the definition of human communication, nonverbal communication, and the myths about nonverbal communication.
2. investigate the functions of nonverbal communication messages.
3. analyze the basic forms of nonverbal communication including kinesics, vocalics, chronemics, proxemics, haptics, olfactics, appearances, and the environment.
4. examine the impact nonverbal behaviors have on communication within a variety of relationships including superior/subordinate, teacher/student, male/female, and intercultural.
5. apply course information and skills to work/career settings.

COMM 2230. Digital Photography

Course Description

This course provides instruction in digital photography, emphasizing the relationship between new digital imaging processes and color photographic techniques. Assigned reading and class discussion will address contemporary issues in art and digital photography. Examination of the functions of light and color, crucial elements in the context of image capture, will be central to the course. Assignments will require the generation and alteration of digital photographs, with some emphasis on montage techniques. The course includes instruction in camera operation, scanning processes, lighting, image editing software, digital workflow, and output for print.

Student Learning Outcomes

1. Students will create digital images, applying concepts relating to digital photographic processes, color theory and the history and process of photomontage.
2. Students will assess and evaluate the creative work of their peers through both written and verbal critique.
3. Students will research and analyze the creative work of a contemporary artist and write a scholarly paper.
4. Students will choose and develop proposals for two photography portfolios, which they will create, one as a group, and individually.

COMM 2231. Sports Writing

Course Description

This course explores the principles and techniques of effective sports writing and reporting in various media platforms. Students will learn how to craft compelling narratives, conduct interviews, analyze sporting events, and report on athletes and teams. Emphasis will be placed on developing strong storytelling skills, understanding sports journalism ethics, and adapting writing styles for different audiences and platforms.

Student Learning Outcomes

At the end of the course students should have attained knowledge and understanding of the following central concepts:

1. Explain the basics of reporting on the sports beat.
2. Identify different types of stories, such as game stories, features and columns.
3. Demonstrate the mechanics of sports writing.
4. Discuss properly attending sporting events as a reporter.
5. Explain the importance of objectivity when covering a sports team.

COMM 2232. Sports Commentary

Course Description

This course will focus on the theory and practice of sports commentary across various media platforms. Students will study the art of providing insightful analysis, engaging commentary, and compelling storytelling in the context of live sports events. Students will learn the fundamentals of sports broadcasting including voice modulation, storytelling techniques, and on-air presentation skills. Emphasis will be placed on developing a unique voice as a sports commentator, mastering the use of statistics and analytics in commentary, and understanding the ethical considerations inherent t in sports broadcasting.

Student Learning Outcomes

At the end of the course students should have attained knowledge and understanding of the following central concepts:

1. Understand the real objectives of television sports commentary.
2. Provide context and insights from an expected source.
3. Learn how to prepare properly for a match.
4. To add value to viewers through information and voice modulation.
5. Work with directors and use the monitor effectively.

COMM 2240.Organizational Communication Studies

Course Description

Focuses on communication networks, power and authority, manager/employee relationships, leadership and interviewing in organizational contexts.

Student Learning Outcomes

Upon completion of this course, successful students will be able to:

1. Define and describe key elements of theories components and processes related to organizational communication
2. Analyze organizational communication interactions in various context
3. Analyze the importance of listening, interpreting and nonverbal skills in communication within organizations
4. Develop and apply appropriate and effective communicative messages for various interactions with others within an organizational setting

COMM 2245. Web Design

Course Description

This course introduces web page and web design concepts, basic HTML coding skills progressing to the use of Dreamweaver to design a website. Students will gain practical experience in the production of an electronic information delivery product. This course assumes that you already have basic skills as a journalist, and will focus on helping you transfer your skills to the online format.

Student Learning Outcomes

After the successful completion of the course the student will be able to:

1. Visualize and communicate ideas effectively in publishing webpages and websites.
2. Demonstrate the ability to think critically and creatively about how online technologies are changing traditional media for journalism.

3. Transfer journalism skills to hyper-based media, such as web pages or other new media formats.
4. Demonstrate understanding of visual design principles with an emphasis on presenting journalism online.
5. Design web pages using HTML and CSS to tell stories using new media.

COMM 2250. Newspaper Practicum

Course Description

Practical experience through work on student newspaper or yearbook as staff writers or editors under the supervision of the instructor. (May be repeated for a maximum of four hours).

Student Learning Outcomes

1. A general understanding of the nature, elements, and principles of interpersonal communication including: universal processes, and the impact of culture, perception, self-awareness and listening.
2. An understanding of messages - verbal and nonverbal.
3. An understanding of interpersonal relationships including: stages and theories; growth and deterioration: friendship, love, and workplace relationships and an awareness of interpersonal conflict and the principles of power and influence.
4. An awareness of interpersonal conflict and the principles of power and influence.

COMM 2282. Family Communication Studies

Course Description

Examines family systems theory, communication patterns, rules, roles, themes, power, intimacy ethnicity and conflict in families.

Student Learning Outcomes

Successful students will

1. Develop a communication perspective on the family as a system.
2. Recognize and explain how factors such rules, roles, power, ethnicity and societal influences affect communication between family members.
3. Analyze the effects of family communication during periods of stress or conflict.
4. Apply theories and concepts to real life scenarios.

COMM 2289. Listening Communication Studies

Course Description

Investigates and applies current research in listening theory. Analyzes the appropriateness and applicability of five major types of listening in academic, business, media and interpersonal contexts.

Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Define and describe basic listening terms and techniques.
2. Identify one's own listening strengths and weaknesses
3. Discuss the impact of culture, gender, self-esteem, and context on listening.
4. Identify and demonstrate listening skills which enhance communication in a variety of contexts: academic, business, familial, therapeutic, relational and intrapersonal.

COMM 2993. Workshop in Communication

Course Description

Varies

Student Learning Outcomes

Varies

COMM 2996.Topics in Communication
Course Description
Specific subjects and credits to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

COMM 2997. Independent Study
Course Description
Individualized, self-paced projects for students with a special interest in communication topics.
Student Learning Outcomes
Varies

COMM 2998. Internship
Course Description
Varies
Student Learning Outcomes
Varies

COMM 2999. Programmatic Capstone
Course Description
Varies
Student Learning Outcomes
Varies

Community and Regional Planning (PLAN)

PLAN 1165. Introduction to Community and Regional Planning
Course Description
Introduction to the social, economic, political and physical factors involved in development of cities and towns. Overview of the development of community and regional planning, as well as prominent theories of planning practice. Emphasizing the connection between theoretical and historic material and current planning practice and the interrelationships between various land uses.
Student Learning Outcomes

1. Describe the basic principles and dimensions of community and regional planning.
2. Distinguish objectives and issues specific to selected sub-fields of community and regional planning.
3. Identify various techniques and tools used by planners.
4. Apply correct technical vocabulary when discussing pertinent community and regional planning issues in an educated manner.
5. Explain the relationship between types of places and planning principles.

PLAN 2265. Sustainable Community Planning Methods
Course Description
An overview of sustainability covering topics such as the origins of sustainability, tools for sustainability planning, global dimensions of sustainability (including different approaches to planning), and visions for creating sustainable futures through the basic concepts, processes and techniques of planning.

Student Learning Outcomes

1. Describe how an understanding of environmental limits and the creation of inequities in society underlie our approach to sustainability
2. Describe the core tenants of sustainability in a concise manner – environment, economy and equity
3. Apply sustainability planning tools such as sustainability indicators, ecological footprint analysis, and green building certification
4. Explain interactions, flows of people and materials, cultures, and differing approaches to sustainability planning
5. Explain how sustainability goals and values can be embedded into the everyday practice of land use planning

PLAN 2275. Community Change in a Global Era

Course Description

We live in a global world and in local communities. How do global processes influence what happens in our communities? How can we shape global processes, or intervene to create local outcomes that strengthen diverse communities, communities that are situated differently in relationship to established institutions and have different worldviews, priorities and interests? How can local action effect lasting change locally or globally? This course explores these questions through the intersections among global processes, community outcomes, and local, national and global action.

Student Learning Outcomes

By the end of the course, you will be able to

1. Analyze how global processes interact locally in everyday spaces.
2. Explain how global economic, environmental and social processes shape communities in fast growing urban and rural areas and those that are growing slowly or shrinking.
3. Analyze how different forms of action shape local outcomes.
4. Convey global concepts professionally.

Community Health & Social Sciences (CHSS)

CHSS 1110. Introduction to Health & Community Services

Course Description

This course offers a holistic and multidisciplinary approach towards health promotion, wellness and a healthy lifestyle. Emphasis is placed on the major problems/issues that have the greatest significance to personal and community health. Topics to be discussed include: nutrition, fitness, stress management, sexuality, drug education and others.

Student Learning Outcomes

1. Understand basic foundations of community health – history, framework and present progress
    a. Identify key historical advances, people and events in public health
    b. Understand Healthy People 2020 goals and objectives
    c. Understand the levels of prevention (primary, secondary, tertiary) of public health
2. Identify organizations that help shape community health and their role in promoting health
    a. Governmental
    b. Quasi-Governmental
    c. Nongovernmental
    d. Identify local resources/agencies focused on health and human services
3. Conduct research in public health
    a. Identify major sources for public health research
    b. Governmental websites
    c. Journals
    d. Interpret and evaluate public health resources for academic use

e. Write a basic journal article critique
4. Understand the history and function of the school health program
   a. Identify components of a coordinated school health program
   b. Identify and overcome barriers common to CSHP
   c. Apply the CSHP to contemporary issues in child/adolescent health

CHSS 2110. Ethical & Research Issues in Human & Community Service

Course Description

Ethical and legal responsibilities of health personnel with an emphasis on research applications.

Student Learning Outcomes

1. Describe the need for research.
2. Develop a research proposal.
   a. Identify and write problem statements and research questions.
   b. Identify and formulate a hypothesis.
   c. Describe the basic format of research.
2. Review of Literature and Information Sources.
   a. Describe the steps in a literature review process.
   b. Conduct a library search for scholarly articles.
   c. Differentiate primary and secondary sources.
3. Ethics in Research.
   a. Describe common ethical issues in public health research.
   b. Identify vulnerable populations.
   c. Explain the main components of informed consent.
   d. Describe the researchers obligations regarding confidentiality
   e. Describe the role of the Institutional Review Board
4. Conducting Experimental and Quasi-Experimental Research.
   a. Describe case study and control in experiments.
   b. Recognize the role of the Hawthorne Effect in research.
   c. Explain internal and external validity, threats to validity and research methods for overcoming threats.
5. Data Collection through Surveys and Self-Reports.
   a. Evaluate various survey methodologies for applicability in public health research.
   b. Identify the components of a questionnaire.
   c. Explain the process for conducting focus groups.
6. Sampling Designs and Techniques.
   a. Recognize the role sampling plays in research.
   b. Identify commonly used sampling techniques.
   c. Explain the role sample size plays in research validity.
7. Qualitative Research.
   a. Explain the theoretical foundations for qualitative research.
   b. Practice the most commonly used methods of qualitative research.
8. Evaluation Research.
   a. Explain the purpose of evaluation research.
   b. Connect appropriate evaluation strategies with
   c. Describe commonly used evaluation models.
9. Analytical Epidemiologic Studies.
   a. Compare and contrast the two most common Analytical Epidemiology Studies
   b. Explain the most common methods for establishing causation.

c. Describe the most common types of error.

10. Descriptive Analysis.
    a. Describe inferential and advanced data analysis techniques.
    b. Identify the characteristics of Meta-Analysis.

CHSS 2510. Service Learning

Course Description

Service Learning Experience in Human and Community Service: Exploration of contemporary social, civil, economic and ethical problems that require student participation in collaborative efforts within the community.

Student Learning Outcomes

By the end of the semester, students should be able to:

1. Understand the importance of service learning in community building and civic participation.
2. Students should have completed at **least 90 hours** of service learning experience with a community agency of their choice.
3. Compile and submit a list of detailed daily service learning activities including contact individuals, meetings attended, presentations, specific tasks accomplished or contributions to agency or community, new skills learned, trainings, and number of hours spent on each activity.
4. Design a service learning project incorporating the key elements of Public Health, and addressing a need in the community.
5. Provide an oral presentation and write a personal reflection of the service learning experience in class.
6. Practice critical thinking, decision making skills, and civic responsibility in promoting better health and general well-being.

CHSS 2511. Service Learning-Community Health Worker

Course Description

Service Learning Experience in Community Health Work: Exploration of contemporary social, civil, economic and ethical problems that require student participation in collaborative efforts within the community.

Student Learning Outcomes

1. Understand the importance of service learning in community building and civic participation.
2. Students will complete 30 hours of service learning experience with a collaborating community agency focusing on Community Health Work.
3. Compile and submit a list of detailed daily service learning activities including contact individuals, meetings attended, presentations, specific tasks accomplished or contributions to agency or community, new skills learned, trainings, and number of hours spent on each activity.
4. Attend CHW trainings focused on community health including (but not limited to) chronic disease, environmental and mental health.

5 Provide an oral presentation and write a personal reflection of the service learning experience in class.

Comparative Literature (COMP)

COMP 2222. Fairy and Folk Tales

Course Description

An exploration of fairy and folk tales from a variety of cultures. The course introduces methods of analysis while exploring historical and contemporary roles and interrelationships of the tales.

Student Learning Outcomes

1. Students will be able to describe and analyze literary and cultural texts with awareness of their cultural specificity. (Integrative Learning)
2. Students will be able to communicate ideas effectively in speech and writing. (Integrative Learning)

3. Students will be able to distinguish the salient features of several individual cultures in historical and contemporary contexts. (Integrative Learning)
4. Students will be able to identify the role played by several significant forms of representation in several global cultures. (Integrative Learning)
5. Students will be able to make comparative analyses of ethical, stylistic, and cultural viewpoints from different cultures with an understanding of how these differences impact society. (Critical Thinking)

COMP 2225. Health, Illness, and Culture

Course Description

Cultural difference is a central preoccupation of health humanities, reflective of the discipline's expansion as well as the increasing diversity of US society. In this course, we will explore how bodies, health, and pathology have been conceptualized in different cultures and at different times; how social categories such as gender, sexuality, race, and class are implicit in these concepts; and how these concepts shape different understandings of healthcare and health regimens.

Student Learning Outcomes

1. Students will describe and explain how the body, health, and illness are represented in select texts, illustrations, and other media from different world regions and historical periods.
2. Students will explain how different regions and periods address health and illness in different ways.
3. Students will identify sources and evaluate their trustworthiness.
4. Students will communicate in different situations and with diverse people.

COMP 2240. Cultures, Texts, Worlds

Course Description

Multi-disciplinary course explores how literature, film and media shape identity and belonging, emphasizing cross-cultural perspectives. Explores how cultural texts confer meaning and value on human experience, shape different communities, and forge links among individuals and groups.

Student Learning Outcomes

1. Identify, investigate, and compare cultural and textual traditions and practices (such as literature, cinema, media, and other arts) from two or more geopolitical zones (delineated by markers such as language, nation, or empire)
2. Understand critical concepts and methods from two or more disciplines in the humanities (such as history, linguistics, philosophy, political science, and gender studies), their intersections with literary, cinema, or media studies, and their relevance to the reading and interpretation of cultural texts and art forms
3. Analyze the composition, defining traits, and significance of a cultural text or art form with regard for its historical, political, and cultural context
4. Formulate and investigate a problem or question in light of a configuration of identity and community (shaped by categories such as nation, race, class, and gender), using a comparative, interdisciplinary approach
5. Understand how literary, cinematic, and artistic practices from different areas of the globe create an idea of a common world, producing forms of participation and exchange within a sphere of human experience.

Computer Information Systems Technology (CIST)

CIST 1110. Introduction to Operating Systems

Course Description

This course offers a comprehensive introduction to operating systems, covering topics such as process and memory management, file systems, I/O systems, security, mobile computing, and networking. With a focus on Windows-based systems, students will learn the implementation, configuration, installation, and maintenance of operating systems, gaining a deeper understanding of current systems.

Student Learning Outcomes

Students completing this course should be able to:

1. Identify and explain computer hardware including the components of a computer system and its functions.
2. Install, configure, and troubleshoot hardware components such as CPUs, RAM, motherboards, hard drives, and expansion cards.
3. Identify and explain the different types of computer operating systems, including Windows, macOS, and Linux, and their respective features and functions.
4. Install, configure, and troubleshoot operating systems and software applications, and use various system tools and utilities to diagnose and resolve common hardware and software issues.
5. Understand and implement basic networking concepts, including IP addressing, subnetting, and network protocols.
6. Implement security concepts, including user authentication, access controls, firewalls, encryption and resolve common security threats and vulnerabilities.

CIST 1111. Introductions (Foundations) of Information Systems

Course Description

Information systems are an integral part of all business activities and careers. This course is designed to introduce students to contemporary information systems and demonstrate how these systems are used throughout global organizations. The focus of this course will be on the key components of information systems-people, software, hardware, data, and communication technologies, and how these components can be integrated and managed to create competitive advantage. through the knowledge of how IS provides a competitive advantage students will gain an understanding of how information is used in preorganization's and how IT enables improvement in quality, speed, and agility. This course also provides an introduction to systems and development concepts, technology acquisition, and various types of application software that have become prevalent or are emerging in modern organizations and society. The course introduces the Information Assurance and INFOSEC process. Includes participating in the National Cyber League Competition.

Student Learning Outcomes

1 Demonstrate an understanding of the history of computers, current computer technology and terminology.
2. Understand computing disciplines: computer science and information systems.
3. Understand networking and the Internet.
4. Demonstrate knowledge of the Systems.
5. Development of Life Cycle process how technology is issued in business.
6. Understanding of INFOSEC processes and methodology and computer, network security and some of the societal implications of computers and related technology.

CIST 1115. Principles of Computer Science Information Systems

Course Description

This course is an introduction to the fundamental concepts and terminology in the computing field, including computer history, algorithms, computer architecture, programming languages, applications, social issues, and ethics. It covers both computer science and computer information systems and aims to prepare students for further studies in these disciplines. Students should have prior knowledge of basic computer usage and software, such as MS Word, MS Excel, Power BI, and the Internet. Additionally, the course may cover topics such as problem-solving, computer organization, and information assurance.

Student Learning Outcomes

1. Discuss the fundamental concepts and terminology of computer science and computer information systems, including computer history, algorithms, and computer architecture.

2. Analyze and apply problem-solving strategies to different computing problems using various programming languages.
3. Evaluate and assess the social and ethical implications of computing technologies.
4. Describe and differentiate between various computer applications, software, and hardware components.
5. Explain the importance of information assurance and security in the computing field.
6. Apply the knowledge gained from this course to further studies and future career paths in the computing field.

CIST 1116. Introduction to Windows Operating System

Course Description

This course introduces the most widely used graphical user interface (GUI) operating system for personal computers. Students will learn fundamental skills in file management, including creating, saving, organizing, and backing up files and folders. The course also explores basic personal computer concepts, hardware requirements for running Windows, and practical techniques for navigating and using the Windows environment. Topics include mouse usage, managing and customizing windows, working with drop-down menus, multitasking with multiple applications, and transferring data between programs.

Student Learning Outcomes

By the end of this course, the student will be able to

1. Navigate and manage the Windows desktop environment, to include creating, arranging, and using shortcuts; using the Recycle Bin; and managing the Start menu.
2. Perform file and folder management tasks, such as creating, organizing, renaming, and backing up files and folders using Windows tools.
3. Customize the Windows environment by adjusting system settings, themes, and display preferences to personalize the user experience.
4. Apply advanced personalization and customization techniques to optimize system functionality, including configuring features such as time and region settings, hardware and sound settings, and basic firewall settings.
5. Use advanced searching techniques to efficiently locate files, folders, and system settings within the Windows environment.
6. Perform fundamental browser tasks such as surfing the Internet, managing bookmarks, and enhancing digital media experiences while maintaining security and privacy.

CIST 1117. Introduction to the Internet

Course Description:

This course introduces foundational concepts and skills for navigating the Internet and using web-based tools effectively. Students will learn browser basics, including navigating web pages and managing settings, as well as email communication, web searching, and evaluating online content. Topics include accessing and citing information resources, exploring user-generated content such as podcasts and social networks, understanding Internet security practices, and explaining wireless networking technologies. The course aligns with Certified Internet Web (CIW) and Internet & Computing Core Certification (IC3) standards, providing essential knowledge for beginners with no prior experience.

Student Learning Outcomes

By the end of this course, students will be able to:

1. Navigate web pages, use bookmarks or favorites, manage cookies, and employ private browsing within a web browser.
2. Create, organize, and manage email communications effectively, utilizing common message features and email application functions.
3. Conduct web searches using search engines, evaluate the credibility of websites, and apply search engine optimization techniques.
4. Locate, understand, and cite current and specific Internet content, including text-based and multimedia resources.
5. Identify, explain, and use user-generated content, including pull technologies like podcasts and feeds, and push technologies like messaging and social networks.
6. Identify and explain physical and logical security processes, including firewalls, anti-malware applications, and enhanced security practices.
7. Describe the evolution of wireless technologies and differentiation between various types of wireless networks.

CIST 1119. Introduction to Cloud Computing

Course Description

An overview in the knowledge and skills required to implement, maintain, and deliver cloud technologies and infrastructures (e.g. server, network, storage, and virtualization technologies), and to understand aspects of IT security and use of industry best practices related to cloud implementations and the application of virtualization. Various models of cloud services and deployments will be discussed. May be preparation for an industry certification exam.

Student Learning Outcomes

1. Describe cloud architecture and design.
2. Deploy cloud services and solutions.
3. Successfully maintain, secure, and optimize a cloud environment.
4. Troubleshoot common issues related to cloud management.

CIST 1121. A+ Hardware and Operating Systems

Course Description

Introduction to PC hardware, peripherals, and operating systems. Includes problem diagnosis, troubleshooting processes, Windows utilization, and system optimization. May be used to prepare for industry certification exams.

Student Learning Outcomes

1. Install, configure, and maintain computer equipment, mobile devices, and software for end users.
2. Service components based on customer requirements.
3. Understand networking basics and apply basic cybersecurity methods to mitigate threats.
4. Properly and safely diagnose, resolve, and document common hardware and software issues.
5. Apply troubleshooting skills and provide customer support using appropriate communication skills.
6. Describe the basics of scripting, cloud technologies, virtualization, and multi-OS deployments in corporate environments.

CIST 1131. System Analysis and Design

This course discusses the process, methods, techniques, and tools that organizations use to determine how they should conduct their business, with a particular focus on how computer-based technologies can most effectively contribute to the

way business is organized. The course covers a systematic methodology for analyzing a business problem or opportunity, determining what role, if any, computer-based technologies can play in addressing the business need, articulating business requirements, and specifying the requirements for the information systems solution in particular, in-house development, from third-party providers, or purchased commercial-off-the-shelf (COTS) packages.

Student Learning Outcomes

1. Understand the types of business needs that can be addressed using information technology-based solutions.
2. Initiate, specify, and prioritize information systems projects using formal project management methods like SDLC and determine various aspects of feasibility of these projects.
3. Use at least one specific methodology for analyzing a business situation (a problem or opportunity), modeling it using a formal technique, and specifying requirements for a system that enables a productive change in a way the business is conducted, while Incorporate principles leading to high levels of security and user experience from the beginning of the systems development process.
4. Within the context of the methodologies learned, write clear and concise business requirements documents and convert them into technical specifications.
5. Articulate various systems acquisition alternatives, including the use of packaged systems (such as ERP, CRM, SCM, etc.) and outsourced design and development resources.

CIST 1213. Web Publishing

Use Content Management Systems (CMS) to publish websites optimized for search engine success. Introduce visitor tracking and web analytics. Use the CMS dashboard to develop content, select themes, install plugins, and manage users.

Student Learning Outcomes

1. Identify standards compliant HTML and CSS.
2. Use a Content Management System (CMS) to publish websites.
3. Apply search engine optimization (SEO) success factors to website content.
4. Describe a web analytics framework to track and measure success.
5. Identify factors that impact web client and web server.

CIST 1217. Overview of Web Technologies

Course Description

Identify the markup, style, and coding languages common to web development. Apply HTML and Cascading Style Sheets (CSS) to create web documents. Use a content management system to develop a website. Distinguish between browser and server-side coding. Explore the interactions between the web server, network, and web browser.

Student Learning Outcomes

Students completing this course should be able to:

1. Describe the interaction that occurs between web browsers and web servers.
2. Create documents with HTML and CSS.
3. Describe the UTF8 encoding scheme used for web documents.
4. Identify key Internet organizations.
5. Classify web programming languages.
6. Describe how domain names are allocated, managed, and used in the web browser.
7. Implement a framework to build content management style website.

CIST 1220. Programming Fundamentals

Course Description

This is an entry level programming course designed to teach students the basic concepts of computer programming. By the end of the course, students will have the skills and confidence needed to succeed in future programming language courses.

Student Learning Outcomes

Students completing this course should be able to:

1. Explain what computer programming is.
2. Create pseudo code from a problem definition.
3. Create executable code from pseudo code.
4. Create basic calculator programs that ask users for input, perform some calculations and display results.
5. Create programs that use loops and conditionals.
6. Utilize data structures that store collections with multiple values.
7. Create programs that use functions.

CIST 1258. Visual Basic Programming

Course Description

Introduction to concepts of programming in the Visual Basic language. Topics include data types, control structures, functions, arrays, files, and the mechanics of running, testing, and debugging code. This is a hands-on course that does not require students to have prior programming experience.

Student Learning Outcomes

1. Demonstrate understanding of Integrated Development Environments (IDE).
2. Demonstrate understanding of the concept of variables.
3. Demonstrate understanding of programming operators to calculate mathematical formulas and create expressions using logical operators.
4. Utilize system, library, and user created methods.
5. Exercise the use of a program control with IF THEN ELSE and SELECT CASE constructs.
6. Apply the three basic loop constructs.
7. Create and manipulate a collection of data.
8. Demonstrate an understanding of exception handling.

CIST 1260. Java Programming

Course Description

Introduction to concepts of programming in the Java language. Topics include data types, control structures, functions, arrays, files, and the mechanics of running, testing, and debugging code. This is a hands-on course that does not require students to have prior programming experience.

Student Learning Outcomes

1. Install and configure Java JDK from Oracle and IDE (Eclipse, NetBeans, IntelliJ).
2. Understand Java language hardware, software requirements, and methodology.
3. Design software workflows and outcomes utilizing Java programming language.
4. Code and execute Java programs.
5. Demonstrate basic programming methodologies and workflows.
6. Demonstrate coding fundamentals, including the use of variables, arrays, and loops.

CIST 1261. JavaScript Web Programming

Course Description

Use JavaScript libraries and frameworks including jQuery to implement web widgets and validate form data. Create interactive web pages with JavaScript manipulation of HTML and CSS. Use AJAX and other technologies for browser-to-server interactions.

Student Learning Outcomes

Students completing this course should be able to:

1. Describe JavaScript, browser, and HTML DOM objects.
2. Implement control structures, expressions, and functions.
3. Demonstrate declaring variables, calculating values and displaying the results.
4. Analyze and debug an application.
5. Utilize JavaScript Frameworks and Libraries.

CIST 1263. PHP Web Programming

Course Description

Use PHP/MySQL libraries and frameworks to develop dynamic database-driven websites. Explore a range of PHP solutions including image management, network socket data transfer, and XML parsing.

Student Learning Outcomes

Students completing this course should be able to:

1. Create functions and PHP control structures.
2. Formulate PHP variables.
3. Operate databases with PHP.
4. Apply query strings, cookies and sessions to state information.

CIST 1409. IT Essentials I: PC Hardware, Software, and Practical Applications

Course Description

This course provides student with the knowledge required to understand the fundamentals of computer technology, networking, and security, and the skills required to identify hardware, peripheral, networking, and security components.

Student Learning Outcomes:

1. Analyze and evaluate basic computer hardware/software problems.
2. Understand customer service and helpdesk.
3. Categorize network problems and solutions following the to the OSI model.
4. Demonstrate use of internet resources for hardware/software problem identification, solutions, analysis, and upgrades.
5. Demonstrate ability to build, repair, configure, optimize, upgrade and install hardware.
6. Demonstrate ability to troubleshoot, upgrade and install software.
7. Understand and apply security policies, practices, and standards in a PC environment.

CIST 1410. IT Essential: Hardware

Course Description

Covers PC hardware and peripherals, mobile device hardware, networking and troubleshooting hardware and network connectivity issues. The basics of computer hardware technologies are introduced in a lab oriented environment. and will assist in preparation for the CompTIA A+ Core 1 Hardware certification.

Student Learning Outcomes

Students completing this course should be able to:

1. Identify the differences between different computer systems, programs and computer types.
2. Explain the differences in features and functions of computer components.
3. Demonstrate an ability to assemble a computer, including preparing, and installing in a step-by-step process.
4. Explain advanced hardware fundamentals for network servers; including RAID systems, and printers.
5. Demonstrate an understanding of networking fundamentals.
6. Explain the differences in features and functions of a variety of mobile computing devices.
7. Explain the details of the troubleshooting process and the steps to take when there are computer, peripheral, printer, network and mobile device problems.

CIST 1411. Introduction to Networks

Course Description

An introduction to the TCP/IP and OSI networking models and concepts for implementing those models in Wide Area and Local Area Networks. TCP/IP network fundamentals will be presented. Topics include network device configuration, IPv4 and IPv6 network addressing, basic security administration and network troubleshooting principles. This course uses the Cisco Networking Academy curriculum and is preparation for current industry certifications.

Student Learning Outcomes

By the end of this course, the student will be able to

1. Configure routers, switches, and end devices to establish end-to-end connectivity and provide access to local and remote network resources.
2. Explain how physical and data link layer protocols support the operation of Ethernet in a switched network.
3. Create and implement IPv4 and IPv6 addressing schemes.
4. Explain how the upper layers of the OSI and TCP/IP models support network applications.
5. Use security best practices to configure and protect a small network.
6. Troubleshoot connectivity issues in a small network.

CIST 1412. Network Device Configuration

Course Description

This course covers the architecture, components, and operations of routers and switches in a small network and introduces wireless local area networks (WLAN) and security concepts. Students learn how to configure routers and switches, perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, configure static and dynamic addressing, and configure and secure a basic WLAN. This course uses the Cisco Networking Academy curriculum and is preparation for current industry certifications.

Student Learning Outcomes

Students completing this course should be able to:

1. Configure and troubleshoot VLANs and Inter-VLAN routing.
2. Configure and troubleshoot redundancy issues on switched networks using Spanning Tree Protocol and EtherChannel.
3. Explain how to support available and reliable networks [and configure] first-hop redundancy protocols.
4. Configure IPv4 and IPv6 static routing and dynamic addressing on network devices.
5. Configure WLANs using wireless routers and controllers.
6. Configure and apply security best practices to mitigate Layer 2 and Layer 3 network attacks.

CIST 1413. Network Administration Concepts

Course Description

Students will learn to design, configure, and troubleshoot various types of networks, implement security measures to protect network assets, analyze network protocols and services, diagnose network issues, and monitor network performance. Students will engage in hands-on/virtual lab exercises, performance-based assessments, and written assessments to apply their knowledge and skills. Upon completion of this course, students will be equipped for a successful career in network administration. The course aligns with the domains and objectives of the CompTIA Network+ and TestOut Network Pro certification exams.

Student Learning Outcomes

Students completing this course should be able to:

1. Implement security measures to protect network assets, including the use of firewalls, access controls, and encryption methods.
2. Apply network protocols and services such as TCP/IP, DNS, DHCP, and SMTP.
3. Execute network troubleshooting and optimization techniques by diagnosing and resolving network performance and optimizing issues, including problems, network operations for LAN, WAN, and wireless networks.
4. Apply network monitoring and maintenance procedures by monitoring network performance, implementing maintenance, and understanding the importance of backup and disaster recovery planning.
5. Employ virtualization and cloud technologies such as virtual networks, virtual servers, and cloud storage.

CIST 1605. Internet of Things

Examines the evolution of the Internet and how the interconnection of people, processes, data, and things is transforming every industry. This hands-on IoT course addresses the main stages of digitization including identifying and communicating a business or social problem and designing and connecting IoT devices to interact with the physical world. Students will develop high-demand skills such as creative problem-solving, critical thinking, collaboration and communication in hands-on lab and hackathon experiences.

Student Learning Outcomes

1. Analyze the things and connections that make up the IoT.
2. Build sensor/actuator systems using the Arduino microcontroller.
3. Create programs in Python that provide IoT functionality to the Raspberry Pi single-board computer.
4. Create an end-to-end IoT system.
5. Design an IoT system that can solve a problem of interest to the student.

CIST 1610. IT Essentials: Software

Course Description

Covers common features and functionality of known operating systems, system management, file management, common security threats and vulnerabilities. The basics of computer software technologies are introduced in a lab-oriented environment and will assist in preparation for the CompTIA A+ Software certification.

Student Learning Outcomes

1. Apply the basic concepts of system management.
2. Demonstrate the elements of pre-installation, installation, and post installation of the Windows Operating Systems.
3. Manage the location of system files, file extensions and file attributes, and the commands to manage files.
4. Demonstrate the basics of securing a computer system.

CIST 1611. Azure Fundamentals

Course Description

This course will provide foundational level knowledge of cloud services and how those services are provided with Microsoft Azure including workloads, security, privacy, and support. May be preparation for an industry certification exam.

Student Learning Outcomes

1. Describe Cloud Concepts.
2 Explain Core Azure Services.
3. Compare and contrast core solutions and management tools on Azure.
4. Identify general security and network security features.
5. Describe identity, governance, privacy, and compliance features.
6. Compare Azure Cost Management and Service Level Agreements.

CIST 1680. Linux Essentials

Course Description

Introduces the Linux operating system with emphasis on command line application. Students will learn management of the Linux file system, processes, storage devices, users and groups. Learning objectives also include configuration of boot activity, network, and printers.

Student Learning Outcomes

Students completing this course should be able to:

1. Install and maintain Linux operating systems.
2. Locate Help resources in the Linux operating systems.
3. Use the package management utility to administer the Linux operating systems.
4. Explain the fundamental properties of the shell.
5. Administrate Linux operating systems using Command Line Interface (CLI) and Graphic User Interface (GUI).

CIST 1811. Business Continuity and Disaster Recovery

Course Description

Presents methods to identify vulnerabilities and take appropriate countermeasures to prevent and mitigate failure risks for an organization. It will take an enterprise-wide approach to developing a disaster recovery plan.

Student Learning Outcomes

1. Understand the key functions of the disaster plan and can implement disaster recovery procedures.
2. Define and explain information security, basic concepts of risk management and how to conduct risk assessments and implement risk mitigation.
3 Identify and define the components of contingency planning.
4. Know some of the concerns and trade-offs to be managed when assembling the final IR plan, understand the elements of an incident recovery response, and beware of the impact of selecting a reaction strategy, developing a notification mechanism, and the creation of escalation guidelines.
5. Know and understand the relationships between the overall use of contingency planning and the subordinate elements of incident response, business resumption, disaster recovery, and business continuity planning.
6. Recognize what critical elements compose the response phase of the DR plan.
7. Know the methodology used to construct the business continuity policy and plan and be able to participate in such a planning process when required.
8. Understand the CSET risk assessment tool and how to perform assessment using the tool.

CIST 1858. Introduction to Cyber Security

Course Description

This course is an overview of the field of Cyber Security and cyber areas. It will cover terminology, principles, best practices, and ethics which will provide foundation attacks, and defenses used to attack or protect critical infrastructure. The course is designed as a starting point for IT, business, and health care management professionals to help develop a cyber security mindset in both professional and personal lives.

Student Learning Outcomes

1. Identify Security Goals (Confidentiality, Integrity, and Availability).
2. Recognize Relationships between Threats, Vulnerabilities and Attacks.
3. Describe Cyber defense and offense strategies for counteracting cyber-attacks.
4. Describe Security design principles and architectural frameworks.
5. Describe Risk Analysis and Mitigation Techniques.
6. Describe Computer, Network and Data security principles.
7. Identify Social Engineering attacks.
8. Describe best practices for cyber security.

CIST 1996. Topics in Computer Information Systems Technology

Course Description

Varies

Student Learning Outcomes

Varies

CIST 2088. Computer Information Systems Specialty

Course Description

This course allows students to apply computer information technology elective credit towards a Computer Information System program requirement. (Currently applicable for CNM only for transfer purposes).

Student Learning Outcomes

Varies

CIST 2210. Introduction to SQL (Structured Query Language)

Course Description

Introduction to Structured Query Language (SQL) within the context of an Oracle database. Students will create basic and complex queries (joining, sub-queries, aggregate functions, grouping data) and learn to manipulate data using insert, update and delete statements. Students will create tables, views, and constraints and benefit by learning the industry standards while utilizing the latest database software and online training materials. This course also prepares students to pass the 1st Oracle Associate Certification Test.

Student Learning Outcomes

Students completing this course should be able to:

1. Create basic and advanced queries used to retrieve data from multiple tables utilizing proprietary and ANSI standard JOIN commands.
2. Construct queries with aggregate & grouping functions.
3. Compose DML queries that manipulate, sort, and restrict data.
4. Build DDL queries that can create or alter tables and utilize transaction control for saving objects and data.
5. Construct advanced Queries: rollup, cube, set operators, merge, subqueries, and correlated subqueries.
6. Build, maintain, and execute views.

CIST 2211. Azure Administrator

Course Description

An introduction to the skills and knowledge necessary for implementing, managing, and monitoring identity, governance, storage, computing, and virtual networks in a cloud environment, plus provision, size, monitor, and adjust resources, when needed. May be preparation for an industry certification exam.

Student Learning Outcomes

1. Explain Azure identities and governance.
2. Implement and manage storage.
3. Deploy and manage Azure computer resources.
4. Configure and manage virtual networking.
5. Monitor and back up Azure resources.

CIST 2215. iPhone Programming with Swift

Course Description

Swift is a programming language created by Apple for building apps for iOS, Mac, Apple TV and Apple Watch. Students will learn to develop apps using the Swift language. The course is taught with Apple Equipment. Students can use their own equipment or check out the appropriate hardware.

Student Learning Outcomes

Students completing this course should be able to:

1. Use the Apple's IDE for IOS development in the Swift language.
2. Implement Model-View-Controller Design Pattern.
3. Design, implement, test, and deploy a fully featured, graphically rich IOS phone application that creates persistent data.
4. Implement common and advanced controls, such as UITableView, CollectionViews, AutoLayout and StackView.
5. Use JSON or XML data to download data from a web site to display in an app.
6. Create an application that reads a list of views from a site on the Web, stores it persistently on the device, downloads selected image data and displays it to the user.

CIST 2220. .NETI/C#

Course Description

Provides an accelerated introduction to the .NET Framework and the C# development environment within a C# context. Course scope includes review of C#.NET language syntax and structure, development of C#.NET event driven applications incorporating a graphical user interface (GUI) and user defined classes and interfaces. Course includes abstract classes, stressing inheritance and polymorphism, and concludes with a web application interfacing with a database.

Student Learning Outcomes

Students completing this course should be able to:

1. Demonstrate use of basic and intermediate language features and data structures within the language.
2. Demonstrate how to design and implement user-defined classes.
3. Demonstrate how to implement encapsulation and inheritance in an object-oriented program.
4. Demonstrate how to design and implement a multi-class simulation and one which demonstrates composition using user-written classes.
5. Demonstrate how to implement abstract classes and polymorphism in an object-oriented program.
6. Demonstrate how to implement a user friendly, state of the art, graphical user interface (GUI)
7. Demonstrate how to implement exception handling.
8. Demonstrate how to implement interfaces.
9. Demonstrate how to connect to and manipulate a database.

CIST 2225. Game Development

Course Description

Teaches how to develop computer games and simulations. Covers Agile software development, working as a team, building assets, creating scenes, coding object behaviors and other topics. Students will learn how to deploy a game/simulation to Windows, to the Web and/or to Android. Students may also learn to integrate game peripheral Software Development Kits for example: Oculus Rift, Google Cardboard, Kinect and/or other systems.

Student Learning Outcomes

Students completing this course should be able to:

1. Demonstrate how to build a first-person 3-D game.
2. Demonstrate how to create 3-D game assets.
3. Demonstrate how to build a 3rd-person 3-D game.
4. Demonstrate how to use machine learning in a 3-D game.
5. Demonstrate how to plan, organize and build a game with a group of developers using the Agile Methodology and version control.
6. Demonstrate how to use Unity's cross platform deployment capability to deploy a game to Windows, to the Web and to Android.

CIST 2235. Java Programming I

Course Description

Provides an accelerated introduction to JAVA programming language. Covers class design and implementation, object-oriented design topics, Graphic User Interface development, exception handling, file input/output, inheritance, polymorphism.

Student Learning Outcomes

1. Prepare a personal computer's Java environment by installing the software and setting necessary environment variable so that Java can be executed in a command line mode.
2. Install Java's NetBeans Integrated Development Environment on a personal computer so that Java programs can be developed in the IDE.
3. Describe the concept of scope for variables-including local and global declarations.
4. Select and declare the appropriate primitive data types that are part of the Java language.
5. Write a Java class that includes private members and public members. The class should have overloaded functions including constructors, sets and gets. Instantiate this class and use all class member functions.
6. Create objects in various ways from a programmer-written class that contains several overloaded constructors.
7. Write a Java program that has (at least) two programmer-written classes that demonstrate the "has a" relationship.
8. Construct GUI programs using AWT and Swing components and contains classic GUI controls including sliders, buttons, check boxes, spinners.
9. Construct GUI programs that includes menu systems.
10. Construct GUI programs that contains both languages provided dialog boxes and programmer designed dialog boxes.
11. Construct Java GUI programs using JavaFX.
12. Write Java program that performs text-based file input/output using a standard File Dialog.
13. Incorporate Exception Handling techniques in Java programs.
14. Design and write Java programs that implement interfaces.

15. Incorporate the principle of inheritance to derive new, customized classes where parental functions are called internally and other functions are overridden. Create and use objects of this new class.
16. Implement inheritance polymorphism in a Java program.

CIST 2237. Android Application Development with Java and Kotlin

Course Description

Focuses on advanced Java technologies. Course covers design, implementation and deployment of advanced programs based on Java which may include web programming, small device applications (Android, phones, pads, etc.), and related technologies including web services, advanced graphics, databases, multimedia, and other relevant technologies.

Student Learning Outcomes

Students completing this course should be able to:

1. Install and use an Android IDE for developing android apps.
2. Use both Java and Kotlin Programming languages to code the assignments.
3. Integrate Android Material Design features.
4. Implement common Android features, for example: Shared Preferences, splash screens, fragments, multi-threading and SQLite Database.
5. Implement current programming techniques as they evolve, such as Jetpack's Navigation, Room Database API, etc.
6. Implement JUnit Testing.
7. Describe the steps in publishing an app.

CIST 2251. Python Programming II

Course Description:

In this course, students will take Python machine learning ideas and create serverless web applications accessible by anyone with an Internet connection. Students will work through a series of common Python data science problems in an increasing order of complexity. Students will learn to create a web application around numerical or categorical predictions, Machine Learning tools like TensorFlow, understand the analysis of text, create powerful and interactive presentations, serve restricted access to data, and leverage web plugins to accept credit card payments and donations.

Student Learning Outcomes

Students completing this course should be able to:

1. Demonstrate how to use Serverless Technologies.
2. Demonstrate how to use client-side intelligence using regression coefficients.
3. Demonstrate how to use Real-Time Intelligence with Logistic Regression.
4. Demonstrate how to use Pretrained Intelligence with Gradient Boosting Machine.
5. Demonstrate how to Support Both Web and Mobile Browsers.
6. Demonstrate how to Display Predictions with Google Maps.
7. Demonstrate how to Forecast with Naive Bayes and OpenWeather.
8. Demonstrate how to use Interactive Drawing Canvas and Digit Predictions Using TensorFlow.
9. Demonstrate how to display dynamic charts.
10. Demonstrate how to use Recommending with Singular Value Decomposition.

CIST 2263. Web Programming Framework

Course Description

This course introduces concepts, techniques, technologies and APIs for web application development. The main focus of the course is on design patterns employed by modern full-stack web frameworks.

Student Learning Outcomes

Students completing this course should be able to:

1. Describe programming frameworks.
2. Describe Content Management System frameworks.
3. Create and implement a theme using a content management system such as WordPress, Drupal or Joomla.
4. Create and implement a plugin using a content management system such as WordPress, Drupal or Joomla.

CIST 2275. C++ Programming II

Course Description

Continues coverage of C++ programming. Covers structures, enumerated data types, C++ function enhancements, classes and objects, inheritance, polymorphism and virtual functions. This advanced course provides a solid foundation in object-oriented programming methods.

Student Learning Outcomes

Students completing this course should be able to:

1. Construct and use a C++ Class that models a "real-world item or task." The class will include private members and public methods, including constructors, accessors and mutators. The class will demonstrate good OOP C++ programming practice.
2. Construct a C++ program that has (at least) two programmer-written classes that demonstrate the "has a" relationship of composition.
3. Construct a program that contains an array of programmer-written objects.
4. Construct a program with at least one class that overloads basic operators to perform conditional comparisons or object data updates.
5. Demonstrate the ability to pass objects between functions using pass by address using pointer and references.
6. Construct a C++ program that incorporates the principle of inheritance to derive new, customized classes where parent methods are called internally and other methods are overridden. Access the derived classes polymorphically.

CIST 2277. C++ Programming III

Course Description

Covers advanced programming including stacks, queues, linked lists, template classes, inheritance and polymorphism and other computer science problems.

Student Learning Outcomes

Students completing this course should be able to:

1. Demonstrate dynamic memory allocation and management of an array of objects. Use the ** for the dynamic array of dynamic objects.
2. Construct a generator class that generates an object, either on the stack or on the free store. Prepare a static library for that class and demonstrate using it.
3. Create a program that uses three search algorithms to search a list of objects and compare the performance of the three searches. For example, the search algorithms could be sequential, binary and recursive binary.
4. Write a C++ class that includes eight sort algorithms including for example, Bubble, Shell, Quick, Shaker or Merge sort for sorting a list of objects. Compare the performance of the different sorts.
5. Build a C++ class that represents a linked list node. Demonstrate its correct use by building a C++ "Linked List Manager" class that provides the tools to build a standard doubly linked list.
6. Build a template class in C++ for sorting. The class incorporates five sorts.
7. Create a program with an original hashing algorithm to build a Hash Table using linked lists. Evaluate its performance.

8. Demonstrate proper use of Smart Pointers in two C++ applications, one using unique pointers and one using shared pointers.

CIST 2284. .NET II/C#

Course Description

The course focuses on the development of Microsoft >NET web applications using Microsoft's Visual Studio Integrated Developer Environment. Students will learn to and apply Microsoft's .NET framework to build web applications that use a variety of web controls, can be used by users to access information stored in relational databases, implement site navigation and provides the capability to administer web site membership, roles and permissions. Students will define their web site using the Agile methodology them implement it using the techniques learned in the class.

Student Learning Outcomes

Students completing this course should be able to:

1. Demonstrate how to build a web application using HTML, CSS and JavaScript.
2. Demonstrate how to create web applications using Microsoft .NET technologies.
3. Demonstrate how to code the front-end of a web application using Microsoft .NET technologies.
4. Demonstrate how to code the server-side of a web application using Microsoft .NET technologies.
5. Demonstrate how to implement site security to control access to information.
6. Demonstrate how to incorporate databases that allow users to Create, Read, Update and Delete (CRUD) data from a website.
7. Demonstrate how to use the agile process and version control software to plan, organize, check in, check out and merge changes into solutions.

CIST 2311. Database Concepts and Principles

Course Description

A study of how relational databases are designed for maximum data manipulation is the first step in the field of data management and analytics. Topics covered include core database concepts, how to create database objects and manipulate data. May be preparation for an industry certification exam.

Student Learning Outcomes

1. Discuss relational database concepts.
2. Select, insert, update and delete data in databases.
3. Explain data manipulation language (DML) and data definition language (DDL).
4. Choose data types, build tables, and create views.
5. Build primary, foreign, and composite keys.
6. Create stored procedures and functions and construct indexes.
7. Examine database security concepts.
8. Design database backups and restoration processes.

CIST 2321. Visual Analytics

This course explores the principles and practices of Business Intelligence (BI), which is a critical component of modern decision-making in organizations. Students will learn how to collect, analyze, and visualize data to support strategic and tactical business decisions.

Student Learning Outcomes

1. Explain the fundamentals of Business Intelligence.
2. Describe various BI tools and technologies.

3. Perform data extraction, transformation, and loading (ETL).
4. Create interactive dashboards and reports.
5. Analyze real-world BI case studies and applications.
6. Describe the ethical and legal considerations in BI.

CIST 2331. Predictive Analytics

Course Description

This course delves into the field of predictive analytics, equipping students with the skills to use historical data to make future predictions. Students will learn various predictive modeling techniques, data preprocessing, model evaluation, and the practical applications of predictive analytics in real-world scenarios.

Student Learning Outcomes

1. Explain the fundamentals of predictive analytics.
2. Describe techniques for data preparation and feature engineering.
3. Explain how to build and evaluate predictive models.
4. Explore predictive analytics applications across industries.
5. Apply predictive modeling skills to real-world datasets.
6. Identify the ethical considerations in predictive analytics

.

CIST 2411. Enterprise Networking

Course Description

This course describes the architecture and considerations related to designing, securing, operating, and troubleshooting enterprise networks. Topics include wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access and software-defined networking, virtualization, and automation concepts that support the digitalization of networks. Students configure and troubleshoot enterprise networks and learn to identify and protect against cybersecurity threats. Network management tools and key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation, are introduced. **This course uses the Cisco Networking Academy curriculum and is preparation for current industry certifications. The last part of this course description is for institutions that offer the Cisco Networking Academy. If your institution does not offer the curriculum but offers this course you do not need to include this in your course description.**

Student Learning Outcomes

Students completing this course should be able to:

1. Configure single-area OSPFv2 in both point-to-point and multiaccess networks.
2. Explain how to mitigate threats and enhance network security using security best practices.
3. Implement access control lists (ACLs) to filter traffic and secure administrative access.
4. Explain techniques to provide address scalability and configure NAT services.
5. Explain QoS and how to optimize, monitor, and troubleshoot scalable network architectures.
6. Explain and implement network management protocols.
7. Explain how technologies such as virtualization, software defined networking, and automation affect evolving networks.

CIST 2427. Trouble Shooting Networks

Course Description

Allows students to run a wide variety of applications over a network and apply troubleshooting techniques using software and LAN and WAN analyzing equipment.

Students Learning Outcomes:

1. Create configuration documentation.
2. Create a network configuration table and topology diagram based on network components.
3. Devise and apply various troubleshooting strategies to a physical network.
4. Identify and resolve problems at the Physical, Data Link, and Network layers of the OSI Model.
5. Write concise trouble tickets, speak in front of small groups, and make short presentations.

CIST 2428. Juniper Fundamentals

Course Description

This course provides a core understanding of the Juniper Networks core operating system used in Enterprise and Service Provider level systems. Students will be eligible to take the JNCIA Associate Certification Exam.

Student Learning Outcomes

1.Configure the Junos Operating System using CLI and the J-Web Interface.
2.Describe and configure user authentication.
3.Configure archiving for system configurations.
4.Perform upgrade, storage and system cleanup tasks.
5.Implement routing policies.
6.Explain default Junos import and export routing policies.
7.Implement a policer within Junos.
8.Implement traffic classification and scheduling within Junos.
9.Describe the purpose and benefits of CoS.
10.Demonstrate the ability to access and use Juniper support resources to manage Juniper Products.

Describe the Juniper Connected Security components.

CIST 2450. Fundamentals Network Security

Course Description

Introduces Network Security and overall security processes. The focus of the course will be hands-on experience for students with emphasis on: security policy design and management, security technologies, products and solutions.

Student Learning Outcomes

Students completing this course should be able to:

1. Define information security and describe the components of a security architecture.
2. Explain the purpose of cryptography, including 3DES, RSA, hashing and certificates.
3. Design, implement and enforce sound security policies.
4. Describe the fundamentals of a secure network design.
5. Apply techniques to secure HTTP traffic by hardening operating systems, servers, and Browsers.
6. Protect network routers through administrative access policies and services.
7. Implement firewalls to implement network security to its maximum potential.
8. Inspect and monitor networks activity using Intrusion detection systems.
9. Apply VPNs for secure remote access.
10. Describe the hardware and software solutions for a secure wireless design.
11. Use logging and auditing tools to manage network traffic.

CIST 2611. Windows Hybrid Server Administration

Course Description

This course provides students with the skills to perform the following technical tasks: deploy and manage Active Directory Domain Services (AD DS) in on-premises and cloud environments; and manage Windows Servers and workloads in a hybrid environment. Students will also learn how to manage virtual machines and containers; implement and manage an on-premises and hybrid networking infrastructure; and manage storage and file services.

Student Learning Outcomes:

1. Deploy and manage Active Directory Domain Services (AD DS) in on-premises and cloud environments.
2. Manage Windows Servers and workloads in a hybrid environment.
3. Manage virtual machines and containers.
4. Implement and manage an on-premises and hybrid networking infrastructure.
5. Manage storage and file services.

CIST 2616. Introduction to Competitive Robotics

Course Description

Using projects and hands-on exercises, students will learn to build and program small scale robots. Arduino and Raspberry Pi prototyping platforms will be used to perform basic/intermediate navigation under program control, with various sensor inputs, feedback and control techniques. Robots built in this course will be capable of competing in PiWars, SkillsUSA and RoboRave robotics competitions.

Student Learning Outcomes

1. Build a Raspberry Pi-controlled robot, combining hardware and software.
2. Control a robot with Python text-based code to move in multiple directions using multiple control methods.
3. Select and use input sensors (ultrasonic and camera) to control a robot using Python code using obstacle detection and avoidance.
4. Use the camera component to detect specific colors and track objects.
5. Use color information to control the driving behavior of a robot.

CIST 2620. Windows Server Administration

Course Description

This course addresses the implementation and support needs of IT professionals that are planning to deploy and support Window Servers(s). It provides in-depth, hands-on training for IT professionals responsible for the planning, implementation, management, and support of Windows Server operating systems(s). Assists in preparation for the Microsoft certification.

Student Learning Outcomes

1. Be able to manage back-ups, disks and volumes and storage pools.
2. Be able to manage basic networking, DNS, and DHCP services.
3. Be able to configure, deploy, and manage servers; manage files and folders, quotas and printing.
4. Be able to create and manage virtual hard disks and volumes, machines, switches, and storage.
5. Be able to create domain controllers and manage users, devices and organizational units using AD DS.
6. Be able manage domain policies, rights, and permissions.

CIST 2621. Windows Hybrid Server Administration II

Course Description

This course provides students how to follow technical tasks: deploy, package, secure, update, and configure Windows Server workloads using on-premises, hybrid, and cloud technologies. In this role, you implement and manage on-premises and

hybrid solutions, such as identity, security, management, compute, networking, storage, monitoring, high availability, and disaster recovery.

Student Learning Objectives

1. Integrate Windows Server environments with Azure services.
2. Manage Windows Server in on-premises networks.
3. Identify and secure Windows Server on-premises and hybrid infrastructures.
4. Implement and manage Windows Server high availability and disaster recovery.
5. Migrate servers and workloads; and monitor and troubleshoot Windows Server environments

CIST 2626. Advanced Competitive Robotics

Course Description

Through hands-on exercises, projects, and robotics competition challenges, students will learn to design, build and program small-scale robots using the Arduino and Raspberry Pi prototyping platforms to perform intermediate/advanced navigation, decision making, and computer vision tasks under autonomous control. Robots built in this course will be capable of competing in PiWars, RoboRave, and VEXU robotics competitions at intermediate and advanced levels.

Student Learning Outcomes

1. Use cameras and various sensor inputs to assist the robot in making decisions.
2. Use artificial intelligence and machine learning to teach robots how to react, given different situations and scenarios.

CIST 2636. CLOUD Computing

Course Description

Investigation of technology skills related to maintaining and optimizing cloud infrastructure services. These skills include virtualization, configuration, maintenance, management, securing and troubleshooting of cloud infrastructure services.

Student Learning Outcomes:

1. Analyze the different cloud models to design the best solution to support business requirements.
2. Manage and maintain servers, including OS configurations, access control and virtualization.
3. Analyze system requirements to successfully execute workload migrations to the cloud.
4. Maintain and optimize cloud environments, including proper automation and orchestration procedures, backup and restore operations, and disaster recovery tasks.
5. Troubleshoot capacity, automation, connectivity and security issues related to cloud implementations.

CIST 2640. PowerShell for System Administration

Course Description

Students will be introduced to the fundamentals of PowerShell. Students will learn how to use PowerShell to manage tasks, automate tasks, and link various tools. Students will use the basic tools and commands to write PowerShell scripts to create interactive menus, read and write files, and create code that talks over the network to other scripts.

Student Learning Outcomes

1. Understand the fundamentals of PowerShell.
2. Use PowerShell commands to access data.
3. Run PowerShell scripts to automate tasks.
4. Use PowerShell to create a hands-off, completely automated Windows deployment.
5. Use PowerShell to handle errors.

CIST 2641. AWS Solutions Architect Associates

Course Description

This course covers the fundamentals of building IT infrastructure on AWS. The course teaches students how to optimize use of the AWS Cloud by understanding AWS services and how they fit into cloud-based solutions.

Student Learning Outcomes

1. Design secure architectures in Amazon Web Services (AWS)
2. Design resilient architectures in AWS.
3. Design high-performing architectures in AWS.
4. Design cost-optimized architectures in AWS.

CIST 2650. Advanced Windows Server

Course Description

This course focuses primarily on the installation, storage, and compute features and functionality available in Windows Server. This course may assist in preparation for Microsoft certifications. Version being taught subject to change. Please check with school.

Students Learning Outcomes

1. Install and manage Active Directory on a Windows 2019 Server.
2. Use appropriate utilities to configure and manage Files and Shares on a Windows 2019 Server.
3. Implement Remote Access Services on a Windows 2019 Server.
4. Configure Web Services and Cloud Technologies on a Windows 2019 Server.
5. Manage and secure a Windows 2019 Server network.
6. Monitor and Troubleshoot Windows Server 2019.

CIST 2680. Linux Administration

Course Description

Hands-on instruction of Linux system administration with an emphasis on security and performance. Prepares students to work as professional Linux system administrators. Learn the key principles to install and manage virtual machines, both their performance and security. Learn advanced networking concepts, including clustering and high availability.

Student Learning Outcomes

Students completing this course should be able to:

1. Install, configure, and manage Linux network services.
2. Install and manage virtual machines (VMs), both for high-performance computing and high availability.
3. Manage networked file systems.

CIST 2801. Introduction to DevSecOps

Course Description

An introduction to the fundamentals of planning and automating the development, maintenance, testing, securing, migration and delivery of software and databases.

Student Learning Outcomes

1. Set up project management for an application
2. Develop a web application (Prereq review)
3. Set up source control for an application
4. Configure a server for an application
5. Deploy an application
6. Be able to configure and maintain a database
7. Be able to implement a testing strategy
8. Be able to implement a logging strategy
9. Be able to secure an application
10. Be able to integrate all skills above in order to perform Continuous Integration/Continuous Deployment (CI/CD)

CIST 2811. Foundations of Security

Course Description

This course is a study of encryption technologies, system and network security, firewall implementation, intrusion detection and prevention. It also covers operating system, user account, and file resource security, assessing risk, auditing, and

Student Learning Outcomes

1. Assess the security posture of an enterprise environment and recommend and implement appropriate security solutions.
2. Monitor and secure hybrid environments, including cloud, mobile, and Internet of Things (IoT).
3. Discuss applicable regulations and policies, including principles of governance, risk, and compliance.
4. Identify, analyze, and respond to security events and incidents.

CIST 2812. Fundamentals of Cybersecurity

Course Description

An introduction that explores various methods for attacking and defending a network, security concepts and attack methodologies. Topics may include Internet architecture, routing, addressing, topology, fragmentation and protocol analysis, and the use of various utilities to explore TCP/IP. May be preparation for an industry certification exam.

Student Learning Outcomes

1. Apply environmental reconnaissance techniques using appropriate tools and processes.
2. Implement or recommend the appropriate response and countermeasure.
3. Analyze the output resulting from a vulnerability scan and compare and contrast common vulnerabilities found in targets within an organization.
4. Explain the importance of communication during the incident response process.
5. Analyze common symptoms to select the best course of action to support incident response.
6. Explain the relationship between frameworks, common policies, controls, and procedures.
7. Review security architecture and make recommendations to implement compensating controls.
8. Compare and contrast the general purpose and reasons for using various cybersecurity tools and technologies

CIST 2816. Penetration Testing

Course Description

This hands-on course focuses on offense through penetration testing and vulnerability assessment. Students will learn penetration testing, and vulnerability assessment and management skills necessary to determine the resiliency of the network against attacks. Students will also learn skills required to customize assessment frameworks to effectively collaborate on and report findings. May be preparation for an industry certification exam.

Student Learning Outcomes

1. Explain the importance of planning for an engagement
2. Conduct information gathering using appropriate techniques
3. Compare and contrast social engineering attacks
4. Recommend mitigation strategies for discovered vulnerabilities
5 Explain the importance of communication during the penetration testing process

CIST 2853. Cyber Defense Basics

Course Description

Introduces the Linux operating system with emphasis on command line application. Students will learn management of the Linux file system, processes, storage devices, users and groups. Learning objectives also include configuration of boot activity, network, and printers.

Student Learning Outcomes

1. Install and maintain Linux operating systems.

2. Locate Help resources in the Linux operating systems.
3. Use the package management utility to administer the Linux operating systems.
4. Explain the fundamental properties of the shell.

CIST 2854. National Cyber League (NCL) Competition

Course Description

This course offers engaging, entertaining, measurable, and scalable methods of learning to enlist a new generation of cybersecurity professionals. These games will be created and optimized for individuals and teams and are designed to provide hands-on experiences and challenges to help students to develop and improve cybersecurity skills and problem-solving abilities. All games will be conducted remotely, in virtual cyber stadiums, equally accessible to all.

Student Learning Outcomes

1. Provides an inclusive individual and team competitive sport experience Enriching the classroom learning experience.
2. Enriching the classroom learning experience by creating a fun, experiential learning opportunity where students demonstrate skills/knowledge sets.
3. Promoting proficiency for specific cybersecurity skills.
4. Preparing students in team environments to solve cybersecurity tasks.
5. Develop skills tied to curriculum, industry needs, and professional Certifications, I.E. CompTIA A+, network+, Security+.
6. Knowledge, Skills, Abilities to perform NICE Work Roles.

CIST 2858. Cyber Ethics, Professionalism, and Career Development

Course Description

This course exposes the student to the topics of Cyber Ethics, Professionalism, and Career Development. The course provides students seeking a career in Cyber security insight on professional behavior required in a security job and how to develop a professional career in Cyber Security.

Student Learning Outcomes

1. Understand the traditional ethical frameworks that can guide the student's analysis of the moral dilemmas and social problems that arise in cyberspace.
2. Describe and understand the directive and architectonic role of moral ideals and principles in determining responsible behavior in cyberspace.
3. Describe and understand the capacity of free and responsible human beings to exercise some control over the forces of technology.
4. Explain and understand the appropriate regulatory response to social problems that have emerged in the online world and formulate and apply answer to the idea that market forces handle social problems or that government intervention is essential.
5. Understand and explain the bottom-up and top-down approaches to regulating the internet.
6. Describe and formulate the optimal approach and interaction of regulatory policy and technology.
7. Understand and apply career development processes and best practices.

CIST 2860. Digital Forensics and Incident Response

Course Description

This course offers students a structured approach to the field of computer forensics and the analysis of digital evidence. Through a combination of theoretical knowledge and hands-on practical exercises, students will develop the skills necessary to conduct effective computer forensic investigations. The course will cover various forensic investigation techniques and utilize standard forensic tools to successfully gather, preserve and analyze digital evidence. This class prepares students for a position as a cybersecurity incident handler.

Student Learning Outcomes: Students completing this course should be able to:

1. Understand core concepts in digital forensics, incident response and chain of custody.
2. Execute data analysis for forensic or incident purposes.
3. Explain the relationship between digital forensics and incident response.
4. Conduct and report on system investigations across different platforms.
5. Apply cryptographic hash functions to forensic artifacts.
6. Employ steganography for data hiding and recovery in media files.

CIST 2880. Introduction of SCADA Cybersecurity

Course Description

This course provides a foundational set of standardized skills and knowledge for industrial cybersecurity professionals. The course is designed to ensure that the workplace involved in supporting and defending industrial control systems is trained to keep the operational environment safe, secure, and resilient against current and emerging cyber threats.

Student Learning Outcomes

1. Understand various industrial control systems and their purpose, application, function, and dependencies on network IP and industrial communication.
2. Understand control network infrastructure design (network architecture concepts, including topology, protocols, and components) and their relation to IEC 62443 and the PurdueModel.
3. Understand information assurance principles and tenets (confidentiality, integrity, availability, authentication, non-repudiation).
4. Apply skills in computer network defense (detecting host and network-based intrusions via intrusion detection technologies).
5. Implement incident response and handling methodologies. Map different ICS technologies, attacks, and defenses to various cybersecurity standards including NIST Cyber Security Framework, ISA/IEC 52443, ISO/IEC 27001, NIST SP 800-53, Center for Internet Security Critical Security Controls, and COBIT.

CIST 2881. Cybersecurity Fundamentals

Course Description

This course covers a range of topics including network and computer security, general security concepts, communication security, infrastructure security, operational and organizational security, encryption technologies, system and network security types of attacks, risk management, intrusion detection and prevention, assessing risk, auditing, and security control procedures. The course is designed to prepare students for an industry certification exam.

Student Learning Outcomes

1. Identify and mitigate various types of security threats, such as malware, social engineering, and network attacks.
2. Utilize security technologies, including firewalls, intrusion detection and prevention systems, and VPNs, to secure a network.
3. Implement security principles and practices in the design and implementation of secure networks and systems.
4. Manage user authentication, authorization, and access control to secure sensitive data.
5. Respond to security incidents and have a disaster recovery plan in place.

CIST 2882. Threat Intelligence and Threat Hunting

Course Description

A comprehensive overview of network security concepts that includes remote access, e-mail, the Web, directory and file transfer, wireless data, common network attacks, cryptography, operational/organizational security, disaster recovery, business continuity, and Cyber Ethics.

Student Learning Outcomes

1. Understand and apply identity management and authentication functions, technologies, policies, and users.

2. Understand and apply physical and network security devices.
3. Understand, analyze, apply host and application defenses devices, functions, applications, and processes.
4. Understand and apply data security practices and policies.
5. Understand, analyze, and implement audit and security assessment functions, tools, processes, and policies.

CIST 2883. Firewall and How They Work

Course Description

A comprehensive overview of network security concepts that includes remote access, e-mail, the Web, directory and file transfer, wireless data, common network attacks, cryptography, operational/organizational security, disaster recover, business continuity, and Cyber Ethics.

Student Learning Outcomes

1. Describe the goals of the threats to network security.
2. Explain the Common Vulnerabilities and Exposures (CVE) standard.
3. Describe router security controls.
4. Describe security solutions for wireless networking.
5. Identify the components of an intrusion detection and prevention system.
6. Explain basic VPN concepts.
7. Strengthen network control by managing security events.

CIST 2884. Advanced Threat intelligence and Threat Hunting

Course Description

This course focuses on advanced concepts and applications of cyber threat intelligence. This is the third course in a sequence of four courses towards a Threat Intelligence pathway that is mapped to the Threat Analyst work role. The course lectures are supplemented with hands-on exercises to reinforce the learning process. The outline is built upon the National Institute of Standards and Technology (NIST guidelines documented in the following Special Publications (SP): 800-181 rev 1 (NICE Cybersecurity Workforce Framework.)

Student Learning Outcomes

1. Ability to provide subject matter expertise to the development of cyber operations specific indicators (T0585).
2. Ability to assist in the identification of intelligence collection shortfalls and to identify threat tactics, and methodologies (T0589) and (T0708).
3. Ability to monitor and report on validated threat activities (T0749).
4. Ability to report intelligence-derived significant network events and intrusions (T0805).
5. Ability to coordinate with enterprise-wide cyber defense staff to validate network alerts (T0043).
6. Ability to perform event correlation using information gathered from a variety of sources within the enterprise to gain situational awareness and determine the effectiveness of an observed attack (T0166).
7. Ability to determine tactics, techniques, and procedures (TTPs) for intrusion sets (T0290).

CIST 2885. Certified SOC Analyst-CSA

Course Description

This course focuses on creating new career opportunities through extensive, meticulous knowledge with enhanced level capabilities for dynamically contributing to a SOC team. It covers fundamentals of SOC operations, before relaying the knowledge of log management and correlation, SIEM deployment, advanced incident detection, and incident response. Additionally, the student will learn to manage various SOC processes and collaborate with CSIRT at the time of need. Students will be ready to take EC Council Ethical Hacking Certificate Exam EC|CSA.

Student Learning Outcomes

1. Understand basic concepts of SOC processes, procedures, technologies, and workflows.
2. Gain basic understanding and in-depth knowledge of security threats, attacks, vulnerabilities, attacker's behaviors, cyber kill chain, etc.
3. Able to monitor and analyze logs and alerts from a variety of different technologies across multiple platforms.
4. Understand the architecture, implementation and fine tuning of SIEM solutions and learn use cases that are widely used across the SIEM deployment.
5. Understand the fundamental concepts on Threat Intelligence, different Threat Intelligence Platform (TIP), how it helps SOC and benefits of integration of Threat Intelligence into SIEM.
6. Gain knowledge of Incident Response process and understand SOC and IRT collaboration for better incident response.

CIST 2887. Ethical Hacking

Course Description:

This course introduces the essential concepts and practices of ethical hacking. Students will learn to use various ethical hacking tools and techniques to assess the security posture of a network and identify potential vulnerabilities that could be exploited by malicious actors. The course is based on the EC Council Ethical Hacking ECH Version 12 and TestOut Ethical Hacker Pro certification exam domains/objectives. By the end of the course, students will have a solid understanding of network security threats and vulnerabilities, and the ability to perform a comprehensive security assessment of a network. The course is suitable for students interested in pursuing a career in cybersecurity or who want to improve their understanding of network security and ethical hacking.

Student Learning Outcomes: Students completing this course should be able to:

1. Apply vulnerability scanning tools to identify network security weaknesses.
2. Use penetration testing tools to assess network security and identify potential vulnerabilities.
3. Analyze the impact of various network security threats and recommend appropriate countermeasures.
4. Develop and implement appropriate security controls to protect a network from security threats.
5. Create a comprehensive security assessment report that presents findings and recommendations in a clear and concise manner.

CIST 2910. Cyber Security Technician Apprenticeship

Course Description

This course is designed to equip apprentices with the fundamental skills and knowledge necessary to excel in the dynamic field of cybersecurity. Through a combination of theoretical learning and practical application, apprentices will develop a comprehensive understanding of cybersecurity principles, tools, and techniques essential for safeguarding digital assets and mitigating cyber threats. This apprenticeship program offers a hands-on approach, allowing apprentices to gain real-world experience in identifying vulnerabilities, implementing security measures, and responding to cyber incidents.

Student Learning Outcomes

1. Demonstrate a thorough understanding of cybersecurity concepts, including but not limited to encryption methods, network security protocols, malware detection, and ethical hacking principles. They will be able to recall and explain key terminology, theories, and best practices in cybersecurity.
2. Develop practical skills in configuring and administering cybersecurity tools and technologies.
3. Ability to apply various security measures such as firewalls, intrusion detection systems, and access controls to protect digital assets and networks from unauthorized access and malicious activities.

4. Enhance analytical and problem-solving abilities in identifying security vulnerabilities and devising effective countermeasures. They will analyze security incidents, assess risks, and formulate appropriate responses to mitigate potential threats and minimize the impact of cyber-attacks.
5. Cultivate teamwork and collaboration skills by working on group projects and engaging in peer-to-peer learning activities.
6. Ability to assess the effectiveness of cybersecurity strategies and propose improvements to enhance resilience and adaptability in the face of emerging threats.

CIST 2911. Programmatic Capstone/Cybersecurity Challenge
Course Description
This course offers engaging, entertaining, measurable, and scalable methods of learning to enlist a new generation of cybersecurity professionals. These games will be created and optimized for individuals and teams and are designed to provide hands-on experiences and challenges to help students to develop and improve cybersecurity skills and problem-solving abilities. All games will be conducted remotely, in virtual cyber Stadiums, equally accessible to all.
Student Learning Outcomes
1. Provide an inclusive individual and team competitive sport experience enriching the classroom learning experience.
2. Creating a fun, experiential learning opportunity where students demonstrate skills/knowledge sets.
3. Promoting proficiency for specific cybersecurity skills.
4. Preparing students in team environments to solve cybersecurity tasks.
5. Develop skills tied to curriculum, industry needs, and professional.
6. Knowledge, Skills, Abilities to perform NICE Work Roles.
7. Successful completion of NICE Challenge Labs competency assessment.

CIST 2993. Workshop in Computer Information Systems Technology
Course Description
Varies
Student Learning Outcomes
Varies

CIST 2995. Cooperative Education in CIST
Course Description
Varies
Student Learning Outcomes
Varies

CIST 2996. Topics in Computer Information Systems Technology
Course Description
Varies
Student Learning Outcomes
Varies

CIST 2998. Internship in Computer Information Systems Technology

Course Description
Varies
Student Learning Outcomes
Varies

CIST 2999. Capstone in Computer Information Systems Technology
Course Description
Varies
Student Learning Outcomes
Varies

Computer Science (CSCI)

CSCI 1108. CS for All: Introduction to Computer Modeling
Course Description
Introduction to Computational Science using modeling and simulation. Apply the fundamentals of computational thinking to solve realistic, interdisciplinary problems. Employing lab activities integrated into the course, students will learn an agent-based programming language to formulate their problem modules, experiment to find solutions, and evaluate the results. Students will practice cycling through the formulation, experiment, and evaluation process in search of realistic conclusions
Student Learning Outcomes

1. Describe the fundamental structures of an agent-bases programming language.
2. Solve a problem by using an agent-bases programming language.
3. Compose logical structures algorithms to produce an adequate solution for a problem.
4. Apply quantitative method to evaluate and analyze computation results and make further improvement.
5. Develop and enhance problem-solving skills by applying computational thinking methodologies.

CSCI 1110. Computer Science Orientation
Course Description
Introduction to the computer science field and profession. Problem solving and study skills. Social and ethical issues in computing.
Student Learning Outcomes

1. Explain what Computer Science is.
2. Describe the main functionalities of computers Write algorithms to solve simple problems.
3. Recognize the main properties of programming languages *Contrast the traditional data structures.
4. Explain how computers are connected in a network *Discuss the social and ethical issues of computer science.
5. Enumerate new trends on the Computer Science domain

CSCI 1115. Modern Computing in Practice
Course Description
This course provides a survey of practical and theoretical foundations for how computers work and how they support fundamental organizational needs. The course covers broad aspects of the hardware, software, and mathematical basis of computers. Lab assignments provide hands-on applications to use simple basic software tools to write simple programs, build and edit websites, analyze data with spreadsheets, choose an office productivity suite, and demonstrate computer literacy to potential employers.
Student Learning Outcome

1. Students will create simple python programs using conditional statements and loops.
2. Students will analyze data with spreadsheet formulas, charts, and tools.
3. Students will create and publish a personal website using website building tools.
4. Students will edit HTML and CSS to format a website manually.
5. Students will practice the skill of performing software QA and providing actionable feedback to developers.
6. Students will become aware of common cybersecurity risks.
7. Students will learn basic vocabulary and context for broad aspects of hardware, software, and computer science theory such as Security, Privacy, Cloud Computing, the Internet, the Web, Operating Systems, Discrete Math, and Information Systems.
8. Students will be exposed to various sub-fields of Computer Science including artificial intelligence, security, data analytics, UX, web development, and QA testing.
9. Students will reason about the societal impacts of technology.
10. Students will incorporate their new knowledge and skills into their resume.

CSCI 1153. Programming in MATLAB

Course Description

An introduction to computing using MATLAB, a special-purpose language for writing moderate-size programs that solve problems involving the manipulation of numbers. This course is intended to assist students in learning the general concepts of computing and programming, help students understand the relationship between computer programming and problem solving, and provide a solid foundation in the use of MATLAB.

Student Learning Outcomes

1. Understand the MATLAB computer programming environment.
2. Use MATLAB (data types, variables, basic mathematical and logical expressions, arrays and vectors, structures, file manipulation) to solve computation problems.
3. Apply the software to create, test and debug programs.
4. Write programs using predefined functions and procedures, conditional statements, control structures, matrix computations, and graphing and plotting.
5. Design and write functions with parameters, and reuse function m-files.
6. Compose structured programs using symbolic algebra, equation solving, differentiation and integration, and numerical techniques.

CSCI 1210. Computer Programming Fundamentals

Course Description

This course is an introduction to problem-solving methods and algorithm development. Students will learn how to design, code, debug, and document programs. Students will explore basic programming concepts including variables, data types, operators and expressions. Students will learn about input/output mechanisms, including command prompt interaction, and reading and writing data to files. Students will be introduced to control structures such as branching, conditionals, iteration, and loops and arrays. They will also learn how to define and use functions/methods to structure code and improve code reuse.

Student Learning Outcomes

Students completing this course should be able to:

1. Demonstrate an understanding of procedural programming techniques by implementing programs which employ structured programming techniques.
2. Implement control flow structures in programs to execute statements in a specified order, repeat sequences of statements, and execute different statements based on conditions.
3. Apply modularization principles by defining and using functions/methods to structure code and improve code reuse and maintainability.

4. Write code utilizing data structures such as arrays, simple classes and objects, to provide useful access to, and operations on, data.
5. Input/output mechanisms to collect user input and display data, including implementing error handling mechanisms to handle invalid input and output operations. the concept of recursion and identify base case and inductive step.

CSCI 1220. Computer Programming Fundamentals: Python

Course Description

This course is an introduction to fundamental programming concepts, with a focus on problem-solving techniques and algorithm development using the Python programming language. Students will learn how to create basic scripts, work with data types and variables, use control structures, and build functions. The course is designed for students with little or no prior experience in programming and is intended to provide a foundation in programming that can be applied in a variety of fields.

Student Learning Outcomes

Student completing this course should be able to:

1. Apply programming concepts to design and develop solutions for computational problems.
2. Utilize optimal flow-control strategy for solving a given problem.
3. Design and implement functions to support organization, decomposition and reusability of code.
4. Evaluate and select data structures to efficiently organize and store information for a given problem.
5. Demonstrate the concept of scope to control access to global, local, and class variables.
6. Create and use a simple class to demonstrate object-oriented programming principles.
7. Utilize basic file input/output with text-based files.

CSCI 1220L. Computer Programming Fundamentals: Python Laboratory

Course Description

This lab aims to provide students with hands-on experience in Python programming, reinforcing concepts learned in lectures. The lab sessions will guide students through practical exercises, helping them develop problem-solving skills and understand fundamental programming concepts. Lab work will consist of lab questions from the required textbook, and mini project given to the students by the instructor.

Student Learning Outcomes

Students completing this course should be able to:

1. Demonstrate an understanding of procedural programming techniques by implementing program which employ structured programming techniques.
2. Implement control flow structure in programs to execute statements in a specified order, repeat sequences of statements, and execute different statements based on conditions.
3. Apply modularization principles by defining and using functions/methods to structure code and improve code reuse and maintainability.
4. Write code utilizing data structure such as array, simple classes and objects, to provide useful access to, and operations on, data.
5. Input/output mechanism to collect user input and display data, including implementing error handling mechanism to handle invalid input and output operations, The concept of recursion an identity base case and inductive step.

CSCI 1230. C Programming

Course Description

Introduction to programming in the C language. Topics include input and output, operators and expressions, control structures for branching and looping, functions, pointers and arrays. Functions in the standard libraries will be covered.

Student Learning Outcomes

Students completing this course should be able to:

1. Develop C programs that apply the functions in the C libraries to read input data and generate output.
2. Understand the various operators, and the rules of precedence, available in C, and be able to combine them to produce complex expressions to correctly calculate formulas.
3. Develop C programs that use selection statements (if-else, switch) and loop constructs (while, for do) to solve problems.
4. Modularize their C programs appropriately by using functions, with an understanding of call-by-value parameters.
5. Employ the C pre-processor features, such as #define, as appropriate.

CSCI 1240. C++ Programming I

Course Description

This course is an introduction to problem-solving methods and algorithm development using C++. Students will learn how to design, code, debug, and document programs. Students will explore basic programming concepts including variables, data types, operators and expressions. They will also learn how to work with the C++ preprocessor directives and libraries. Students will learn about input/output mechanisms, including command prompt interaction, reading and writing data to files. Students will be introduced to control structures such as branching, conditionals, iteration, and loops and arrays. They will also learn how to define and use functions to structure code and improve code reuse.

Student Learning Outcomes

Students completing this course should be able to:

1. Implement programs which employ structured programming techniques.
2. Implement control flow structures.
3. Apply modularization principles by defining and using functions/methods to structure code and improve code reuse and maintainability.
4. Write code utilizing data structures such as arrays, using pointers, and simple classes to provide useful access to, and operations on, data.
5. Use input/output mechanisms to collect user input and display data, including implementing error handling mechanisms to handle invalid input and output operations.

CSCI 1250. Web Development

Course Description:

Introduction to HTML. Creating and designing a web page in HTML, adding tables and using frames in web design. Use XML to create interactive, dynamic Web pages. Implement cascading style sheets.

Student Learning Outcomes

Students completing this course should be able to:

1. Construct a functional webpage using HTML.
2. Plan a webpage using a site map.
3. Construct uniform style applications.
4. Develop applications in a current web programming language.
5. Demonstrate a working knowledge of the latest technologies used in creating webpages.

CSCI 1260. **Computer Programming Fundamentals Java I**

Course Description

This course is an introduction to problem-solving methods and algorithm development using Java. Students will learn how to design, code, debug, and document programs. Students will explore basic programming concepts including variables, data types, operators and expressions. They will also learn how to work with the Java preprocessor directives and libraries. Students will learn about input/output mechanisms, including command prompt interaction, reading and writing data to

files. Students will be introduced to control structures such as branching, conditionals, iteration, and loops and arrays. They will also learn how to define and use functions to structure code and improve code reuse.

Student Learning Outcomes

Students completing this course should be able to:

1. Implement programs which employ structured programming techniques.
2. Implement control flow structures.
3. Apply modularization principles by defining and using functions/methos to structure code and improve code reused and maintainability.
4. Write code utilizing data structures such as arrays, using pointer, and simple classes to provide useful access to, and operations on data.
5. Use input/output mechanisms to handle invalid input and output operations.

CSCI 1996. Topics in Computer Science

Course Description

Varies

Student Learning Outcomes

Varies

CSCI 2110. Application Development

Course Development

The purpose of this course is to introduce the students to the fundamental concepts and models of application development so that they can understand the key processes related to building functioning applications and appreciate the complexity of application development. Students will learn the basic concepts of program design, data structures, programming, problem solving, programming logic, and fundamental design techniques for event-driven programs. Program development will incorporate the program development life cycle: gathering requirements, designing a solution, implementing a solution in a programming language, and testing the completed application.

Student Learning Outcomes

1. Use primitive data types and data structures offered by the development environment and choose an appropriate data structure for modeling a simple problem.
2. Understand basic programming concepts and write simple applications that relate to a specific domain.
3. Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and the definition of functions.
4. Test applications with sample data.
5. Apply core program control structures.
6. Understand and apply secure coding principles.

CSCI 2210. Object-Oriented Programming

Course Description:

This course is an introduction to object-oriented programming. Classes and objects, and associated topics such as constructors, properties, and methods, inheritance, polymorphism, encapsulation, abstraction, exception handling and best practices.

Student Learning Outcomes

Students completing this course should be able to:

1. Implement object-oriented designs based on project requirements.
2. Use encapsulation to write programs that are loosely coupled and easy to debug, maintain and modify.
3. Use inheritance to define simple class hierarchies that allow code to be reused by distinct subclasses.

4. Implement and reason about control flow in a program using polymorphism to solve common programming problems.

CSCI 2210L. Object-Oriented Programming Laboratory

Course Description

This lab component complements the theoretical understanding of Object-Oriented Programming (OOP) in Python. Students will engage in hands-on activities to design, implement, and test Python programs using OOP principles. The labs will reinforce key concepts such as classes, objects, inheritance, polymorphism, encapsulation, and design patterns.

Student Learning Outcomes

1. Understand and apply the principles of OOP in Python.
2. Design Python programs using classes and objects.
3. Implement inheritance, polymorphism, and encapsulation in Python.
4. Develop Python programs that handle exceptions effectively.
5. Use design patterns to solve common programming problems.

CSCI 2220. Introduction to Data Structures and Algorithms

Course Description:

Design, implement, and use fundamental abstract data types including linked lists, stacks, queues, and trees. Analyze the time and space complexity of algorithms, such as sorting.

Student Learning Outcomes

Students completing this course should be able to:

1. Implement basic data structures such as linked lists, stacks, queues, and trees in a high-level programming language.
2. Compare alternative implementations of data structures with respect to time and space complexity.
3. Explain the advantages and disadvantages of a variety of sorting algorithms.

CSCI 2220L. Introduction to Data Structures and Algorithms

Course Description

The Data Structures and Algorithms lab is designed to provide hands-on experience and practical implementation of the core concepts taught in the corresponding lecture course. This lab aims to deepen students' understanding of various data structures and algorithms by engaging them in exercises that require the application of theoretical knowledge to solve real-world problems. Students will work with fundamental data structures like arrays, linked lists, stacks, queues, trees, graphs, and hash tables, and will implement and analyze algorithms for sorting, searching, and more advanced topics such as dynamic programming and graph algorithms.

Student Learning Outcomes

Students completing this course should be able to:

1. Understand and Implement Core Data Structures: Gain proficiency in implementing and using various data structures such as arrays, linked lists, stacks, queues, trees, heaps, hash tables, and graphs.
2. Design Efficient Algorithms: Develop algorithms that effectively solve problems while minimizing resource usage, and understand the trade-offs involved in algorithm design.
3. Analyze Algorithm Efficiency: Be able to analyze the performance of algorithms using Big-O notation and optimize algorithms for better performance.
4. Solve Real-World Problems: Apply data structures and algorithms to solve complex problems, simulating real-world scenarios that require efficient computational solutions.
5. Collaborate and Communicate: Work effectively in teams to design, implement, and test solutions, and communicate findings and challenges clearly in both written and oral formats.
6. Prepare for Advanced Studies: Build a strong foundation for advanced topics in computer science, such as software engineering, systems design, and competitive programming.

CSCI 2222. Data Structures in Python

Course Description

Using objects, lists, tuples, and dictionaries to implement data structures such as trees and graphs. Algorithms for sorting, searching, and other fundamental operations. Introduction to mathematical foundations for analysis of iterative and recursive algorithms and for basic correctness proofs. The math skills used in the algorithm analysis (e.g., series, inductive proofs) will be included in the course. Implementation of selected algorithms for different applications (e.g., data science, cybersecurity) using sound programming methodologies.

Student Learning Outcomes

1. Understand fundamental data structures and algorithms, both those built-in to Python and those that must be coded.
2. Know the basics of time and space complexity and the big O notation.
3. Understand different kinds of graph-based structures including trees and be able to perform common operations such as searching and sorting.
4. Be able to implement common data structures and algorithms in the Python language and use them in an application domain.

CSCI 2230. Assembly Language and Machine Organization

Course Description

Computer structure and system organization, instruction execution, memory addressing modes, hardware/software interface. Programming in assembly language.

Student Learning Outcomes

Students completing this course should be able to:

1. Describe the architecture of a microcontroller, the interconnections between the components, and the major units inside the CPU.
2. Use signed and unsigned numbers, bitwise operations, branching instructions, and the corresponding flags in the status register.
3. Use immediate, direct, indirect addressing modes in assembly instructions.
4. Map high-level programming language features to assembly instructions, such as loops, conditionals, procedure calls, value and reference parameter passing, return values, and recursion.
5. Interface with input/output devices via instructions, memory addressing, or interrupts.
6. Design and implement an assembly language program.

CSCI 2240. Systems Programming

Course Description

This course provides an introductory overview of operating systems and system programming, mainly focusing on system-level programming based on OS services and other APIs. Topics include system calls, file I/O, files and directories, memory management, process control, inter-process communication (IPC), socket-based network programming, remote procedure call (RPC) programming, and basic security mechanisms. Coursework includes substantial programming homework and team-based projects.

Student Learning Outcomes

1. Have knowledge of the fundamentals of UNIX operating systems including systems programming, shell programming, UNIX file systems and basic knowledge of threads.
2. Have knowledge of the basic principles of processes, inter-process communication (IPC) and signals.
3. Have knowledge of the basic principles of socket-based network programming.

CSCI 2260. Computer Programming Fundamentals: Java II

Course Description
This course is a continuation of Java object-oriented programming. This course is a deeper exploration of object-oriented programming. Including: Classes and objects, and associated topics such as constructors, properties, and methods, inheritance, polymorphism, encapsulation, abstraction, excerption handling and best practices.
Student Learning Outcomes:
Students completing this course should be able to:
1. Implement appropriate object-oriented designs based on project requirements.
2. Use encapsulation to write programs that are loosely coupled and easy to debug, maintain, and modify.
3. Use polymorphism to solve common programming problems.

CSCI 2293. Social and Ethical Issues in Computing
Course Description
Overview of philosophical ethics, privacy and databases, intellectual property, computer security, computer crime, safety and reliability, professional responsibility, and codes, electronic communities and the Internet, and social impact of computers. Students make oral presentations and produce written reports.
Student Learning Outcomes
Through essay writing, presentations, and discussions, students are expected to achieve the following learning outcomes:
1. Can describe and appreciate the impact of computing.
2. Can describe and explain the professional, ethical, legal and social issues and responsibilities.
3. Communicate effectively in both written and oral form.
4. Recognize the need for continued professional development and lifelong learning.

CSCI 2310. Discrete Mathematics for Computer Science
Course Description
Discrete mathematics required for Computer Science, including topics such as the basics of logic, number theory, methods of proof, sequences, mathematical induction, set theory, counting and functions.
Student Learning Outcomes
1. Use the concept of sets and functions to reason about application domain problems.
2. Apply counting principles to determine the number of various combinatorial problems.
3. Use logic to specify precise meaning of statements, demonstrate the equivalence of statements, and test the validity of arguments.
4. Use summations, formulas for the sum of arithmetic and geometric sequences.
5. Construct and recognize valid proofs using different techniques including the principle of mathematical induction.

CSCI 2410. Practical Programming
Course Description
A hands-on dive into practical programming skills development. Students will practice skills such as implementing algorithms that manipulate data in arrays and other data structures, implementing and using hashing-based data collections, using I/O in programs to access and create data, and object-oriented programming. Students will also focus on honing their use of tools such as command line, integrated development environments, debuggers, and profilers for software development.
Student Learning Outcomes
1. Perform simple manipulation of arrays and other basic data structures.
2. Utilize objects and objects-oriented programming.

3. Utilize different tools for building, debugging, and improving their programs.
4. Learn and use a new programming language quickly.
5. Use basic I/O capabilities in a variety of languages.
6. Use documentation to learn important features of a programming languages.
7. Write programs that solve interview-like problems.

CSCI 2993.Workshop in Computer Science
Course Description
Varies
Student Learning Outcomes
Varies

CSCI 2996. Topics in Computer Science
Course Description
Varies
Student Learning Outcomes
Varies

CSCI 2998. Internship in Computer Science
Course Description
Varies
Student Learning Outcomes
Varies

Construction (CNST)

CNST 1110. General Carpentry or Building Trades I
Course Description
This course will have two components: a classroom segment, where carpentry concepts will be explored, and a hands-on segment where students will be able to participate in the actual construction of a structure. Habitat for Humanity has generously offered one of their projects as a “hands-on” site.
Student Learning Outcomes
1. Identify and define various elements of a Structural Wood Wall.
2. Build structural and non-load bearing walls and partitions using OSHA compliant safety practices.
3. Size floor joists and roof rafters according to local building codes.
4. Hang and “Trim Out” Doors and Windows for Residential Construction Projects
5. Choose construction project foundations.

CNST 1115. NCCER Safety Core
Course Description
Required introduction to the National Center for Construction Education and Research for certification. Topics studied include basic safety, technical math and communication, blueprints, methods, and ethics. Students demonstrate skills level through laboratory assignments. Orientation prepares individuals for employment in a construction field. NCCER modules provide the student with the opportunity to test for related NCCER credentials.

Student Learning Outcomes

1. Explain safety culture and its importance in the construction craft.
2. Explain the role of OSHA job site safety.
3. Hazard recognition and risk assessment of job site.
4. Demonstrate the use and care of appropriate personal protective equipment (PPE).
5. Identify other construction hazards on the job site, including hazardous material exposure and environmental.
6. Prepare for OSHA 10 Safety Certification.
7. Learn all phases of safety used in construction.
8. Learn concepts related to applied mathematics in construction.

CNST 1117. OSHA 10

Course Description

This course teaches students safety awareness and standards from guidelines set by the United States Occupational and Safety Administration. Students will receive a plastic wallet card with a QR code linked to a national database that acknowledges that the recipient has successfully completed the required training to be designated as an OSHA 10 cardholder. Please note that this is very specific training with guidelines set by the OSHA Administration, not UNM-Taos. Therefore, any student who does not attend during the required hours will not be eligible to receive the OSHA 10 Card. Also please note that this course is specifically designed for Construction and Safety, not General Industry Safety, which is a separate OSHA category.

Student Learning Outcomes:

1. Know their rights to a safe workplace as prescribed by the 1970 OSH act.
2. Read and navigate the OSHA regulations and standards for Construction Safety and Health
3. Evaluate construction sites for OSHA Compliance
4. Communicate to employers about how to address unsafe conditions.

CNST 1120. Construction Drawings

Course Description

An introduction to the various construction documents with symbols. Emphasizing extraction of information and specifications from drawings.

Student Learning Outcomes

1 Interpret construction documents.
2. Identify and navigate the basic views commonly displayed in a technical drawings.
3. Identify and describe common components on construction documents.
4. Demonstrate the use of measuring devices.
5. Use appropriate construction terminology.

CNST 1121. Introduction to Construction I

Course Description

Basic safety, including personal protective equipment, how to perform basic construction tasks safely, and what to do if an accident occurs. Includes basic construction methods.

Student Learning Outcomes

1. Students will be able to operate hand and power tools safely.
2. Demonstrate the ability to read construction drawings.
3. Students will demonstrate the ability to effectively work in a team.

4. Demonstrate how related industry theories apply to real world settings.
5 Investigate mechanical processes found in building trades.
6. Identify and resolve ethical workplace issues.
7. Describe the responsibilities of safety related to the construction industry.
8. Students will be able to select the proper tools for the job.

CNST 1130. Green Building Concepts

Course Description

This course will provide students with an overview of the history, development and environmental issues relating to the emergence of the Green Building sector of the construction industry. It will also provide students with a basic understanding of Green Building considerations such as: site planning, energy generation and efficiency, material selection, building envelope, waste management and water conservation and management and how they affect a construction project.

Student Learning Outcomes

1. Describe how a wide range of Green Building techniques effect energy efficiency and carbon emission
2. Analyze and select building materials and methods that support Green Building concepts and goals
3. Identify and define energy efficiency considerations and energy generation options for various types of building projects
4. Describe the main components of a construction project and how they are addressed from a Green Building standpoint.

CNST 1135. OSHA 30

Course Description

The OSHA 30 Hour Construction Industry Training course is a comprehensive safety program designed for anyone involved in the industry. Specifically devised for safety directors, foremen, and field supervisors; the program provides complete information on OSHA compliance issues.

Student Learning Outcomes:

1. Describe types of personal protective equipment (PPE), and the requirements for its use in OSHA standards (Subpart E - Personal Protective Equipment).
2. Recognize the requirements for fire protection in the workplace (Subpart F - Fire Protection and Prevention)
3. Identify the various types of rigging equipment used to protect employees (Subpart H - Rigging; Subpart N - Cranes and Rigging).
4. Identify the critical health and safety hazards of welding and cutting in the construction industry (Subpart J - Welding and Cutting).

CNST 1140. Concrete Finishing I

Course Description

Includes methods, procedures and terms used in concrete finishing. Students identify methods to prepare, place, apply finishes and learn the different curing and protecting methods of concrete. Properties of chemical and mineral mixtures, tools, equipment and troubleshooting of concrete is also covered, while following the American Concrete Institute (ACI), International Building Code (IBC) and OSHA guidelines, procedures and regulation.

Student Learning Outcomes

1. Identify the composition and characteristics of concrete
2. Define the uses of concrete as a building material
3. Identify how to safely handle concrete when forming, mixing, placing, curing, and finishing

4. Describe how the ingredients of concrete influence mix, placement, finishing, durability, and performance
5. Describe and identify control test on concrete
6. Define compaction activities done on subgrades
7 Identify the procedures for properly locating, grading, and building forms for horizontal placement
8. Identify the basic concrete finishing hand tools and describe the basic finishing process
9. Describe the proper method for finishing, screeding, leveling, finishing and curing concrete
10. Describe the basic troubleshooting methodology that can be used to identify a variety of concrete construction problems and their cause.

CNST 1150. Layout and Framing

Course Description

A study of wood form construction techniques which include methods of wall, roof and deck framing. Planning the layout of structural members is emphasized. Stress and strain on these structural members is studied in conjunction with the structural capacities of various types of wood and other materials. These courses consist of lab and classroom experiences.

Student Learning Outcomes

1. Students will understand the function of all major structural members in a home;
2. Students will understand the IRC Building Code as it applies to Residential construction;
3. Students will understand how to correctly specify Rafters for roof snow loading;
4. Students will learn "Advanced Framing "methods to build energy efficient homes;
5. Students will be able to understand how to safely build a simple residential structure.

CNST 1160. Plumbing Theory I

Course Description

Covers occupational introductions, human relations, safety, tools and equipment used in plumbers trade, plumbing components, sizes of various residential and commercial plumbing systems, pipe fittings, pipe joining and cost estimation.

Student Learning Outcomes

1. Demonstrate the ability to use equipment safely and to demonstrate these practices in the classroom.
2. Demonstrate diagramming and explain the drain, waste, and vent system.
3. Demonstrate the ability to diagram and explain the potable water system.
4. Demonstrate the ability to draw and explain storm water systems.
5. Demonstrate an awareness of the various materials and fittings used in plumbing.
6. Demonstrate soldering of copper pipe. Demonstrate gluing of PVC pipe.

CNST 1170. Construction Methods I

Course Description

This course will focus on carpentry industry, skills, materials, drawings, and documents. Overall safety will be addressed, including the use of hand and power tools. An applied course in foundation, footing, and stem-wall construction. Other topics include cutting and assembly of structural material for floor, wall, and roof systems in accordance with the International Building Code (IBC).

Student Learning Outcomes

1. Identify the skills, responsibilities, and job opportunities in carpentry.
2. Explain safety hazards and hazard mitigation in carpentry.
3. Identify various materials and calculate materials needed for a given construction drawing.
4. Demonstrate correct installation and fastening of common building materials in carpentry.

5. Safely use hand and power tools common to carpentry.
6. Interpret common carpentry construction documents.

CNST 1180. Alternative Building Construction

Course Description

Students in this course will study in depth the materials and methods used in Alternative Construction processes that are not typically found in the generic building codes used throughout the modern world.

Student Learning Outcomes

1. Identify and implement various types of Residential Alternative Construction Systems.
2. Demonstrate an estimated costs.
3. Demonstrate the steps necessary for obtaining a Building Permit using Structural & Mechanical Systems not found in the (IRC) International Residential Code.

CNST 1190. Mechanical, Electrical and Plumbing Systems

Course Description

This course introduces students to the basic principles of mechanical, electrical, and piping (MEP) systems common to construction projects. It involves basic science principles of MEP systems, basic design principles of MEP systems, and understanding of the MEP components and installation.

Student Learning Outcomes

1. Understand the basic science principles with MEP systems
2. Understand the operation and installation of MEP systems
3. Understand the construction manager's role with MEP systems
4 Understand the basic design principles of mechanical and electrical systems.
5 Understand selected installation methods for basic mechanical and electrical systems.
6. Understand related building codes and standards.

CNST 1210. Construction Cost Estimating

Course Description

Covers various methods of computerized estimating techniques including spreadsheets, estimating software, digitized take-off and Web based plan rooms and project files. This class will utilize industry standard applications.

Student Learning Outcomes

1. Use computer application to perform a material takeoff.
2. Perform a manual material takeoff.
3. Use computer application to price the material takeoff.

CNST 1215. Weatherization In Construction

Course Description

Introduction to industry weatherization standards and practices utilized in the construction of buildings for the purpose of energy conservation. Economic and environmental impacts of the use of energy in heating and cooling building will be examined.

Student Learning Outcomes

1. Knowledge of the construction industry.
2. Knowledge of related career pathways.

3. Applicable knowledge and skills related to specific industry fields.
4. Knowledge and ability to follow industry safety practices and procedures.
5. Understand applicable codes, rules, and regulations.

CNST 1220. Construction Project Management I

Course Description

An introduction to residential building construction-site observation, quantity surveying, cost analysis, subcontractor and material prices solicitation and summary and tabulation for a total bid price.

Student Learning Outcomes

1. Produce a written and illustrated report of site visits. Students are required to record the presence and numbers of trades, equipment and tools and the quantities of materials stored and used on site.
2. Complete a quantity survey on a small commercial or residential project.
3. Price out and organize a project into a project bid.
4. Demonstrate ability to write a simple subcontract and purchase orders.

CNST 1225. Building Codes and Inspections

Course Description

This course introduces students to the building codes and standards applicable to the building construction and inspection processes.

Student Learning Outcomes

1.Understand the basic structure of the International Building Code and how to use it.
2.Understand the necessity for a uniform standard of building codes to ensure life safety.
3.Understand the roles of governing agencies and how to interact with those agencies.

CNST 1230. Cabinet Layout and Installation

Course Description

Understand the process of layout and installation of cabinets for kitchens, bathrooms, utility rooms and other spaces.

Student Learning Outcomes

1. Identify and demonstrate the basic elements of kitchen and bath cabinet layout.
2. Demonstrate how to read a kitchen or bath cabinet plan.
3. Identify the tools and materials necessary to successfully install kitchen or bath cabinets.
4. Demonstrate how to install cabinets.
5. Demonstrate how to install matching finish moldings.
6. Demonstrate how to perform final cabinet door and drawer adjustments.
7. Demonstrate how to perform cabinet hardware installation.

CNST 1240. Cabinet Making

Course Description

Covers advanced design and construction of cabinets including safety and use of hand and power tools, and materials.

Student Learning Outcomes

1. Demonstrate the safe use of various hand and power tools used in cabinet making.
2. Demonstrate the proper selection of tools for required tasks.
3. Design cabinet projects and prepare accurate materials lists.
4. Perform planning, joining, cutting, routing and other procedures used for cabinet making.

5. Demonstrate how to select and apply various finishes.
6. Properly assemble, install, assess and adjust cabinet project components.

CNST 1250. Interior Finishing

Course Description

A study of the interior of a building wall, ceiling, and floor finishing. The use of different types of covering, paint, paneling, and texture will be emphasized. The installation of decorative tile for bathroom, kitchen, and floors will be explored.

Student Learning Outcomes

1. Demonstrate how to hang, tape and texture drywall.
2. Demonstrate a knowledge of a variety of painting techniques.
3. Demonstrate how to install interior doors and cabinetry.
4. Demonstrate how to apply millwork.
5. Demonstrate the installation of ceramic tile.
6. Demonstrate the installation of interior flooring,

CNST 1255. Exterior Finishing

Course Description

A study of exterior trim techniques; selection of doors and windows; method of installing doors and windows. Includes paint, stain, and prefabrication materials. Taught through lab and classroom experiences.

Student Learning Outcomes (required):

1. Practically apply techniques and processes learned throughout the course, through hands-on experiences.
2. Describe different types of doors and windows/paints and stains.
3. Describe how to install doors and windows.
4. Identify the types and parts of a cornices and trim.
5. Describe lap, panel, metal & wood siding application and roof application.
6. Describe types and styles of gutters, down spouts and accessories and explain stucco application.

CNST 1270. Construction Methods II

Course Description

This course is a continuation in construction methods and will focus on both Commercial & Residential carpentry. The proper safety use of hand and power tools will continue in the new subject areas. The student will enhance their skills in the installation of exterior wall and roof finishes, windows, and doors in accordance with the International Building Code (IBC). Students also practice insulation techniques, drywall installation, taping and texture of drywall, trim work, and other finish work in a safety-focused environment.

Course Outcomes

1. Demonstrate the correct methods for measuring, to identify the correct materiel to installed.
2. Identify various materials that are needed per the drawing blueprint. (Take off List).
3. Demonstrate correct installation and fastening of common building materials in commercial and residential carpentry.
4. Safely use hand and power tools common in commercial carpentry.
5. Interpret common commercial/residential carpentry construction documents.

CNST 1310. Furniture Making

Course Description

Includes fundamental design and construction of simple furniture including safety and use of hand and power tools. Students will design and construct a furniture project.

Student Learning Outcomes

1. Safely operate various hand and power tools used in furniture making.
2. Properly select correct tools for required tasks.
3. Design furniture projects and prepare accurate materials lists.
4. Perform planning, joining, cutting, routing and other procedures used for furniture making.
5. Select and apply various finishes.
6. Properly assemble, assess and adjust furniture project components.

CNST 1320. Construction Project Management II

Course Description

Covers various methods of software-based scheduling methods and techniques. Exposes the student to state of the art project scheduling software and project management techniques used by local industry. The student will participate in group projects and will develop real world project schedules.

Student Learning Outcomes

1. Identify project activities.
2. Assign resources to project activities.
3. Develop activity logic.
4. Refine project logic.

CNST 1330. Professional Development and Leadership

Course Description

As members and/or officers of various student professional organizations, students gain experience in leadership, team building, and community service. Students competing or participating in Skills USA are required to register for the course.

Student Learning Outcomes

1. Apply knowledge of conduit types and sizes to select appropriate bending methods.
2. Describe the purpose and function of raceways and fittings.
3. Restate the properties, ratings, and applications of different conductors and cables.
4. Identify the layout and organization of electrical drawings, including plans, elevations, and details.
5. Determine residential service sizing, grounding, and bonding requirements.
6. Apply knowledge of test equipment usage and safety practices to perform accurate electrical measurements and diagnostics.

CNST 1370. Construction Methods III

Course Description

This course is the third of three methods and is a advanced class in the establishment of footings, slabs, stem walls, vertical and horizontal framework, tilt-up wall systems, and the reinforcement of concrete. The student will learn advance skills in problem solving and leadership skills

Student Learning Outcomes

1. Identify the skills, responsibilities, and job opportunities in carpentry.
2. Demonstrate the safety hazards and hazard mitigation in carpentry and on the job site.
3. Identify various materials and calculate materials needed for reinforcement of concrete.
4. Demonstrate correct installation and fastening of common building materials in carpentry
5. Interpret construction drawings, be able to demonstrate the need for a field change order.

6. Demonstrate leadership skills in crew leadership.

CNST 1710. Forklift Operation

Course Description

Classroom instruction and hands-on practice to prepare students to operate a forklift safely in the workplace. Students will have the opportunity to earn a forklift operator's permit.

Student Learning Outcomes

1. Recall the rules and regulations for operating a forklift.
2. Apply knowledge of the correct methods for handling loads with a forklift.
3. Evaluate the factors affecting the stability of a forklift.
4. Utilize a forklift safety checklist to ensure compliance with safety protocols and procedures.
5. Indicate the process and safety guidelines for battery charging in forklifts.
6. Define the procedures for servicing and handling LP gas in forklifts.

CNST 1611. Construction Safety

Course Description

This course provides students with an introduction to construction safety, material handling, hand and power tools, reading a tape measure and construction math. Students will also gain an understanding of the skills and traits necessary to become an employable construction professional.

Student Learning Outcomes

1. Explain the idea of a safety culture and its importance in the construction industry.
2. Explain the causes of accidents and the impact of accident costs.
3. Define safe work procedures to use around falling, electrical, struck-by, and caught-in-between hazards.
4. Demonstrate the use and care of appropriate personal protective equipment (PPE).
5. Add, subtract, multiply, and divide whole numbers and fractions, with and without a calculator.
6. Use a measuring tape to measure, mark and cut material.
7. Recognize and safely use some of the basic hand and power tools used in the construction trade.
8. Visually inspect hand tools to determine if they are safe to use.
9. Explain how to maintain power tools properly.
10. Explain the role of an employee in the construction industry.
11. Recognize workplace issues such as sexual harassment, stress, and substance abuse.
12. Use equipment, recognize hazards and follow safety procedures required for materials handling.
13. Inspect, sort, and store material based on defect, wood characteristics, and type.

CNST 1621. Foundations and Floor Framing

This course will teach the basics of site layout, building foundations, and floor framing. The on-campus laboratory experience will include hands on projects that require the forming, mixing and placement of concrete and the framing of a floor system.

Student Learning Outcomes

1. Identify the basic ingredients and the characteristics of concrete that make it a useful building material.
2. Calculate volume quantities for soil and concrete.
3. Describe and demonstrate how to mix, form, reinforce, and place a small batch of concrete.
4. Demonstrate the set up and operation of a laser level to perform building layout.
5. Identify the types of foundation systems and their related components.
6. Identify the components of a wood framed floor.
7. Demonstrate how to measure, cut and assemble components of a wood framed floor.

CNST 1622. Fundamentals of Wall Framing

Course Description

This course will teach theory, methods and procedures for basic wall framing. Wall plate layout, selecting and cutting wall components and wall assembly will be introduced for exterior and interior wall construction. An on-campus laboratory experience will include hands on projects that require the framing of wall sections.

Student Learning Outcomes

1. Identify the reasons for proper layout spacing in relation to material selection and installation.
2. Demonstrate how to layout a building with chalk lines and notation.
3. Demonstrate how to accurately layout wall plates for interior and exterior wall sections.
4. Demonstrate how to measure, cut and assemble wall components properly.
5. Demonstrate how to correctly size window and door headers.
6. Demonstrate how to plumb and brace wall sections.
7. Demonstrate how to install structural wall sheathing on exterior wall sections.

CNST 1623. Roof Framing and Shingles

Course Description

This course will teach theory, methods and procedures for roof framing. Framing layout, selecting and cutting roof components and roof assembly will be introduced. This course will also cover the finish of a framed roof assembly using asphalt shingles and other related materials. The on-campus laboratory experience will include hands on projects that require the framing and shingling of a roof.

Student Learning Outcomes

1. Identify basic roof types and their related components.
2. Explain the difference between a rafter-framed and engineered-truss roof system.
3. Demonstrate how to correctly prepare framed walls for the installation of a roof system.
4. Demonstrate how to correctly measure, cut and assemble roof components.
5. Demonstrate how to correctly select and install finished roof materials.
6. Demonstrate an understanding of the International Residential Code requirements for roof ventilation.

CNST 1624. Window and Exterior Door Install

Course Description

This course will introduce students to the window and exterior door products used in residential construction. The on-campus laboratory experience will include hands on projects that require the installation of windows and exterior doors.

Student Learning Outcomes

1. Identify different window and exterior door styles and sizes.
2. Demonstrate an understanding of different frame, glazing, and performance options for windows and exterior doors.
3. Demonstrate how to prepare a rough opening for window or exterior door installation.
4. Demonstrate how to correctly measure rough openings to place an order for windows and exterior doors.
5. Demonstrate how to properly install a window and exterior door unit.
6. Demonstrate how to properly flash and seal windows and exterior doors.

CNST 1626

Course Description

This course will teach students about the theory, methods and procedures for stair construction. Stringer layout, selecting and cutting stair components and stair assembly will be introduced. The on-campus laboratory experience will include hands on projects that require the construction of a set of stairs.

Student Learning Outcomes

1. Identify the type of construction used on any stairway.
2. Identify the different components of a stairway and the purpose of each component.
3. Explain the International Residential Code requirements that apply to stairs.
4. Select the correct material for a set of stairs.
5. Calculate the stair values to layout stringers for a given stet of stairs.
6. Construct a set of cut-stringer stairs.

CNST 1651. Practical Cost Estimating

Course Description

This course will teach students how to accurately estimate material quantities and project costs for residential buildings.

Student Learning Outcomes

1. Demonstrate proficiency using common mathematical equations (i.e.: lineal footage, area and volume).
2. Demonstrate proficiency using a construction calculator to estimate quantities.
3. Identify the correct materials needed when estimating for specific construction tasks.
4. Identify the correct sequence for tasks during the construction process.
5. Complete a quantity take off for the construction of a completed house.

CNST 1652. Insulation and Drywall

Course Description

This course will teach students about the use and installation of insulation products available for use in residential construction. This course will also teach students about the materials, tools and proper techniques used in the installation and finish of drywall.

Student Learning Outcomes

1. Explain the concepts of heat transfer, moisture control and air ventilation.
2. Identify the common types of insulation and where they are used in building construction.
3. Demonstrate knowledge, selection, and expertise with tools for hanging drywall.
4. Demonstrate how to correctly measure, cut and install drywall.
5. Demonstrate knowledge, selection, and expertise with tools for taping and texturing drywall.
6. Demonstrate how to correctly tape and texture drywall joints.

CNST 1653. Finish Carpentry and Painting

Course Description

This course will teach students about the materials, tools and methods used to complete the interior finish of a home. Installing interior doors, casing, baseboard and closet shelving will be discussed. This course will also teach students about the selection and application of paint products using brush, roller, and spray applications.

Student Learning Outcomes

1. Demonstrate the installation of an interior pre-hung door unit.
2. Demonstrate the installation of different types of finish trim and molding.
3. Demonstrate the installation of closet shelving, rods, cleats, and brackets.
4. Demonstrate the correct selection and use of the tools associated with finish carpentry.
5. Demonstrate the correct application of paint using brush, roller and spray techniques.
6. Identify the correct paint products for interior and exterior applications.

CNST 1662. Finish Flooring

Course Description

This course will teach students about the different types of finish flooring materials available in residential construction. The on-campus laboratory experience will include hands on projects that require finish flooring.

Student Learning Outcomes

1. Demonstrate an understanding of subfloor or slab preparation regarding finish flooring.
2. Demonstrate how to properly estimate materials for finish flooring.
3. Correctly identify and use the tools necessary to install finish flooring materials.
4. Install finish flooring materials.

CNST 1663. Exterior Wall Finish

Course Description

This course will teach students about the different types of exterior wall finish used in residential construction. An on-campus laboratory experience will include hands on projects that require exterior wall finish.

Student Learning Outcomes

1. Identify the materials available in exterior wall finishes.
2. Identify and use the tools necessary to install exterior wall finish materials.
3. Demonstrate an understanding of exterior wall and roof overhang preparation.
4. Demonstrate how to correctly estimate exterior finish materials.
5. Demonstrate how to install exterior finish materials.

CNST 1670. Construction Supervision

Course Description

Available to degree seeking and advanced Building Trades students only. Students will be introduced to construction supervision through interaction with beginning students. Students in this course will also work on developing a full set of construction drawings and creating a complete material and cost estimate for a residential building project.

Student Learning Outcomes

1. Identify ways to give and receive constructive feedback to employees in the work setting.
2. Identify ways in which students learn and process information differently.
3. Identify different styles of leadership and have an opinion about their preferred style.
4. Identify and maintain attributes of a well-organized, efficient and safe jobsite.
5. Create and complete managerial forms and paperwork, including personnel evaluations.
6. Demonstrate project management by completing material, tool, and fastener inventories.
7. Demonstrate project maintenance by organizing and cleaning the wood shops and job site.
8. Create a complete set of architectural drawings to include: floor plan, elevations, section plans (footing, foundation, floor, wall, roof), truss plan, and electrical plan
9. Perform a complete project cost analysis, including estimates and bids for materials and subcontractors.

CNST 2990. Practicum in Construction Technology

Course Description

Varies

Student Learning Outcomes

Varies

CNST 2995. Construction Technology Co-Op

Course Description

Supervised cooperative work program. Student is employed in an approved occupation and is supervised and rated by the employer and instructor. Student will meet in a weekly class.

Student Learning Outcomes

Varies

CNST 2996. Topics in Construction Technology
Course Description
Varies
Student Learning Outcomes
Varies

CNST 2997. Independent Studies in Construction Technology
Course Description
Varies
Student Learning Outcomes
Varies

CNST 2998. Internship in Construction Technology
Course Description
Varies
Student Learning Outcomes
Varies

Counseling & Education Psychology (CEPY)

CEPY 1110. Introduction to Counseling Theories
Course Description
This course provides knowledge in current theoretical approaches to counseling. Theoretical models such as psychodynamic, existential, person-centered, cognitive and behavioral therapy, rational emotive behavioral therapy, family systems, individual, and solution-focused therapies will be studies.
Student Learning Outcomes
Not Available

CEPY 1120. Human Growth and Behavior
Course Description
Introduction to the principles of human growth and development throughout the life span.
Student Learning Outcomes
1. Students will demonstrate an understanding of the scientific study of processes of change and stability throughout the human lifespan (i.e. Human Development).
2. Students will demonstrate a familiarity with the generally recognized stages of human development from conception to death.
3. Students will be able to demonstrate understanding of the normal and exceptional patterns of human development.
4. Students will be able to demonstrate understanding of recent research development regarding the identified stages of human development as they relate to gender and multicultural issues

CEPY 1130. Counseling Substance Abuse in Schools and Communities
Course Description
This course will cover substance abuse issues in the society. Substance abuse and addiction within family, impacts to members of the community as well as intervention and treatment approaches will be discussed.
Student Learning Outcomes
1. A strong understanding of substance abuse in the society

2. A strong understanding of intervention and treatment projects, and quizzes.
3. A strong understanding of substance abuse prevention.

CEPY 1140. Personality Psychology

Course Description

This course will provide a foundational knowledge of the nature and nurture determinants of human behavior. It will include the definition and scientific measurement of personality. Theories studied will include the psychodynamic, Neo-Freudian, biological, humanistic, cognitive, traits, and behavioral theories.

Student Learning Outcomes

1. A strong understanding of psychodynamic
2. A strong understanding of Neo-Freudian projects, and quizzes.
3. A strong understanding of biological, humanistic, cognitive, and traits.
4. A strong ability to understand behavioral theories

CEPY 1150. Career Excel®lence

Course Description

Professional career curriculum to assist students in developing an understanding and ability to articulate who they are as emerging professionals through personal assessment activities. The focus will be on providing students with tools and strategies for reflection, planning, and goal setting.

Student Learning Outcomes

1. Demonstrate an understanding of the relationship between academic and professional career success.
2. Express a familiarity with professionalism and career culture and communicate a comprehension of various professional career skills.
3. Apply material learned to other aspects to professional Excel®lence.
4. Develop a career life plan that will highlight goals, taking into account life circumstances.
5. Become competent in appropriate professional communication.

CEPY 1160. Academic Excel®lence

Course Description

This course is designed to provide students with a foundation in their personal academic process. The course will assist students in developing an understanding and ability to articulate who they are as beginning college students through personal assessment activities. The focus will be on providing students with tools and strategies for reflection, planning, and goal setting. Topics discussed will include time management, study skills, test taking skills, stress management, motivational and academic discipline skills, interpersonal skills and college survival skills. We intend for this to be a supportive, respectful and collaborative environment where everyone can learn and grow.

Student Learning Outcomes

1. Students will be able to demonstrate an understanding of the relationship between time management and academic success.
2. Students will be able to express a familiarity with college culture.
3. Students will be able to communicate a comprehension of study skills and test taking strategies.
4. Students will be able to apply material learned to other aspects to enhance academic Excel®lence.
5. Students will be able to develop an academic life plan that will highlight goals, taking into account life circumstances.
6. Become competent in appropriate academic communication.

CEPY 1198. Internship

Course Description

Varies

Student Learning Outcomes
Varies

CEPY 2110. Learning in the Classroom
Course Description
This class introduces you to the basic principles of learning, including cognition, motivation, and assessment. You will examine the relationships between theory, research, and practice in learning, memory, child development, motivation, and educational assessment for the school setting. This course will provide the student with concepts and principles of educational psychology that will form a framework for thinking about learning and instruction and how theories of learning are connected to classroom situations.
Student Learning Outcomes
1. Define learning and compare and contrast the factors that cognitive, behavioral, and humanistic theories believed to influence the learning process, giving specific examples of how these principles could be used in the classroom.
2. Observe and reflect upon the teaching learning processes in economically, socially, culturally and educationally diverse classroom populations in order to develop a current understanding of students and families in public and private school.
3. Discuss how theories of information processing and cognitive theories of learning can impact memory, study strategies, and how certain teaching techniques can help students learn.
4. Compare teacher-centered and student-centered approaches to learning, and to identify a positive learning environment.
5. Identify various methods to motivate students and create effective learning environments.
6. Use major concepts of child and adolescent development, human learning, and social and cultural influences in planning and implementing classroom instruction, strategies, and management.
7. Evaluate the best means of accommodating instruction to meet individual needs and differences.
8. Students will examine how learning style, cultural and social issues and learning disabilities impact the learner's effectiveness in the classroom setting.
9. Explain different types of assessment used to assess learning and provide examples of effective assessment practices.
10. Discuss the relationship between motivation and classroom management

CEPY 2120. The Preschool Child
Course Description
Survey of psychological development from conception to age five.
Student Learning Outcomes
1. Demonstrate an understanding of major theories of early childhood development
2. Demonstrate an understanding of recognized stages of human development from prenatal to preschool years
3. Explore cultural influences that may create variability in human development
4. Apply major theories to themselves and reflect on their early childhood development

CEPY 2130. Adolescence - School Setting
Course Description
This course is designed to present the student with an introduction to the area of adolescent development with an emphasis on the positive aspects of this life stage. Students will be encouraged to be reflective on the topics presented in class that will include issues on diversity, culture, health, and well-being, emerging adulthood and suggestions for improving the lives of adolescents.
Student Learning Outcomes
1. Students will become knowledgeable about the historical background of adolescent development.

2. Students will become knowledgeable about the major theories related to adolescence.
3. Students will evaluate different developmental theories and their fit across cultures as you reflect on your personal experiences through discussions and videos you will watch.
4. Students will identify key developmental milestones, conflicts, and concepts of each chapter presented by utilizing critical thinking skills as you complete summary questions.
5. Students will define relevant terms, ideas, and concepts in the study of adolescent development through quizzes and homework assignments.

CEPY 2140. Explorations of Counseling & Community Psychology
Revise course description and SLOs
Course Description
An introduction and exploration of various career options and functions within the mental health disciplines to aid in professional development. Emphasis will be placed on depth and scope of the choices available including research, teaching, community work, public policy, and clinical work and prevention (e.g. counseling, psychotherapy, assessment, consultation). May be repeated up to 6 credits.
Student Learning Outcomes

1. Acquire knowledge of historical and contemporary issues which affect the provision of mental health services by members of diverse mental health disciplines including clinical, counseling, school, and community psychologists, clinical mental health counselors, and others.
2. Acquire knowledge pertaining to education and training requirements for various disciplines.
3. Acquire survey-level knowledge of psychological assessment, measurement, and treatment.
4. Acquire survey-level knowledge of various inquiry approaches applicable to research pertaining to mental health and well-being—both at the individual and community level.
5. Understand the mental health recovery model and explore the lived experiences of individuals with mental health problems in contemporary society.
6. Understand the principles of sensitivity and respect for diverse populations as integral to professional practice in diverse mental health disciplines and settings, including practice in educational and community settings.

CEPY 2150. Academic Excel®lence Classes
Course Description
Academic curriculum of Excel®lence that includes an in-depth understanding of the elements that promote student academic success. Students will develop leadership and presentation skills needed to forge effective student mentor relationships and conduct outreach to campus and local community leaders to cultivate a collaborative learning environment. May be repeated up to 6 credits.
Student Learning Outcomes
Not Available

Counselor Education (COUN)

COUN 1110. Introduction to Human Services
Course Description
This course provides a broad overview of the Human Services field. Students will be exposed to the broader mission of the Human Services professions, as well as trace its development across history.
Student Learning Outcomes

1. Explain the interactions of social institutions, cultural factors, dimensions of identity, and environment with the human development and behavior of individuals.

2. Demonstrate knowledge of the helping professions' focus on addressing contemporary social issues in the United States.
3. Describe the mission and services provided by social service agencies at the regional, national, and global levels.
4. Demonstrate a basic understanding of the helping professions, their histories, career opportunities, and contemporary issues facing human service workers in the United States today.
5. Recognize how students' knowledge, skills, and attitudes impact their competence as helping professionals.

COUN 1120. Introduction to Helping Skills

Course Description

This course is designed to teach basic interviewing techniques used in a variety of settings. Theoretical foundations of various interviewing styles and techniques will be examined. The student will develop an awareness of ways in which the interviewer's background, attitudes, and behaviors influence the interview.

Student Learning Outcomes

1. Identify, describe, and assess the standards of confidentiality and ethical practice for interviewing
2. Identify the stages of an interview and appropriate communication skills associated with each stage
3. Demonstrate interpersonal skills of establishing rapport, clarifying expectations, and dealing with conflict
4. Identify, discuss, and understand proven methods and techniques used to conduct effective clinical interviews
5. Survey various theoretical orientations currently in use and provide an overview of how they impact the clinical interview process
6. Apply core interviewing skills for engaging clients
7. Describe the major theories of crisis intervention and crisis intervention models
8. Be able to identify and use various methodologies to perform an effective interview

COUN 2110. Introduction to Group Dynamics

Course Description

An introduction to basic issues and stages of development in the group counseling process; overview of types of counseling groups, group theory, leadership ethical guidelines, group formation and termination.

Student Learning Outcomes

1. Demonstrate a basic understanding of different types of groups.
2. Demonstrate an understanding of group leadership characteristics.
3. Demonstrate ability to identify the major characteristics of each of the stages of a group.
4. Demonstrate growing self-awareness of personal values and how they affect group leaders.
5. Demonstrate knowledge of the major tasks of group leadership at each of the stages of a group.
6. Demonstrate the ability to formulate an agenda for a group session.
7. Demonstrate a maturing understanding of the roles and expectations of group members at the various stages of a group.
8. Demonstrate the ability to apply certain techniques in opening and closing a group session.
9. Demonstrate awareness of the importance of building a climate of trust in a group setting.
10. Development of a personal philosophy of working with individuals in a group that respects human diversity.

COUN 2120. Life Designing and Career Development in Human Services

Course Description

This course provides a practical and theoretical foundation for understanding the life design paradigm. Included are career development theories, occupational and educational information, life balance and decision-making processes, and career and life design techniques for working in the human services field.

Student Learning Outcomes

1. Demonstrate knowledge of historical and emerging theories and models of career development, counseling, and decision-making over the lifetime.
2. Identify assessment tools and techniques, and technologies relevant to career planning and decision-making.
3. Demonstrate growing competencies in understanding the unique needs and characteristics of a diverse population in relation to employment expectations, socioeconomic issues, career information resources, and the impact of globalization on careers.
4. Identify professional organizations, preparation standards, and credentials relevant to the practice of career counseling.
5. Understanding ethical and culturally relevant strategies for addressing career development.
6. Identify strategies for facilitating client skill development for career, educational, job search/creation, and life-work planning and management.

Criminal Justice (CJUS)

CJUS 1110. Introduction to Criminal Justice

Course Description

This course provides an overall exploration of the historical development and structure of the United States criminal justice system, with emphasis on how the varied components of the justice system intertwine to protect and preserve individual rights. The course covers critical analysis of criminal justice processes and the ethical, legal, and political factors affecting the exercise of discretion by criminal justice professionals.

Student Learning Outcomes

1. Describe the history, structure and function of the criminal justice system in the United States.
2. Discuss the role of law enforcement, court systems, corrections, and security in maintaining social order.
3. Identify and describe crime causation theories, various measures of crime and their reliability and victimization theories.
4. Relate fundamental principles, concepts and terminology used in criminal justice to current events.
5. Apply basic analytical and critical thinking skills in evaluating criminal justice issues, policies, trends and disparities.

CJUS 1120. Criminal Law

Course Description

This course covers basic principles of substantive criminal law including elements of crimes against persons, property, public order, public morality, defenses to crimes, and parties to crime.

Student Learning Outcomes

1. Explain the concepts of substantive criminal liability in the United States, including actus reas, mens rea, causation, concurrence, and parties to crime.
2. Define the differences between criminal law and civil law in the United States.
3. Demonstrate basic knowledge of legal terminology as it relates to criminal law.
4. Identify the elements of crimes against persons, property, public order and the administration of justice, public morality, and the inchoate crimes.
5. Describe the various defenses to crimes.

CJUS 1130. Forensic Science I

Course Description

This course covers the application of science in criminal investigations. This includes the techniques, limitations, and significance of crime laboratory analysis, with emphasis on physical evidence and how it relates to the crime solving process. Proper techniques in collection and preservation of evidence will be covered.

Student Learning Outcomes

1. Apply the basic concepts behind more commonly utilized forensic disciplines and recognize the diversity of the forensic disciplines.
2. Describe the scientific, ethical, and legal concepts applicable to the collection, storage, and analysis of forensic evidence including legal standards for the introduction of forensic evidence in judicial proceedings.
3. Assess the significance of crime laboratory analysis and their applications in criminal cases.
4. Demonstrate the ability to apply forensic analysis methods to a variety of types of evidence.

CJUS 1140. Juvenile Justice

Course Description

This course covers the diversity of the informal and formal juvenile justice system, the process of identifying delinquent behavior, the importance of legislation, law enforcement, courts, diversion, referrals, and juvenile correctional facilities.

Student Learning Outcomes

1. Identify distinct aspects of the juvenile court system, law and procedure.
2. Compare and contrast the juvenile justice system with the adult criminal justice system.
3. Apply criminological theories in explaining juvenile crime.
4. Outline the historical development of juvenile justice.
5. Describe the processes of informally and formally handling juveniles within the juvenile justice system.
6. Explain the role and impact of community-based and institutional corrections within the juvenile justice system.

CJUS 1143. Report Writing

Course Description

This course covers the fundamentals of writing concise and accurate police, corrections, security and pre-sentence reports, including writing and use of forms. This implies written communication that implements proven methods, current techniques, proper mechanics and processes necessary for quality report writing.

Student Learning Outcomes

1. Conduct an interview and write reports from notes and resources that cover the essential elements of the incident
2. Demonstrate basic writing guidelines, including grammar, abbreviations, dates, names of places and numbers
3. Demonstrate an ability to complete and submit accurate and timely reports
4. Apply basic report writing standards and techniques for criminal justice.
5. Recognize the importance of accurate and timely reports and be able to apply their knowledge
6. List the general types of reports used and the names of specific operational uses.
7. Identify the ethical imperatives in technical writings.
8. Verbally articulate factual information.

CJUS 1146. Personal Fitness

Course Description

This course provides those entering a criminal justice profession with a comprehensive fitness program to develop the skills and physical conditioning that are necessary to meet the requirements for satisfactory performance within the career field.

Student Learning Outcomes

1. Understand the need to construct a basic workout regimen, including mobility/warm-up and stretching/cool-down exercises
2. Understand the basic concepts of good nutrition and its importance in physical health
3. Participate in a personalized fitness exercises regimen and perform selected fitness measures at a satisfactory level.

CJUS 1170. Introduction to Criminology

Course Description

The course will explore the crime problem, its context, and especially to explain causes of crime. The course will cover Foundations for Criminology, Theories of Crime, and Types of Crime. The first half of the class will be lectures on Crime and Criminology, The Nature and Extent of Crime, and Victims and Victimization. The second part of the class will be lectures on Rational Choice Theories, Trait Theories, Social Structure Theories, Social Conflict, Developmental Theories, Social Structure Theories of Crime, Social Process Theories of Crime, Social Reaction Theories of Crime. The third part will cover lectures in Interpersonal Violence, Political Crime and Terrorism, Property Crime, Enterprise Crime, Public Order Crime. The class will also be devoted to discussion groups who will be assigned special discussion questions related to the chapter being discussed. Discussion groups will give opportunity to students to use communication skills with each other as they work as a team to resolve a question/problem. The instructor will use handouts, films and guest speakers as additional information on topics.

Student Learning Outcomes

Not Available

CJUS 1180. Introduction to Cybercrime

Course Description

An examination of the nature and scope of cybercrime. Students study major theories and explore strategies necessary to deal with common types of fraudulent schemes, as well as laws that have been enacted for computer crime. Causes, victimization, legal issues, control strategies, and societal costs regarding the "computer-crime" problem will also be explored and evaluated. The course encourages analytical thinking and reasoning about computer crime topics and relevant legal issues so that students can identify, analyze, and solve problems in the continually emerging cybercrime and cyberlaw issues and trends.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify and discuss the key laws and issues that relate to cybercrime and cyberspace
2. Label and describe different types of cybercrime
3. Determine the evidentiary value of computer-related devices and media
4. Describe how to seize, preserve, protect and transport computer-related evidence In accordance with legal statutes and official guidelines

CJUS 1190. Introduction to Protective Services

Course Description

A survey in concepts, principles, leadership, and practices of local law enforcement. The course is designed to prepare students for entry into local protective services and examines the structure, purpose, scope of authority, and jurisdictions of local law enforcement agencies. Students learn how protective services interact with local communities and agencies in local, state, tribal, and federal venues. ln addition, the course reviews candidate characteristics, qualifications, and requirements for career opportunities in the protective services arena. A local background check is required. Students must be 18 years of age at the start of course. Permission required.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate an understanding of protective service relationships and practices
2. Describe the roles of local, state, tribal, and federal law enforcement agencies
3. Explain the scope, jurisdiction, and authority of local, state, tribal, and federal agencies
4. Identify and describe protective services careers and candidate requirements

CJUS 1210. Private Security Officer I

Course Description

NM has, since 2006, required that private security guards have a minimum amount of training. Security guards are limited in their duties by level. There are three levels, each with an additional 40 training hours required. This course will be taught by at the ProForce Academy and has been successfully offered by ProForce in the past. This course meets New Mexico legislative training requirements for employment as level one security guard.

Student Learning Outcomes

At the conclusion of this course, student will be able to

1. successfully pass the New Mexico Alcohol Server examination
2. understand basic principles of asset protection and security
3. write an accurate and concise incident report
4. utilize effective radio communications techniques
5. understand basic principles of physical security and crime prevention
6. understand basic principles of criminal and civil law and liability
7. conduct themselves in an ethical and professional manner

CJUS 1220. Private Security Officer II

Course Description

NM has, since 2006, required that private security guards have a minimum amount of training. Security guards are limited in their duties by level. There are three levels, each with an additional 40 training hours required. This course will be taught by at the ProForce Academy and has been successfully offered by ProForce in the past. This course meets New Mexico legislative training requirements for employment as level two security guard.

Student Learning Outcomes

At the conclusion of this course students will be able to:

1. understand principles of the investigative process
2. understand when and how to use physical force in protection persons and property and in taking persons into custody
3. use handcuffs and other restraint devices
4. use batons, OC spray, tasers and other less-than-lethal weapons
5. understand basic first aid techniques
6. be able to perform CPR

CJUS 1230. Private Security Officer III

Course Description

NM has, since 2006, required that private security guards have a minimum amount of training. Security guards are limited in their duties by level. There are three levels, each with an additional 40 training hours required. This course will be taught by at the ProForce Academy and has been successfully offered by ProForce in the past. This course meets New Mexico legislative training requirements for employment as level three security guard.

Student Learning Outcomes

At the conclusion of the course, students will be able to:

1. understand basic principles of firearms safety and operation
2. understand the legal prerequisites for the use of deadly for by a security officer
3. make quick and accurate decisions concerning the use of deadly force
4. successfully pass a firearms qualification exam
5. pass the Security Officer examination

CJUS 1240. Detention Officer I

Course Description
This course is an introduction to jail operations as well as booking and intake processes, and dealing with weapons and contraband. There is no legislative requirement in New Mexico for detention officers in jails (as opposed to corrections officers working in prisons). However, jail administrators are increasingly concerned about the potential liability associated with a lack of standardized training. This course will be taught by at the ProForce Academy and has been successfully offered by Pro Force in the past.
Student Learning Outcomes
At the conclusion of this course, students will:

1. understand the basic principles of jail operation and design
2. understand the different populations that are housed in local jails
3. understand the intake procedures used to process new inmates
4. understand basic first aid principles and be able to perform CPR
5. be able to write an accurate and concise incident report

CJUS 1250. Detention Officer II
Course Description
This course covers principles and practices of inmate supervision including such topics as escapes, suicide prevention, and covert communications. There is no legislative requirement in New Mexico for detention officers in jails (as opposed to corrections officers working in prisons). However, jail administrators are increasingly concerned about the potential liability associated with a lack of standardized training. This course will be taught by at the ProForce Academy and has been successfully offered by ProForce in the past.
Student Learning Outcomes
At the conclusion of this course, students will:

1. understand the concept of "contraband" in the context of statutes and facility regulations
2. understand basic principles of inmate supervision
3. understand principles of suicide prevention, intervention, and response
4. understand how inmates conduct covert communications
5. understand how the law and policies regulate the use of force
6. use less-than-legal instruments such as OC spray and batons
7. understand the importance of tattoos and the meaning of gang symbols

CJUS 1260. Detention Officer III
Course Description
This course covers the law, policies, and methods of using force in a detention facility and also includes topics such as tattoos and symbols. Successful students will be certified in the use of OC spray and tasers. There is no legislative requirement in New Mexico for detention officers in jails (as opposed to corrections officers working in prisons). However, jail administrators are increasingly concerned about the potential liability associated with a lack of standardized training. This course will be taught by at the ProForce Academy and has been successfully offered by ProForce in the past.
Student Learning Outcomes
At the conclusion of this course, students will:

1. understand the principles of cell extraction and disturbance resolution
2. successfully complete scenarios in cell extraction and quelling disturbances

CJUS 1268. Pre-Academy Fitness & Testing
Course Catalog
This course will introduce the student to the State of New Mexico Law Enforcement Police Academy entrance requirements. During the course the student will be administered the 5 stages of testing for police academy admission involving: I-

psychological, 2-medical, 3-drug screen/hearing, 4-criminal history and 5-physical fitness test battery. Any failure of a stage will result in denial of admission to the police academy. Regular class sessions will focus on the fitness preparation and testing to meet the fitness entrance requirements as established by the
New Mexico Law Enforcement Academy Board.

Student Learning Outcomes

Upon completion of the course the student will be able to:

1. Describe and demonstrate the correct protocols and understanding of mobility/warm-up prior to engaging in an academy exercise program.

Expected Outcomes:

a Describe the purpose of mobility/warm-up exercises.
b. Identify the prescribed academy exercises and describe the correct form/technique for each exercise.

2. Describe and demonstrate the correct protocols for post-exercise cool-down/stretching in an academy exercise program.

Expected Outcomes:

a. Describe the purpose of cool-down/stretching exercises.
b. Identify the prescribed academy cool-down/stretching exercises and describe the correct form/technique for each exercise.

3. Identify each fitness standard that must be passed for police academy admission.

Expected Outcomes:

a. Describe the four standardized areas of fitness entrance testing required by the State of New Mexico and the correct protocols of each exercise.
b. Describe and/or demonstrate the correct form/technique for each exercise.
c. Identify the minimum repetitions, or time, they must personally achieve to pass each of the four standardized tests.

4. Perform a complete fitness battery.

Expected Outcomes:

a. Perform correctly the four standardized fitness entrance tests.
b. Identify in each of the four entrance tests, their current fitness level strengths and weaknesses.

5. Participate in a weekly prescribed fitness program of fitness activity.

Expected Outcomes:

a. Perform correctly prescribed calisthenics with increasing duration and intensity.
b. Perform correctly prescribed planks with increasing duration and intensity.
c. Perform correctly prescribed kettlebell exercises with increasing duration and intensity.
d. Perform correctly prescribed "wild rope" exercises with increasing duration and intensity.
e. Perform correctly prescribed distance runs with increasing duration and intensity.
f. Perform correctly prescribed interval runs with increasing duration and intensity.

6. Psychological Examination Protocols
    a. Written Examinations
    b. Interview
7. Medical Examination Protocols
8. Drug Screen and Hearing Test Protocols
9. Criminal History Protocols
10. Required LEA Forms

CJUS 1270. Law Enforcement Training Academy I

Course Description

The spring semester is Part 1 (18-credit hours) of the two-part semester program for the New Mexico Basic Law Enforcement Certification program. Part 2 immediately follows Part 1 and concludes with the 10-credit hour portion of the program and the administration of the NM State Law Enforcement Certification Examination. Part 1 covers all academic and foundation topics and an introduction to the skills based and psychomotor development courses, which must be mastered in order to become eligible for certification as a police officer in the State of New Mexico.

Student Learning Outcomes

Upon completion of the course students will have sufficient knowledge of the 16 block curriculum to pass the Law Enforcement Officer Certification Examination.

CJUS 1280. Law Enforcement Training Academy II

Course Description

The summer semester portion of a program covering training topics and skills, which must be mastered in order to become eligible for certification as a police officer in the State of New Mexico.

Student Learning Outcomes

Upon completion of the course students will have sufficient knowledge of the 16 block curriculum to pass the Law Enforcement Officer Certification Examination.

CJUS 1310. Patrol Communications and Investigations

Course Description

An outline of the functions of a patrol officer as it relates to law enforcement. It also provides guidelines for effective communication skills, professional written skills, and effective investigative skills associated with being the first responder at a crime scene.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. This course will prepare the student towards understanding, responding to and handling a variety of situations including role of patrol, patrol procedures, patrol activities and incidents, vehicle stop techniques, roadblocks and barricades, crimes in progress, sex crimes, child abuse, domestic violence, crowd control, civil disorder, injury and death cases, and technology crimes.
2. The student will be able to identify factors, which affect perception by an individual, such as past experiences, maturity, mental condition, physical condition, environment, emotional involvement.
3. Demonstrate, during a mock exercise, effective communication skills in dealing with the following types of persons-hostile, angry, hysterical, drunk, deranged, young, old, racist, etc.
4. The student will be able to apply the basic skills and practices, which will enable the officer to bring disputes under control, manage conflict and recognize / handle situations involving suicidal persons.
5. The student will be able to apply and demonstrate proper radio procedures using concise radio transmissions in in order to conduct records checks and relay needed information.
6. The student will be able to list common Spanish words and phrases to assist in conducting field interviews and traffic stops, to include words or phrases that signal danger or impending danger to a law enforcement officer.
7. The student will be able to identify the difference between interviews and interrogations and have a basic knowledge of the legal requirements concerning interviews and interrogations.
8. The student will be able to conduct a basic crime scene investigation to include identifying, collecting, and processing evidence.

CJUS 1320. Patrol Procedures

Course Description

This class introduces basic patrol functions, practices and problems faced by today's law enforcement officers.

Student Learning Outcomes

1. Describe police organization and patrol function and the problems associated with police discretion.
2. List safety risk factors for officers.
3. Explain legal principles and strategies for patrol.
4. Define investigatory stops, field interviews, interviews and interrogations.
5. Recognize and define the various forms of evidence and crime scene protocol.
6. Demonstrate professional communication with the chain-of-command and diverse community members.
7. Demonstrate common skills required of patrol officers, including cuffing, conceal and cover, traffic stops and lawful use of force.

CJUS 1330. Constitutional Policing

Course Description

Students will examine the constitutional principles related to the investigation of crimes, including search and seizure, arrests, confessions and pre-trial processing of offenders. The focus will be on individual rights found in the First, Fourth, Fifth, Sixth, Eighth and Fourteenth Amendments of the United States Constitution and the comparable provisions of the New Mexico Constitution.

Student Learning Outcomes

1. Identify Constitutional limits on police actions of arrest or search.
2. Explain the history and development of the exclusionary rule and the impact of the 'due process revolution' on criminal procedure.
3. Explain limits on field interviews and police interrogations of suspects.
4. Describe pretrial identification procedures that conform to the Constitution.
5. Summarize Constitutional civil liability for police.
6. Write effectively using the APA format.

CJUS 1340. Courtroom Survival for Law Enforcement

Course Description

Preparation for effective court appearances. Students learn techniques necessary for expert, effective testimony and the techniques used to attack and discredit police officers on the witness stand. Mock trial practice provides students with experience in methods for presenting a court case, methods used by both defense and prosecuting attorneys and an understanding of why defense attorneys ask the questions they do.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Produce effective testimony in court
2. Identify techniques used by prosecutors when cross examining witnesses
3. Prepare incident reports that will hold up in court and under examination
4. Recognize common mistakes made by police officers on the witness stand
5. Demonstrate awareness of methods used by defense and prosecuting attorneys in trial

CJUS 1350. Self Defense for Law Enforcement

Course Description

Instructs students entering the Law Enforcement profession in a comprehensive self-defense program designed to meet the New Mexico Law Enforcement Academy for basic police officer training.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. The student will be able to determine how case law is relevant to law enforcement use of force and how civil liability is created.
2. The student will be able to identify the appropriate response to a given situation based on subject's aggression.

3. The student will have general knowledge in the development and protection of Body Armor, use of Police Baton, and the development and application Oleoresin Capsicum Spray (OC spay).
4. The student will be able to identify the appropriate skills to receive custody/responsibility of a prisoner and safely transport the offender to a correctional facility or detention center.

CJUS 1360. Foundations of Professional Investigation
Course Description
An introduction to the investigative profession, including how professional investigators assist attorneys, businesses, and the public with a variety of cases. Students study the Investigative process and conduct, the skills and traits required of professional investigators as well as the methodology that investigators use in both civil and criminal cases.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Analyze an investigation from a legal point of view
2. Apply the investigative process to criminal and civil cases
3. Describe the components of a basic investigation
4. Recognize the skills needed to be a professional investigator

CJUS 1410. Law
Course Description
An introduction to persons seeking a career in the law enforcement profession with an understanding of criminal law and how it represents the power of government to prevent and punish socially harmful behavior. This course also examines the extent and limits of established rules of procedure in applying the rule of law.
Student Learning Outcomes
Upon successful completion of the course, the student will be able to…
1. identify the role of constitutional law and how it is applied in our society.
2. identify particular amendments of the US Constitution most applicable to law enforcement
3. identify criminal and civil laws that are applicable to a variety of situations related to law enforcement.
4. identify the scope and authority of the Children's Court and define the similarities and differences between juvenile and adult justice systems in New Mexico.
5. identify the role of law enforcement when in involves the child safety and what is in the best interest of children.
6. apply the Family Violence Protection Act and the Mutual Order of Protections

CJUS 1510. Handgun Training
Course Description
The Handgun Training course is designed to prepare students to obtain a license to carry a concealed handgun. This course covers the safe handling and storage of handguns, as well as strategies for home and personal safety. This training course incorporates classroom instruction with the live firing of a handgun as required by the New Mexico statutory course requirements.
Student Learning Outcomes
Not Available

CJUS 1525. Crime Scene Investigation I
Course Description
Introduction to crime scene investigation, from first response to documenting crime scene evidence. Students learn how to search the crime scene, record findings, collection and preservation of evidence, and preparation of evidence for courtroom presentation.
Student Learning Outcomes

Not Available

CJUS 1993. Criminal Justice
Course Description
Specific subjects to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

CJUS 1996. Criminal Justice Topics
Course Description
Specific subjects to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

CJUS 2110. Professional Responsibility in Criminal Justice
Course Description
This course covers the application of various ethical systems to decision making in criminal justice professions. This includes discussion of misconduct by criminal justice professionals and strategies to prevent misconduct. Well known philosophers will be discussed and incorporated into the course material.
Student Learning Outcomes
1. Articulate the history and principles of various ethical systems.
2. Identify and describe the effects on moral and ethical reasoning in lieu of subcultural expectations.
3. Demonstrate critical and analytical thinking skills by applying ethical theories and principles in decision-making situations relevant to policing, corrections and other criminal justice career fields.
4. Describe and apply tools for moral decision-making.
5. Discuss various techniques employed by criminal justice professionals, which might have ethical concerns.

CJUS 2120. Criminal Courts and Procedure
Course Description
This course covers the structures and functions of American trial and appellate courts, including the roles of attorneys, judges, and other court personnel, the formal and informal process of applying constitutional law, rules of evidence, case law and an understanding of the logic used by the courts.
Student Learning Outcomes
1. Explain the application of the Constitutional Amendments that apply to criminal justice.
2. Explain and describe the dual court system in the U.S. and how courts enforce the rule of law.
3. Identify and list the duties and requirements of the courtroom workgroup.
4. Describe courtroom procedures, rules of the court, and due process of law.
5. Articulate basic knowledge of the U.S. criminal court system.
6. Define legal terms.
7. Explain the use of discretion in criminal procedure.
8. Differentiate the role of courts of limited jurisdiction, courts of general jurisdiction, and the appellate courts in the processing of criminal cases.

CJUS 2130. Police and Society
Course Description

The course presents a focused practical introduction to the key principles and practices of policing. Topics covered include issues of law enforcement fragmentation and jurisdiction, philosophies of policing, enforcement discretion, deployment strategies, use of force, personnel selection, socialization, tactics, and stress.

Student Learning Outcomes

1. Describe the historical development of and current issues in policing in America.
2. Demonstrate knowledge of law enforcement, i.e., police role and function, police and community interaction, crime control, discretion, public perception, and preservation of democratic ideals within the criminal justice system.
3. Identify the structure of law enforcement agencies at federal, state and local levels.
4. Summarize police culture (e.g., discretion, ethics, corruption, blue wall of silence).
5. Identify significant trends in law enforcement.
6. Utilize the SARA model.

CJUS 2140. Criminal Investigations

Course Description

This course introduces criminal investigations within the various local, state, and federal law enforcement agencies. Emphasis is given to the theory, techniques, aids, technology, collection, and preservation procedures, which ensure the evidentiary integrity. Courtroom evidentiary procedures and techniques will be introduced.

Student Learning Outcomes

1. Identify developments in investigation technology.
2. Identify common types of criminal investigations and their key components.
3. Apply proper crime scene investigative protocols.
4. Explain proper evidentiary gathering and handing procedures, and utilize various interviewing techniques.
5. Identify and compare different law enforcement agencies and the role they play in criminal investigations.
6. Describe proper collection, evidence preservation, documentation, and court presentation.
7. Develop effective search authorization.

CJUS 2150. Corrections System

Course Description

This course introduces the corrections system in the United States, including the processing of an offender in the system and the responsibilities and duties of correctional professionals. The course covers the historical development, theory, and practice, as well as the institutional and community-based alternatives available in the corrections process.

Student Learning Outcomes

1. Describe the purposes of the corrections system and the issues facing the corrections system.
2. Explain the components of the corrections system and describe their functions.
3. Compare and contrast the different forms of correction practices.
4. Explain the goals of corrections, the different factors affecting the sentencing process, the legal rights of prisoners, and the issues concerning prison violence.
5. Explain the impact of reentry into society.
6. Identify the issues concerning capital punishment.
7. Describe the effectiveness of various correction programs on offenders.

CJUS 2153. Community-Based Corrections

Course Description

A detailed analysis of community-based corrections. The philosophical basis of community corrections will be explored in the context of diversion, pretrial release programs, probation, parole, intermediate sanctions, alternative sanctions, mental health and substance abuse treatment in both the juvenile and adult systems.

Student Learning Outcomes

At the completion of this course the student will be able to:

1. Describe the goals of community-based corrections.
2. Explain the organization, functions, practices of the community-based corrections systems in the U.S.
3. List the various community based sentencing options available to the courts.
4. Apply the tools used to identify offender needs and risk to the community and how those tools are used to connect offenders with evidence based correctional practices;
5. Explain the concept of "evidence based practices" and the research methodologies used to identify them.
6. Describe when, why, and how the terms and conditions of probation and parole can be revoked based on statutory provisions and case law.
7. Identify legal issues related to probation and parole and their impact on the criminal justice system, specifically in the administrative and management of state and federal systems.

CJUS 2156. Institutional Corrections

Course Description

Covers the historical evolution of jails and prisons for each jurisdiction, intake, classification, security, inmate subculture, security threat groups, programs and services, supervision, pre-release, and special management inmates.

Student Learning Outcomes

1. Demonstrate knowledge of the evolution of prisons and jails.
2. Identify the levels of custodial security.
3. Demonstrate knowledge of the issues related to custody, treatment and programs within penal institutions.
4. Demonstrate knowledge of the lifestyles in correctional environments and patterns of inmate-staff interaction within these environments.
5. Explain fundamental safety, security and control practices to maintain order in jails and prisons

CJUS 2160. Field Experience in Criminal Justice

Course Description

This course is designed to provide actual experience working for a criminal justice agency and the opportunity to apply criminal justice concepts and theory to a field situation. Students already working in an agency will complete an approved learning project while on the job.

Student Learning Outcomes

1. Obtain practical experience by observing, researching, and working in a criminal justice agency.
2. Apply the knowledge of principles, theories, and methods that were learned in the classroom to situation in which field experience will be devoted
3. Instill an understanding for general and specific problems that criminal justice agencies encounter on a daily basis.
4. Develop a professional work ethic and attitudes, including reliability, professional responsibility, and the ability to work cooperatively with others**.**

CJUS 2210. American Correctional Systems

Course Description

This course covers the history and philosophy of adult and juvenile corrections. It examines institutional and community based corrections, reintegration of offenders into society, correctional administration and legal issues, and future challenges to the correctional system.

Student Learning Outcomes

At the conclusion of this course, the student should be able to.

1. Describe the history and evolution of corrections.
2. Discuss the components of the juvenile and adult correctional process.
3. Discuss reintegration of offenders into society.

4. Understand correctional administration and the legal issues involved.
5. Discuss the further challenges facing American correctional systems.

CJUS 2215. American Judicial System

Course Description

Analysis of law and society with emphasis on the rights of the accused; the roles of the district attorney, the judge and the defense attorney; and legal terminology.

Student Learning Outcomes

Successful students will be able to:

1. Identify structures and functions of the dual court system.
2. Explain roles of actors in the Criminal Justice System.
3. Describe informal system processes (e.g., plea negotiation).
4. Compare and contrast pretrial, trial, and appellate processes.
5. Summarize varied sentencing processes.

CJUS 2220. American Law Enforcement System

Course Description

This course covers the historical and philosophical foundations of law and order, with an in-depth examination of the various local, state, and federal law enforcement agencies and how they interact within the criminal justice system.

Student Learning Outcomes

1. Discuss, evaluate, and analyze the role of police in the democratic society today, and the historical development of modern day law enforcement
2. Define and explain the different types of community policing and the valid reasons behind their application within a community
3. List and discuss the ways to overcome the barriers to change within a police organization, good recruitment, screening, and retention of employees
4. Analyze and discuss the history of and the different types of police patrol, as well as the use of force and deadly force, and methods used for controlling police behavior
5. Describe and discuss the different types of police behavior, potential oversight, and remedy and their limitations
6. List and discuss the benefits of higher and continued education, along with the minimum educational requirements for police officers
7. Evaluate and discuss the reasons for police stress and the methods of dealing with stressors
8. Interpret current court cases, both state and federal, that affect police procedures

CJUS 2225. Introduction to Corrections

Course Description

This class will be a basic introduction to the corrections system in the United States, to include the process of an offender in the system and the responsibilities and duties of guards.

Student Learning Outcomes

1. Describe the purpose of the corrections system and the current issues facing the corrections system today.
2. Explain the different components of the corrections system and describe their functions.
3. Explain the goals of punishment and how different factors affect the sentencing process.
4. Explain the legal rights of prisoners and the issues concerning prison violence.
5. Describe the issues over capital punishment.

CJUS 2230. Introduction to Death Investigation

Course Description

This course covers the principles of the medicolegal system in handling the investigation of the cause, manner and mechanism of death. It includes the determination of time of death, documentation of injuries, identification of the deceased, the deduction of how injuries occurred and the collection of evidence.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Analyze and determine various types of injury leading to and contributing to death
2. Identify and determine the cause, manner and mechanism of death
3. Solve scenarios involving cause, manner and mechanism of death
4. Complete an injury diagram of the deceased to document the injuries or artifacts of the body
5. Describe, in written form, all findings of an investigation involving an unnatural death
6. Identify and differentiate various manners of injuries relating to death
7. Recognize the steps performed in the autopsy procedures

CJUS 2235. Constitutional Criminal Procedure

Course Description

An examination of the constitutional principles related to the investigation of crimes, arrests, confessions and pre-trial processing of offenders. The focus will be on individual rights found in the First, Fourth, Fifth, Sixth, Eighth and Fourteenth Amendments of the United States Constitution and the comparable provisions of the New Mexico Constitution.

Student Learning Outcomes

As a participant in this class, you will identify the rights of individuals and their application to real-life events. Through case studies, you will also get a basic understanding and appreciation of how criminal procedure has developed and its role in our modem day criminal system

CJUS 2240. Investigative Surveillance

Course Description

Basic surveillance techniques and procedures. Students plan and conduct a typical surveillance assignment and learn when to apply a particular technique and how to select and use the appropriate technology. Students also learn how to prepare and present results of surveillance activities to clients, courts and law enforcement agencies.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Recognize the technology and tools available to the criminal investigator for surveillance
2. Describe how to assess the crime
3. Summarize exercises to develop observation skills.
4. Demonstrate creating a criminal profile

CJUS 2245. Crime Profiling

Course Description

An examination of techniques for applying socio-psychological profiling in modern criminal investigations. The uses of inductive and deductive profiling within the criminal justice system are examined.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Define forensic inductive and deductive profiling.
2. Describe the origins, history, concepts and applications of forensic profiling.
3. Identify and define the following: victimology, psychological crime scene variables, psychological autopsies, equivocal case analysis (death analysis), retrospective behavioral profile analysis and offender typology.

CJUS 2255. Rules of Criminal Evidence

Course Description
This course covers the application of the Federal Rules of Evidence and the New Mexico Rules of Evidence in a criminal case from investigation through sentencing.
Student Learning Outcomes
Upon successful completion of this course, students will be able to:

1. Identify the primary rules and theories guiding the application of evidence in a criminal case.
2. Develop a framework for the comprehensive analysis of criminal evidence in a given fact situation.
3. Correctly brief a court decision.
4. Recognize and apply the appropriate response during the pretrial stage to the requirements of a specific evidentiary rule.
5. Communicate ideas concisely and accurately.
6. Evaluate relationships between objectives or issues and use reasoning/critical thinking skills to arrive at a valid solution to problems.
7. Read with understanding.

CJUS 2255L. Investigations Laboratory
Course Description
Introduces exercises and practical demonstrations related to the investigations of crime.
Student Learning Outcomes
The student will be able to:

1. Identify the types, value and advantages of physical evidence
2. Explain the actions to be taken at a crime scene by a first responder
3. Understand the role of a crime scene investigator
4. Know the types of fingerprints and impressions
5. Know the objectives of crime scene photography
6. Know the objectives of crime scene sketching and diagramming
7. Understand the role of physical evidence in sexual assault investigations
8. Understand the dynamics of homicide investigation
9. Complete an Operations Order
10. Conduct stationary surveillance
11. Recognize a crime scene
12. Secure a crime scene as a first responder
13. Identify and document physical, circumstantial and testimonial evidence
14. Respond to a crime scene and assume the role of a Criminal Investigator
15. Demonstrate the objectives of crime scene photography
16. Demonstrate universal cautions utilizing PPE
17. Document a crime scene utilizing one of three methods for diagramming
18. Document bloodstain evidence
19. Reconstruct a crime scene
20. Properly use and explain the chain of custody
21. Properly collect and preserve evidence to include biological, trace, and latent fingerprint
22. Prepare supplemental reports
23. Establish probable cause
24. Regularly a pattern of professional behavior with respect to issues such as attendance, tardiness and quality task completion
25. Interact appropriately and positively with others while demonstrating respect for all people
26. Participate and contribute to the group/class in ways that support class goals

27. Demonstrate high expectations for self and peers, evaluates self and uses results to generate personal and professional improvement
28. Behaves in a way that reflects both an understanding and commitment to serve others
29. Demonstrate and model personal integrity in dealing with others
30. Recognize personal strengths and weaknesses for career development.
31. Develop critical thinking skills.

CJUS 2260. Forensic Anthropology

Course Description

Forensic anthropology is a specialized field of study in forensic science, which focuses on the examination of the human skeleton in a legal context. In this course, we will BRIEFLY review the bones of the body so that you are able to understand the most basic terminology of the field. For the most part, we will examine how forensic anthropology functions within criminal investigation, including how we locate, recover, document and analyze the bones to decipher individualizing characteristics and signs of damage or trauma. Finally, we will cover how to apply these techniques to a criminal investigation.

Student Learning Outcomes

1. Students will understand the application of anthropology within a medicolegal context.
2. Students will understand and be able to apply the ethical responsibility of working with human skeletal remains.
3. Students will apply anthropological knowledge through supervised research on a topic relevant to anthropology.
4. Students will demonstrate a thorough understanding of the scientific method.

CJUS 2265. Forensic Science II

Course Description

A continuation of the study of the modern crime laboratory and the application of science in criminal investigations. The course includes a presentation of techniques, limitations and significance of crime laboratory analysis, with emphasis on physical evidence and how it relates to the crime-solving process. Offered: Occasionally. Three lecture hours.

Student Learning Outcomes

1. Understand what Forensic Science and the significance of scientific analyses of physical evidence in the criminal justice system
2. Understand the relationship of Forensic Science to the criminal justice system
3. Understand how various types of physical evidence analyses fit into the process of a criminal trial
4. Understand the term expert witness.

CJUS 2310. Domestic Violence

Course Description

This course is meant to provide a comprehensive introduction to the topic of family violence by introducing the student to crime victims. Students will develop an understanding of the impact of crime on the victim and the victim's role and rights in the criminal justice system.

Student Learning Outcomes

KNOWLEDGE

The student will be able to:

- Examine the history, prevalence, and significance of family/intimate partner violence from both a domestic and international perspective.
- Identify and define the most common terms related to family/intimate partner violence.
- Understand the impact family/intimate partner violence has on practice, research, and policy.
- Distinguish between the various types and forms of violence
- Describe how professional systems respond to family/intimate partner violence.

SKILLS

- Evaluate theories, policies, and practice based on empirical evidence.
- Demonstrate ability to orally communicate in a clear and professional manner.
- Demonstrate effective written communication skills.
- Differentiate law enforcement, court, and correctional practice, and describe the professional skills associated with each.
- Accurately apply criminological theories and principles of criminal law, criminal procedures, and rules of evidence.
- Explain how diversity, multiculturalism and ethics impact professional practice.

BEHAVIORS

The student will be able to:

- Regularly a pattern of professional behavior with respect to issues such as participation and quality task completion
- Interact appropriately and positively with others while demonstrating respect for all people
- Participate and contribute to the group/class in ways that support class goals
- Demonstrate high expectations for self and peers, evaluates self and uses results to generate personal and professional improvement
- Demonstrate and models personal integrity in dealing with others
- Recognize personal strengths and weaknesses for career development.
- Develop critical thinking skills.

CJUS 2320. Gangs in American Society

Course Description

The study of juvenile and adult groups that have joined together to engage in delinquent and criminal acts

Student Learning Outcomes

The learner will demonstrate knowledge pertaining to the social factors that contribute to the development of gangs, the ongoing criminal activities of gangs, the racial and gender issues associated with gangs, and proposed actions to curb gang violence in America.

CJUS 2330. Juvenile Corrections

Course Description

Covers: Juvenile Probation, Detention, Training Schools and Juvenile Parole. This course will require students to work in teams that will design programs and facilities for juvenile corrections. Designs will be evaluated for their practical value and compliance with ACA Standards

Student Learning Outcomes

Upon completion of this course, the student will be able to accomplish the following:

1. Explain how juvenile corrections interfaces with the courts.
2. Interpret landmark court cases that affect the operations of corrections.
3. Research and develop a conceptual framework for a correctional institution.
4. Interpret and apply standards to program functions.
5. Explain the purpose of alternatives to detention.
6. Write the purpose and expectations for a cottage unit behavior program.
7. Research existing programs and facility designs.
8. Identify best practices for probation and aftercare programs.
9. Listen to, interpret, and respond to oral cues.
10. Communicate ideas concisely and accurately.
11. Discover relationships between objects or issues and arrive at a valid solution to problems by logical reasoning.
12. Understand the importance of personal honesty.
13. Work with others of diverse backgrounds

CJUS 2340. Victimization in American Society

Course Description

Study of crime victims to understand the physical, psychological and economic impact of crime upon victims, their families and society; review of how the American justice system responds to victims.

Student Learning Outcomes

1. Explore the historical development of victimology and the victim's movement.
2. Discuss the progress away from a victim justice system towards the development of a criminal justice system.
3. Discuss the ways that crime impacts victims and the various methods developed to assist victims in dealing with the effects of crime and with the criminal justice system.
4. Understand and evaluate research into various victim-related issues.
5. Discuss the impacts of specific types of violent crimes on victims.
6. Discuss the development of victim rights in the United States.
7. Employ critical thinking and analytical skills in writing assignments and demonstrate advanced communication skills.

CJUS 2350. Organized Crime/Terrorism

Course Description

This course familiarizes the learner with a broad overview of the unlawful activities of people and groups whose purpose is to profit through legitimate gain by illegal enterprises or advance their agendas through violence. The course also examines terrorism and its relationship to traditional organized crime as well as its impact on law enforcement. The history of organized crime and terrorism will be explored as well as their relevance to criminal justice in today's world.

Student Learning Outcomes

The student will be able to:

1. Analyze the various definitions of organized crime.
2. Examine the "traditional" model of organized crime.
3. Trace the historical development of organized crime.
4. Trace the history of organized crimes in New York and Chicago.
5. Identify the people historically associated with organized crime.
6. Discover the types of crime associated with organized crime
7. Distinguish among different types of organized crime.
8. Critically analyze and discuss the growth of post-WWII organized crime groups.
9. Identify the different theories used to explain the cause of organized crime.
10. Investigate the issues associated with enforcing laws dealing with organized crime.
11. Describe the Federal and New Mexico State law enforcement agencies responsible for the investigation and prosecution of criminal acts committed by organized crime groups.
12. Define and describe terrorism.
13. Discuss the history of terrorism.
14. Discuss the role and future of counterterrorism.
15. Identify the connections between organized crime and terrorism.
16. Discuss the relationship between terrorism and organized crime.
17. Develop the ability to recognize organized crime or terrorist activity.
18. Listen to varied factual matters and correctly apply them ta specified criminal statute relating to organized crime or terrorism.
19. Competently discuss law enforcement's identification of and response to organized crime and terrorist activity.
20. Develop problem-solving skills.
21. Write effectively using the APA format.

CJUS 2360. Criminal Procedures

Course Description

Criminal procedure, including laws of arrest, search and seizure, and leading case law.

Student Learning Outcomes

Upon completion of this course, students will be able to discuss the following topics giving them a better understanding of the law and policing strategies.

1. Identify Constitutional limits on police actions to arrest or search including the history and development of the exclusionary rule and the impact of the 'due process revolution' on criminal procedure.
2. Explain limits on field interviews and police interrogations of suspects.
3. Describe trial court procedures that conform to the Constitution.
4. Summarize Constitutional civil liability for police.
5. Assess elements of judicial review in American courts to fact scenarios found in case law.

CJUS 2410. Probation, Parole, and Community Corrections

Course Description

A survey and analysis of probation, parole, other community reintegration procedures, halfway houses, community treatment centers, volunteer programs and graduated release. Special emphasis is placed upon the functions, possibilities and problems of community-based programs.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Discuss the philosophy, development and basis for Probation Services and Programs.
2. Describe the development of Parole Services and Programs.
3. Explain the uses of alternative sentencing programs, including Community Based Corrections.
4. Demonstrate knowledge of the US, State and Local sentencing policies.
5. Explain Restorative Justice Programs.

CJUS 2420. Public Policies and Strategies

Course Description

Presents issues and strategies involved in developing and implementing public policy, including problems in criminal justice, standard police operations, public security, public safety, corrections, and juvenile justice.

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Identify the primary theories and models guiding contemporary policy analysis.
2. Develop a framework for the comprehensive analysis of criminal justice/security policy.
3. Identify and explain the various influences on crime/security policy.
4. Apply the basic skills of policy evaluation in the policy-making process.
5. Evaluate the roles of participants and analysts in the field of criminal justice/security.
6. Recognize effective organizational policies and procedures within the parameters of institutional guidelines.
7. Distinguish effective policies from ineffective or faulty policies.
8. Delineate standards of professional behavior within criminal justice/security.
9. Communicate ideas concisely and accurately.
10. Evaluate relationships between objectives or issues and use reasoning/critical thinking skills to arrive at a valid solution to problems.
11. Recognize the importance of personal honesty and integrity and choose the correct ethical course of action.
12. Read with understanding.
13. Write effectively using the APA format.

CJUS 2430. Mechanics of Arrest/Control

Course Description

Encompasses a portion of the police officer training standards mandated by the New Mexico Law Enforcement Academy for basic police officer training in the area of Arrest and Control.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

The student will demonstrate proficiency of arrest and control of subjects through practical application. This includes control holds, blocking, leverage take downs, a variety of strikes, ground control, ground defense, handcuffing, handgun retention, edged weapon defense, and handgun takeaway.

CJUS 2440. Police & Patrol Procedures

Course Description

This course covers the role and functions of police officers, including the basic tasks of preventing crime, enforcing the laws, protecting the innocent, and providing services while utilizing various patrol techniques. In addition, the course will discuss officer safety, use of force and the law enforcement code of ethics.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe in written form the various patrol techniques
2. Recognize and describe in written form the utilization of patrol to prevent crime
3. Identify and define the use of crime mapping to deter criminal activity
4. List and name the various steps in the use of force ladder and basic officer safety techniques

CJUS 2460. Traffic

Course Description

Encompasses a portion of the police officer training standards mandated by the New Mexico Law Enforcement Academy for police officer training. It provides the student with the knowledge and skills necessary to recognize and properly enforce traffic laws

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. The student will be able to identify proper procedures to stop vehicles to investigate, cite, or arrest occupants during day and nighttime operations.
2. The student will be able to identify laws regarding the motor vehicle code for enforcement action.
3. The student will be able to conduct basic motor vehicle collision investigations.
4. The student will be able to identify persons under the influence of intoxicating liquor and conduct investigations involving DWI.

CJUS 2470. Basic Firearms

Course Description

Encompasses a portion of the police officer training standards mandated by the New Mexico Law Enforcement Academy for basic police officer training. This course includes instruction in the area of basic firearms.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. The student will be able to identify the Firearms safety rules, handgun nomenclature, steps in weapon presentation for pistol, elements of marksmanship, handgun manipulations, weapons malfunctions, and shooting positions
2. The student will demonstrate competency in the area of Police Handgun through practical application.

CJUS 2480. Security Systems

Course Description
Not Available
Student Learning Outcomes
Not Available

CJUS 2510. Law Enforcement Supervision – First Line
Course Description
This course covers the principles of supervision for law enforcement first line supervisors. It includes the role and function of first line supervisors; leadership skills; the hiring, growth, training, and promotion of subordinates; handling personnel problems; and problem solving.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:

1. Describe in written form the basic supervisory responsibilities and administrative functions.
2. Recognize and interpret leadership qualities, types of leaders and teamwork within an organization
3. Solve scenarios provided by the instructor involving employee-supervisor situations.
4. Identify through interaction with fellow students and instructor; how to motivate a "marginal employee"
5. Describe the communication process and be able to communicate effectively both orally and in writing.
6. Discuss the concept, requirements, of and implementation of community policing.

CJUS 2514. Introduction to Homeland Security
Course Description
Covers the history, creation, legislative background and operations of the U.S. Department of Homeland Security. Explores the agencies that currently comprise the Department and describes their roles and responsibilities. Provides students with an opportunity to explore the future of Homeland Security and develop ideas leveraging advances in science and technology as basis for improvement of the Homeland Security mission set.
Student Learning Outcomes
Technical Objectives

1. Describe the world events and resulting legislation that led to the creation of the Department of Homeland Security (DHS).
2. Identify the mission and vision statements for DHS; describe the mission sets that support these statements.
3. Identify the 22 agencies that were combined to create DHS; describe their historical missions, employee populations and budgets.
4. Describe the agencies that were abolished, combined or created to form DHS.
5. Describe the mission focus and key contributions of the major DHS components. This includes, but is not limited to:
    - Customs and Border Protection (CBP)
    - Immigration and Customs Enforcement (ICE)
    - Transportation Security Administration (TSA)
    - U.S. Coast Guard (USCG)
    - U.S. Secret Service (USSS)
    - Federal Emergency Management Agency (FEMA)
6. Identify current key leaders for DHS and its core components.
7. Describe and discuss major controversies and inter-governmental conflicts arising from the creation of DHS.
8. Describe and apply the concepts of prevention, preparedness, mitigation, response and recovery as they pertain to crisis management.

Work Place Objectives

1. Develop the ability to match mission requirement with the proper DHS component.
2. Articulate key characteristics that pertain to major DHS mission sets.
3. Competently discuss DHS approaches in responding to various homeland crises (including man-made and natural disasters).
4. Develop problem-solving skills by evaluating current events impacting the various DHS missions.
5. Write effectively using the APA format.
6. Create and present a topical PowerPoint presentation.

CJUS 2520. Law Enforcement Supervision – Command Level

Course Description

This course covers the principles of supervision for law enforcement mid-level supervisors. It includes the role of a manager in running the current operations of a law enforcement agency, as well as the management skills necessary to prepare the agency to meet future commitments.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe in written form organizational theories and management systems.
2. Analyze and design the implementation of community policing.
3. Solve scenarios provided by the instructor involving performance appraisals, training and recruitment of employees.
4. Identify and differentiate various manners, modes and barriers to communication.
5. Analyze and compare police organizational environments and political, government interaction.
6. Complete as part of a team, a plan to guide a department's transition from one that follows the "professional model" of police work to one that adheres to the 'community policing model."

CJUS 2525. Law Enforcement Supervision- Command Level

Course Description

This course is designed for executive-level managers of law enforcement or those that desire to work in an executive manager's position. The course will cover accreditation practices, ethics, policies and procedures, internal affairs, budget practices and new technology.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe in written form values and ethics in a police department.
2. Recognize and illustrate leadership in management and high quality police services.
3. Solve scenarios provided by the instructor involving political relationships and the news media.
4. Identify and discuss municipal budgets, the five budget types, presenting and controlling a budget.
5. Identify and discuss problem employees both internal and external relations.

CJUS 2530. Management for Criminal Justice Professionals

Course Description

Presents management methods in a criminal justice environment to include law enforcement, corrections and security. Covers basic management theory, leadership, assertiveness, time management, performance evaluation, legal issues, ethics and supervision.

Student Learning Outcomes

The student will be able to:

1. Explain the primary elements of management
2. Explain organizational design from the outside in
3. Describe the legal and ethical issues of criminal justice managers
4. Understand the role of leadership, management and coaching

5. Describe the role of manager in organizational communications
6. Explain the issues of employee development and performance evaluation
7. Understand time management problems for managers
8. Establish written goals and objectives
9. Listen and translate verbal directions into action
10. Lead others to meet established goals and work objectives
11. Evaluate performance
12. Translate verbal information into written reports
13. Use the SARA model of problem solving in criminal justice
14. Plan, organize, coordinate, direct and establish accountability
15. Manage time
16. Solve employee problems.

CJUS 2540. First Responder for Law Enforcement

Course Description

Provides instruction on the completion of the American Red Cross courses in standard first aid, C.P.R., emergency childbirth and care and handling of injured persons.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. The student will be able to identify persons in need of medical assistance and be able to provide basic care during emergency situations.
2. The student will be able to identify basic hazards of hazardous materials and respond in a safe manner as recommended by the Emergency Response Guidebook.
3. The student will be able to apply a structured Incident Command System during a critical incident.
4. The student will be able to apply the basic skills and knowledge necessary to respond to a crime/incident in a calm, objective, and professional manner in order to complete a thorough investigation.

CJUS 2550. Police Proficiency I

Course Description

Encompasses a portion of the police officer training standards mandated by the New Mexico Law Enforcement Academy for basic police officer training. This course includes instruction in the area of Emergency Vehicle Operations.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. The student will be able to gain a comprehensive understanding of the components of an emergency vehicle, vehicle dynamics, equipment maintenance, design and function of braking systems, and principles of defensive driving.
2. The student will be able to identify risks of police pursuits, evaluate dangers, discuss responsibilities of officers involved in pursuits, apply sound driving tactics during pursuits up to the conclusion of the pursuit and apprehension of suspects.
3. The student will demonstrate competencies in the operations of a patrol vehicle during emergency and non-emergency situations through practical application.

CJUS 2560. The Law and the Professional Investigator

Course Description

Explores the scope and role of the investigator within the legal system. Students learn how to apply investigative skills to a range of legal matters, including civil, domestic, and criminal actions. The course examines how investigative civil and criminal cases proceed, as well as legal strategies, terminology, and laws pertaining to investigative practices.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify issues related to investigation of crimes
2. Apply civil and criminal procedural laws to investigations
3. Interpret factual situations, recognize and apply the appropriate law.

CJUS 2570. Crime and the Media

Course Description

This course examines the interrelationships between crime, criminal justice, and mass media. It will explore the history of these linkages, the social science research, and the current issues relative to crime and mass media. The course examines the depictions of victims, offenders, and the criminal justice system in the media. The evolution of these depictions in print media, popular literature, films, television, and popular music will be discussed. The possible impact of media images of crime and violence on individuals, groups, and public policy will be considered. This class will also cover the representations of crime and the criminal justice system in the media. Television, film, newspaper, and electronic/internet media intersects with crime and the criminal justice system in a number of important ways. The point of this course is to examine how the media represents, distorts, and/or filters crime and justice issues. Also, the media is used as a mechanism to explore issues (e.g., political ideology, corrections policy, causes of crime) that are central to the study of crime. Issues regarding the future of crime, criminal justice, and mass media also will be discussed.

Student Learning Outcomes

Upon completing this class, students will:

1. Have the skills to critically interpret media and recognize the construction of crime and justice (e.g., cops, courts, prisons).
2. Understand how images of crime and justice vary across different forms of media.
3. Understand the role of political ideology in criminology and criminal justice and recognize ideological viewpoints in the media.
4. Aware of the social science research in this area and be able to critique it.
5. Determine how media coverage varies across different types of crime (e.g., white collar crime vs. street crime, violent vs. property crime).

CJUS 2575. Multicultural Law Enforcement

Course Description

This course provides an understanding of our justice system in America as it pertains to police and community relations. An increasing number of leaders in law enforcement agencies and their employees have accepted the premise that greater cross-cultural competency and improved cross-racial/ethnic relations must be a key objective of all management and professional development. Demographic changes have had a tremendous impact not only on the types of crimes committed, but also on the composition of the law enforcement workforce and the people with whom officers make contact. To be effective, police executives must understand and be responsive to the diversity in their work forces and in their changing communities. Professionalism today includes the need for greater consideration across cultures and improved communication with members of diverse groups. This course will prepare the student to be familiar with those considerations and the diversity in which law enforcement professionals work. Each week we will focus on different chapters, writing situations, issues, or problems encountered in the justice system through our writing assignments.

Student Learning Outcomes

Upon completion of the course, students should:

1. Understand the challenges for law enforcement in multicultural communities.
2. Understand the ever-changing law enforcement agency.
3. Expand your understanding of multicultural representation in law enforcement.
4. Expand your understanding of cross-cultural communication for law enforcement.
5. Understand how law enforcement contacts various culture groups within a community.

6. Understand the multicultural law enforcement elements in terrorism and disaster preparedness.
7. Understand the response strategies for crimes motivated by hate/bias and racial profiling.
8. Understand the cultural effectiveness for peace officers.

CJUS 2580 Leadership Principles for Public Safety
Course Description
This course will cover introductory principles of leadership. Specifically, the course outlines principles of personal leadership, followed by consideration of principles related to organizational leadership, including the execution of the most important priorities found in the public safety realm. It concludes with a self-assessment as well as a presentation on how each leader can improve his/her team's engagement.
Student Learning Outcomes
1. List and describe each of the 7 habits of highly effective people and how it relates to the success for the public safety professional.
2. Contrast abundance and scarcity mentalities and explain how each either benefits or hinders a leader in the public safety profession.
3. Identify Franklin Covey's 4 disciplines of execution.
4. Complete a personal effectiveness quotient to inform personal and professional leadership strengths and opportunities.
5. Identify 2 wildly important goals (WIGs) within your current assignment.
6. Identify 2 lead measures related to the two above WIGs.

CJUS 2990. Practicum
Course Description
Supervised practical field experience in a Criminal Justice agency. A minimum of six (6) hours per week will be in direct service or contact. One (1) hour per week supervision and critique of activities.
Student Learning Outcomes
Varies

CJUS 2992. Directed Study in Criminal Justice
Course Description
Varies
Student Learning Outcomes
Varies

CJUS 2993, Workshop in Criminal Justice
Course Description
Varies
Student Learning Outcomes
Varies

CJUS 2996. Topics in Criminal Justice
Course Description
Varies
Student Learning Outcomes
Varies

CJUS 2997. Independent Study

Course Description
Varies
Student Learning Outcomes
Varies

CJUS 2998. Criminal Justice Internship
Course Description
Varies
Student Learning Outcomes
Varies

CJUS 2999. Programmatic Capstone
Course Description
Varies
Student Learning Outcomes
Varies

Dance (DANC)

DANC 1110. Dance Appreciation
Course Description
This course introduces the student to the diverse elements that make up the world of dance, including a broad historic overview, roles of the dancer, choreographer and audience, and the evolution of the major genres. Students will learn the fundamentals of dance technique, dance history, and a variety of dance aesthetics.
Student Learning Outcomes
1. Explain a range of ideas about the place of dance in our society.
2. Identify and apply critical analysis while looking at significant dance works in a range of styles.
3. Identify dance as an aesthetic and social practice and compare/contrast dances across a range of historical periods and locations.
4. Recognize dance as an embodied historical and cultural artifact, as well as a mode of nonverbal expression, within the human experience across historical periods and cultures.
5. Use dance to consider contemporary issues and modes of thought.

DANC 1120. African Dance I
Course Description
African Dance I introduces the student to the aesthetics of African dance technique and develops knowledge and appreciation of its fundamental movements, music, and culture. Students will gain perspectives of African culture through discussion of how music, rhythm, and dance are used in African societies.
Student Learning Outcomes
1. Experience and perform a variety of African dance forms.
2. Demonstrate movements and combinations and the relationship to the body through weight release and grounding.
3. Identify rhythm, polyrhythm, and other musical concepts as they relate to dances taught.
4. Describe the meaning, background, and history of dances learned.
5. Develop greater aesthetic and cultural awareness and understanding through music and dance.

DANC 1130. Ballet I
Course Description

This course is the beginning level of ballet technique. Students learn the basic fundamentals and performance skills of ballet technique, which may include flexibility, strength, body alignment, coordination, range of motion, vocabulary, and musicality.

Student Learning Outcomes

1. Apply fundamental movements of ballet techniques.
2. Enhance flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, range of motion, and musicality.
3. Employ basic theories of classical ballet placement and proper alignment.
4. Develop basic ballet terminology, variations in timing and changes of facing, and barre and center combinations.

DANC 1131. Introduction to Ballroom Dance

Course Description

An introduction to ballroom dance at the beginning level. Students will learn the fundamentals of technique including carriage, common movement vocabulary, and partnering, and will be introduced to steps and dances from the Bronze Syllabus of American Smooth and International Standard dances.

Student Learning Outcomes

1. Execute the basic figures of various Ballroom dances in American and International styles
2. Demonstrate an understanding of the elements of technique of these forms, including posture, use of the hips and legs, and lead and follow
3. Develop the skills of style and performance quality within the dance
4. Demonstrate improved overall physical capability, musicality, and movement memory
5. Appreciate Ballroom dancing as an artform and a discipline

DANC 1135. Argentine Tango

Course Description

An introduction to Argentine Tango at the beginning level. Students will learn the fundamentals of technique including carriage, common movement vocabulary, and partnering, as well as the history and culture of the form. May be repeated once for a maximum of 2 credits. Offered Spring of even years.

Student Learning Outcomes

In this course students will:

1. Execute the basic figures of Tango and Argentine Tango.
2. Demonstrate an understanding of the elements of technique of these forms, including posture, use of the hips and legs, and lead and follow.
3. Develop the skills of style and performance quality within the dance.
4. Articulate the cultural and historical underpinnings of these forms as World dances.
5. Demonstrate improved overall physical capability, musicality, and movement memory.
6. Appreciate Tango as an artform and a discipline.

DANC 1140. Flamenco I

Course Description

This course introduces the student to the art of flamenco and its cultural features and significance. Students will learn the fundamentals of this art form and introductory techniques and skills, which may include handwork, footwork, postures, and specific dances.

Student Learning Outcomes

1. Demonstrate a basic level of competency in the principles of alignment, anatomy, coordination, mobility, stability, and stamina.
2. Demonstrate fundamental flamenco techniques relative to spatial awareness, rhythm, phrasing, and sequencing.

3. Demonstrate competency with basic flamenco movement vocabulary.
4. Perform a variety of flamenco dances, poses, steps, hand movements, and combinations.

DANC 1145. Flamenco Technique

Course Description

Students will focus on flamenco rhythm, technique, and the structure of flamenco dance. Includes an introduction to the rich culture of flamenco.

Student Learning Outcomes

1. As an element of Spanish culture, this course will help students coordinate their movements and familiarize them with their body better with tips for correct body placement of the arms, hips, turns and the dodge movement. Rhythm and expressing feelings are two most important aspects of this type of dance for correct execution.
2. Detail on stretching muscles before and after each exercise session leads the students to achieve good sound, strength, speed and stamina.
3. Students will learn the terminology of various dance types and the corresponding movements in consistence with flamenco characteristics.

DANC 1150. Modern Dance I

Course Description

Modern Dance techniques and styles. Students are introduced to proper warm-up techniques, body alignment, control and flexibility. Students work with various rhythms and combinations of movements. The course emphasizes dance technique and creative experience. The history, terminology and philosophy of Modern Dance are also discussed.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Use a more developed sense of muscle control and strength, stretch and balance, coordination.
2. Demonstrate and verbalize an increased awareness of Modern Dance techniques
3. Execute dance phrases, combining several movements and in more than one rhythm.
4. Demonstrate an increased awareness of musicality while dancing and use Modern Dance Techniques creatively.

DANC 1151. Modern Dance

Course Description

Introduction and development of basic modern dance technique and its history approached through academic study and participation.

Student Learning Outcomes

Not Available

DANC 1155. Hip-Hop Dance

Course Description

This course provides an engaging and energetic introduction to the foundational elements and cultural history of hip-hop dance. Students will learn basic techniques, rhythms, and movements inspired by various hip-hop styles, including breaking, popping, locking, and social dances. The course emphasizes musicality, body awareness, self-expression, and an understanding of hip-hop as a global cultural phenomenon. No prior dance experience is required.

Student Learning Outcomes

1. Identify and execute fundamental hip-hop dance movements and techniques.
2. Understand the historical context and cultural significance of hip-hop dance.
3. Develop a basic sense of rhythm, musicality, and timing in relation to hip-hop music.
4. Explore personal style and self-expression through freestyle and choreography.
5. Demonstrate improved body awareness, coordination, and spatial understanding.

6. Engage respectfully with the diverse origins and evolution of hip-hop culture.

DANC 1156 Hip Hop and Jazz I

Course Description

This course explores the music and culture of Hip-Hop, focusing on dance techniques and styles of African dance, jazz, and hip-hop. As students learn the hip-hop dance movement, they will strengthen their ability to choreograph and execute a group performance.

Student Learning Outcomes

1. Identify and analyze the formal elements of Hip Hop and Jazz using appropriate vocabulary.
2. Understand Hip Hop dance history through the exploration of musical and cultural traditions.
3. Acquiring increased body awareness and improved alignment.
4. View live and recorded dance performances and articulate a personal aesthetic.
5. Analyze performances using standards appropriate to the form and cultural context.

DANC 1160. Jazz I

Course Description

This course is for students with a basic knowledge of dance technique. They work to attain muscle control and strength as well as increased flexibility. Further awareness of proper body alignment for injury prevention is emphasized. Jazz choreography, style and terminology are taught at a secondary level.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Execute jazz steps at a secondary level.
2. Apply corrections and improve accordingly.
3. Apply musical rhythm and dynamics to jazz choreography.
4. Expand and project dance vocabulary.

DANC 1161. Tap Dance I

Course Description

The theory and practice of tap dance technique at the beginning level. No previous dance experience is expected. Coursework includes vocabulary and movement exercises in both Buck & Wing and Rhythm styles.

Student Learning Outcomes

1. Recognize and articulate the fundamentals of tap technique, vocabulary, and history.
2. Exhibit improved timing, dexterity, and style through the experience of various schools of tap dance technique, including Buck and Wing and Rhythm.
3. Define proper body alignment and control and understand basic mechanical concepts essential to efficient movement.
4. Demonstrate improved overall physical capability, musicality, and movement memory.
5. Appreciate tap dance as an artform and a discipline.

DANC 1165. Beginning Belly Dance

Course Description

Introduction to Middle Easter (Belly) Dance or Raks Sharqi, using basic steps, movements and rhythms of Turkish, Egyptian, and pan-North African dance forms. The choreography in this class includes any basic steps and arm movements and experimentation with taksim or solo improvisation. Emphasis is on posture and presence, strength in technique, confidence in performance and improvisation. Simple zils or finger cymbal, and veil dancing will also be introduced. Identification of basic rhythms and styles of the music and dance will be discussed. Each class period will include

both technical and personal work, encouraging each dancer to find individual style and internal connection within this form of dance.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Perform with correct posture and technique
2. Perform beginning level arm and hand technique and movements
3. Combine steps with variation and improvisation
4. Perform basic cymbal patterns
5. Perform a complete choreography
6. Demonstrate an introductory level of understanding of the cultural context for Middle Eastern dance

DANC 1170. Hip Hop I

Course Description

An introduction to Hip Hop, its movement, style and culture.

Student Learning Outcomes

As a result of completing the course, students will be able to:

1. Demonstrate appropriate skeletal alignment
2. Demonstrate a wide range of movement qualities and dynamics
3. Critique their own work and their peers' work in a constructive manner
4. Work collaboratively with their peers to create choreography
5. Perform a series of short choreographed pieces

DANC 1180. Folklorico Dance I

Course Description

This course studies the historical and cultural roots, traditions, and basic techniques and styles of various regional dances: Mexican Folk, Spanish Colonial, and contemporary dances of the Chicano/Latino experience. This course will challenge you to expand your cultural understanding through movement.

Student Learning Outcomes

1. Demonstrate comprehensive mastery of terminology, technique and performance skills associated with the dance form.
2. Explore ways in which basic improvisation skills and techniques are used in generating movement for choreography and creating original dances.
3. Analyze primary sources and use these sources as evidence to support their understanding of historical events as well as cultural ideas, values and beliefs in a specific dance form.
4. Understand and effectively express the ways in which dance creates and communicates meaning.
5. Demonstrate knowledge of choreographic principles, processes and structure to create coherent, aesthetically unified culminating performance.

DANC 1181. Ballet Folklorico I

Course Description

Introductory course in folklorico dances of New Mexico and Mexico. May be repeated for a maximum of 2 credits.

Student Learning Outcomes

*This course is being submitted to be deleted from CCN because it is inactive.

DANC 1185. Introduction to Country Western Dance

Course Description

An introduction to Country Western Dance at the beginning level. Students will learn the fundamentals of technique and several dances, including Country Western Two-Step, Nightclub Two-Step, Polka, and Line Dance.

Student Learning Outcomes

In this course students will:

1. Execute the basic figures of various Country Western social dances
2. Demonstrate an understanding of the elements of technique of these forms, including posture, use of the hips and legs, and lead and follow
3. Develop the skills of style and performance quality within the dance
4. Demonstrate improved overall physical capability, musicality, and movement memory
5. Appreciate Country Western dancing as an artform and a discipline

DANC 1210. Master Works

Course Description

This course investigates the work of master choreographers in contemporary, Spanish, and social dance styles. Students will engage in exploring concepts in dance appreciation, themes and purposes of dance by analyzing dance works using principles, elements, and process of compositional design. This course will require students to communicate their opinions through verbal discussions, group projects, and written assignments. Restricted to Las Cruces campus only.

Student Learning Outcomes

1. Successful writing of dance critiques and dance essays.
2. An appreciation for dance works that transcend time.
3. Dance as a tool to see the past, present, and possibly future.
4. History of the different dance genres.
5. Understanding dance through writing.

DANC 1220. Introduction to Latin Social Dance

Course Description

An introduction to Latin social dance at the beginning level. Students will learn the fundamentals of technique including carriage, common movement vocabulary, and partnering, and will be introduced to steps and dances from the Bronze Syllabus of American Rhythm and International Latin dances.

Student Learning Outcomes

1. Execute the basic figures of various Latin dances in American and International styles.
2. Demonstrate an understanding of the elements of technique of these forms, including posture, use of the hips and legs, and lead and follow.
3. Develop the skills of style and performance quality within the dance.
4. Demonstrate improved overall physical capability, musicality, and movement memory.
5. Appreciate Latin dancing as an artform and a discipline.

DANC 1221. Latin Club Dance

Course Description

Introduction to the most popular Latin Club Dances to include the Salsa, Merengue, and Bachata. May be repeated up to 2 credits. Restricted to Las Cruces campus only.

Student Learning Outcomes

1. Learn to dance figures from Salsa, Merengue and Bachata.
2. Develop a “style” in all three.
3. Gain deeper understanding of the Elements of Dance & Technique
4. Develop rhythmic accuracy in movement, ability to dance on time & discover phrasing
5. Further lead & follow skills that will enable you to dance at more advanced levels

6. Learn & practice performance dance skills
7. Understand and appreciate the process of creating original amalgamations
8. Expand your knowledge of other dance forms by attending required (2) NMSU Dance Department performances and writing a critique of one (1) performance
9. Enjoy the process!

DANC 1225. Ballroom Dance

Course Description

In this course, you will learn Bronze Level figures in the American Style Ballroom Dances: Foxtrot, Waltz and Tango as well as develop the proper posture, footwork and dance etiquette needed to be successful on the Social dance floor. A brief historical background of each dance form will be presented. Skill development will be sequential and cumulative. Review of previous instruction will generally precede introduction of new material. Students will practice with partners on a rotational basis, affording everyone the opportunity to experience new partners and dancing styles.

Student Learning Outcomes

In this course, students will:

1. learn to dance Figures 1-7 in 3 American Style Ballroom dances
2. develop rhythmic accuracy in movement
3. develop the skills to adapt to a variety of dance partners
4. develop adequate social and recreational dance skills
5. develop proper carriage, poise, and grace that pertain to Ballroom dance
6. learn to recognize Ballroom music and its application for the appropriate dances
7. understand different possibilities for dance variations and their applications to a variety of Ballroom dances
8. understand and appreciate the process of creating original patterns and variations
9. expand his/her knowledge of dance forms through attending two (2) NMSU Dance Department performances and writing a critique on one of the performances
10. enjoy the process

DANC 1230. Beginning Salsa and Swing

Course Description

This class for beginners starts with the fundamentals of salsa and swing styles of dance.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate basic knowledge of Salsa and Swing styles. -
2. Apply appropriate partnering techniques, i.e. leading and following.
3. Recall dance terminology and patterns.
4. Organize dance patterns into complete routines

DANC 1235. Introduction to West Coast Swing Dance

Course Description

An introduction to West Coast Swing dancing at the beginning level. Students will learn the fundamentals of technique of several Swing forms and the Hustle, including basic steps, partnering, and musical forms.

Student Learning Outcomes

1. Execute the basic figures of both West Coast Swing and the Hustle
2. Demonstrate an understanding of the elements of technique of these forms, including posture, use of the hips and legs, and lead and follow
3. Develop the skills of style and performance quality within the dance
4. Demonstrate improved overall physical capability, musicality, and movement memory

5. Appreciate Swing dancing as an artform and a discipline

DANC 1310. Fitness for Dancers
Course Description
This course is an aerobic dance class that integrates stretching, conditioning, and various types of dance styles, that may include Zumba®, into an exercise form for optimal performance for dancers.
Student Learning Outcomes
1. Develop competency in overall fitness and wellness to pursue careers in education, health and fitness, professional arenas, or to further their academic dance pursuits.
2. Attain an understanding of theoretical and practical scientific concepts of movement to
3. Become knowledgeable in dance terminology and components of fitness.

DANC 1460. Dance for Musical Theater I
Course Description
This course provides students with an understanding of the Tap and Jazz Dance technique for use in Musical Theater and other performance genres at the beginning level. This course is designed for students to gain knowledge and understanding of Tap and Jazz Dance as art forms
Student Learning Outcomes
The students will successfully accomplish the following:
1. An understanding of traditional styles of dance used for musical theater.
2. An understanding of anatomy, kinesiology, and development of movement principles
3. Improvement of muscular strength, flexibility, and elasticity
4. An understanding of motion awareness and movement vocabulary

DANC 1990. Dance Practicum
Course Description
Varies.
Student Learning Outcomes
Varies

DANC 2001. Crew Practicum
Course Description
Participation in University theatre and dance season through assignment on a production crew. To be completed in one semester.
Student Learning Outcomes
1. Gain an appreciation of performance production work
2. Learn how to produce theatre and dance productions
3. Be introduced to the non-performance needs of a production
4. Receive hands-on experience in producing theatre and dance

DANC 2040. Stretching, Strengthening and Conditioning for the Performing Arts
Course Description
Specialized floor work training using principles of the Pilates Methodology and the basic movement concepts of Core Dynamics™. For preparing and maintaining a uniformly developed body for dance and movement.
Student Learning Outcomes
1. Demonstrate a working knowledge of the principles of Pilates mat work.
2. Demonstrate improvement in strength and flexibility.

3. Demonstrate written understanding of Pilates mat exercises.

DANC 2111. Dance Pedagogy: Educational Theory

Course Description

This course will examine how people learn cognitively, physically, and emotionally so that students can become better at self-teaching and self-assessment. Students will study several educational theories and how they relate to dance. May be repeated up to 1 credits. Restricted to Las Cruces campus only.

Student Learning Outcomes

1. Describe their learning styles/intelligences/Myers Briggs, etc. and how to use them to their best advantage
2. Contrast and compare transmission, transactional, and transformational learning theory and what they mean in a classroom
3. Describe and apply movement principles for more efficient and effective dancing
4. Apply visualization techniques to improve performance.

DANC 2112. Dance Ensemble

Course Description

Participation in Sol y Arena. This course will include learning dance repertory from faculty and guest choreographers performing in NMSU dance program sponsored performances and creating dances that can be adjudicated for any NMSU dance program sponsored performances under faculty supervision.

Student Learning Outcomes

At the successful completion of the course the student will demonstrate:

Performance

1. An understanding of the artistry of the dancer
2. An understanding of the art and interpretation of choreography
3. An improvement of movement performance skill
4. An understanding of various dance movement vocabulary
5. An increased awareness of stage presence and projection
6. An understanding of technical stage production

Production

1. An understanding of behind the scene workings of a dance performance
2. An understanding of the marketing and promotional aspects of performance
3. An understanding of costume design and construction

DANC 2113. Dance Production I

Course Description

Students will provide production and marketing support for all performances and/or activities sponsored by the NMSU Dance Program. Over the semester students will experience the promotional and technical aspects necessary for the production of successful dance performances and special projects of a dance program.

Student Learning Outcomes

Not Available

DANC 2114. Dance Sport I

Course Description

Performance-based, team formation dance in a variety of Latin and ballroom dances.

Student Learning Outcomes

1. Practice a variety of Ballroom and Latin dances to be expressed socially, competitively, and on stage
2. Adapt and communicate with a variety of dance partners

3. Learn skills for successful partnership
4. Practice advanced level technique in all styles of DanceSport
5. Develop awareness of “what is good dancing”
6. Create original choreography for both stage and competition
7. Self-assess -learn to be your own best teacher
8. Self-coach -learn to coach self through four stages of development
9. Develop musicality skills, including rhythmic accuracy and timing
10. Work as a team to make sure that no one is left behind while furthering your leadership abilities
11. Promote DanceSport in the community and in the world as a healthy and fun lifestyle alternative
12. Develop valuable life skills such as enrollment, registration & teamwork
13. Enhance cognitive thinking as described by Robert J. Sternberg’s triarchic theory of intelligence
14. Learn to act and perform as a “professional” dancer
15. Produce creative spring dance concert
16. Have fun

DANC 2120. Improvisation
Course Description
Introduction to improvisational skills in movement and the principles of choreography as applied to dance/theater composition. Investigation of structured improvisation within the fundamental elements of dance: energy, space, and time.
Student Learning Outcomes
Students will develop a basic understanding and application of
1. Choreography as a way to engage with ideas
2. Creating and developing movement vocabulary to express ideas
3. How to use energy, space, and time for choreography
4. Formal structure and experimental approaches in choreography

DANC 2130. Ballet II
Course Description
Intermediate level of ballet technique; Introduction of more advanced Ballet vocabulary at barre/center work; increase flexibility, strength, body alignment, and coordination for practice of steps/combinations with variations in timing and changes of facing.
Student Learning Outcomes
A successful student will be able to understand and execute with accuracy all the steps presented on the take home quizzes and are encouraged and expected to attend at least two semesters of each level in order to advance to the next level of ballet technique.

DANC 2130L. Ballet II Lab
Course Description
This course is designed for the acquisition of intermediate-level ballet technique and skill development.
Student Learning Outcomes
1. An increased level of technical proficiency in ballet at the intermediate level
2. Increased flexibility and range of motion
3. Increased awareness of body alignment
4. Increased rhythmic accuracy

DANC 2140. Flamenco II
Course Description

The structure of flamenco through choreographies that represent the basic flamenco dance forms: Fandangos de Huelva, Alegrias, Solea par Bulerias, and Tientos/Tangos. The course will also cover intermediate flamenco technique including footwork, palm as (hand claps), braceo (movement of the arms), and floreo (movement of the hands)

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate the ability to dance a short Fandangos de Huelva
2. Demonstrate the ability to dance a short Alegrias or So lea por Bulerias
3. Demonstrate the ability to dance a short Tientos /Tangos
4. Demonstrate an intermediate level of Pal mas, Brazeo, Floreo, Taconeo

DANC 2140L. Flamenco II Laboratory

Course Description

This course is designed for the acquisition of intermediate level Flamenco dance technique and skill development.

Student Learning Outcomes

1. Learn the advanced hand and arm movements of Flamenco dance.
2. Develop correct & artful postures for the dance.
3. Continue rhythmic footwork development to add to the various combinations.
4. Develop practical & useful Spanish dance vocabulary.

DANC 2141. Flamenco Choreography I

Course Description

Students develop and perform solo studies with an emphasis placed on the development of personal movement vocabulary, phrase building, and the exploration of choreographic tools for Flamenco on stage. Discussion, critiquing, and descriptive writing about their choreographic processes will supplement direct physical work. May be repeated up to 6 credits. Consent of Instructor required. Restricted to Las Cruces campus only.

Student Learning Outcomes

1 While engaging the entire body through hand, arm and footwork technique.
2. Student will create full-length choreographies emphasizing style and classicism.
3. Be able to give brief descriptions of the history of the art form and its expressive content.

DANC 2142. Classical Spanish Dance

Course Description

The study of theory, techniques, and practice of Classical Spanish at the intermediate level. Includes historical and cultural contexts of this art form. May be repeated up to 8 credits. Consent of Instructor required. Restricted to Las Cruces campus only.

Student Learning Outcomes

At the successful completion of this course the student will demonstrate:

1. Knowledge of basic Classical Spanish vocabulary
2. Understanding of the basic differences between Classical Spanish dance and Ballet techniques
3. Increased coordination and rhythmic accuracy
4. Knowledge of the onomatopoeia of castanets
5. Ability to perform a Classical Spanish Dance piece with castanets

DANC 2142L. Classic Spanish Dance Lab

Course Description

This course is designed for the acquisition of intermediate level Spanish dance technique and skill development.

Student Learning Outcomes

1. Students will demonstrate in studio classes and performances with an intermediate to advanced foundation of technique with castanets through a cross range of exercises, folk and classical Spanish forms of dance.

DANC 2150. Modern Dance II

Course Description

Modern II is designed to further the student's abilities in modern dance technique, to enhance efficient use of weight and momentum, to release held patterns in the body's mechanics, to enrich spatial awareness, and to begin work on performance techniques.

Student Learning Outcomes

1. Improve accuracy in alignment and shape
2. Improve precision in space, in timing and rhythm, and in focus/intent
3. Learn combinations and movement dynamics quickly
4. Begin to integrate performance techniques while working in the classroom setting
5. Use a concentrated attitude and an open, creative mind to approach the work in an artistic manner unique to your abilities
6. Listen, see and apply all the information given within one class period and over the semester
7. Self-awareness and mindfulness: how much space do you take in the class and why? How aware are you of those around you, and those you are dancing with?
8. Release of weight to create controlled momentum
9. Locating center and moving from there

DANC 2150L. Modern Dance II Lab

Course Description

This course is designed for the acquisition of intermediate level modern dance technique and skill development.

Student Learning Outcomes

1. Increase and improve his/her dance artistry
2. Enhance his/her awareness and skill of movement initiation and movement motivation
3. Improve his/her muscular strength, flexibility, and elasticity
4. Improve his/her static and dynamic balance
5. Expand his/her temporal, spatial, effort and motion awareness

DANC 2156. Hip Hop and Jazz II

Course Description

In this continuation of Hip Hop and Jazz I, students will be exposed to more advanced dance movements and choreography for group performances.

Student Learning Outcomes

1. Identify and analyze the formal elements of Hip Hop and Jazz using appropriate vocabulary.
2. Understand Hip Hop dance history through the exploration of musical and cultural traditions.
3. Acquire increased body awareness and improved alignment.
4. View live and recorded dance performances and articulate a personal aesthetic.
5. Analyze performances using standards appropriate to the form and cultural context.

DANC 2157. Hip-Hop Dance

Course Description

An introduction to hip hop dance and its relationship to other aspects of hip-hop culture, music, and media, with an emphasis on creativity, individuality, and expression. Coursework may include street styles, breaking, and various regional forms.

Student Learning Outcomes

1. Recognize and articulate the fundamentals of various styles of hip hop dance technique and vocabulary
2. Contextualize the history and cultural aspects of hip hop
3. Examine the relationship between dance and other aspects of hip hop culture such as music and media representation
4. Demonstrate improvement in overall physical capability, musicality, and movement memory
5. Appreciate hip hop dance as an artform and a discipline

DANC 2160. Jazz II

Course Description

Jazz II is a course geared for intermediate/advanced dancers familiar with the basics of Jazz dance technique. Students are expected to enter the class with a skill set and understanding of beginning level technique (i.e. spotting while turning, pirouettes, chainé turns, pas de bourre, chassé, battement, and grand jeté). From this point, students will work to further their ability in Jazz technique, gain performance skills within the classroom setting, and explore different styles of Jazz choreography.

Student Learning Outcomes

Throughout the semester, students will be working to:

1. Develop and Improve intermediate/advanced Skills of Jazz dance technique
2. Increase strength, flexibility, and stamina
3. Refine kinesthetic awareness, spatial awareness, timing, and coordination while dancing alone and in a group
4. Demonstrate dynamic range, performance quality, and musicality through a Jazz dance vocabulary
5. Investigate and make intentional stylistic choices in performance through a Jazz dance vocabulary
6. Identify major choreographers and works in Jazz history
7. Increase their appreciation for the art and discipline of dance
8. Create and perform a 2-3 minute Jazz dance “movement study” based on the style of a major Jazz dance choreographer

DANC 2161. Tap Dance II

Course Description

Continued study of skills and techniques of tap dance at the advanced level

Student Learning Outcomes

1. An understanding of Tap Dance
2. An understanding of anatomy, kinesiology and development of movement principles
3. An improvement of muscular strength, flexibility and elasticity
4. An understanding of motion awareness and movement vocabulary

DANC 2165. Intermediate Belly

Course Description

An opportunity to focus, sharpen, and expand the technical skills, dance vocabulary and personal presence of each dancer in this dance form. Primary attention is paid to arms, hands, body placement, fluidity and movement. Students continue to develop their work with finger cymbals, and with taksim, (solo improvisation), veil dancing and some basic music structure. Cultural and stylistic differences of this dance as it manifests in various countries and cultures will be introduced.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate intermediate level arm and hand techniques and movements
2. Confidently improvise, alone or with a group, combinations of steps and layering of movements
3. Demonstrate the ability to identify a variety of dance taksim

4. Accompany the dance with intermediate level finger cymbal patterns
5. Perform a complete choreography, alone or with a group with correct posture and technique
6. Discuss the cultural context of this Middle Eastern dance

DANC 2170. Commercial Dance

Course Description

This course delves into the dynamic world of commercial dance, focusing on the foundational techniques, stylistic nuances, and performance demands of commercial jazz and hip-hop. Students will explore the historical evolution, influential choreographers, and current trends within these vibrant dance forms as they apply to the entertainment industry (music videos, live concerts, film, television, and touring). Emphasis will be placed on developing versatility, adaptability, stage presence, and the ability to quickly learn and execute complex choreography.

Student Learning Outcomes

1. Demonstrate proficiency in core techniques and stylistic elements of commercial jazz and various hip-hop styles (breaking, popping, locking, house, new school).
2 Execute complex choreographic phrases with musicality, dynamics, and performance quality.
3 Analyze and articulate the historical and cultural contexts of commercial jazz and hip-hop.
4 Identify and apply strategies for quick retention and execution of choreography.
5 Develop a heightened sense of stage presence, adaptability, and versatility in performance.
6 Understand the professional expectations and demands of the commercial dance industry.
7 Work collaboratively in a studio setting, demonstrating professionalism and respect.

DANC 2235. West Coast Swing II

Students will take their West Coast Swing & Hustle to the next level. Learn Intermediate and Advanced figures and techniques in both dances. Students will also enjoy advanced study on musicality and blending to create new amalgamations as well as practice in advanced leading & following techniques. May be repeated up to 8 credits. Consent of Instructor required. Restricted to Las Cruces campus only.

Student Learning Outcomes

*This course is being submitted to be deleted from CCN because it is inactive.

DANC 2250. Contemporary Dance Ensemble I

Course Description

Performance-based instruction for students pursuing a career in contemporary dance. Instruction includes contemporary dance repertory and choreography for stage, outdoor arenas, and site-specific areas.

Student Learning Outcomes

At the successful completion of the course, the student will demonstrate:

Performance

1. An understanding of the artistry of the dancer
2. An understanding of the art and interpretation of choreography
3. An improvement of movement performance skill
4. An understanding of various dance movement vocabulary
5. An increased awareness of stage presence and projection
6. An understanding of technical stage production

Production

1. An understanding of costume design and construction
2. An understanding of behind the scene workings of a dance performance

DANC 2251. Spanish Dance Ensembles I

Course Description

Performance-based instruction for students pursuing a career in dance with an emphasis in Spanish Dance. Instruction includes dance repertory and choreography for stage, outdoor arenas, and site-specific areas

Student Learning Outcome

1. An understanding of the artistry of the dancer
2. An understanding of the art and interpretation of choreography
3. An improvement of movement performance skill
4. An understanding of various dance movement vocabulary
5. An increased awareness of stage presence and projection
6. An understanding of technical stage production

Production

7. An understanding of behind the scene workings of a dance performance
8. An understanding of the marketing and promotional aspects of performance
9. An understanding of costume design and construction

DANC 2270. Dance Improvisation I

Course Description

An introduction to the practice of dance improvisation focusing on play and discovery as methods for generating movement and exploring the full potential of the communicative, authentic body in motion. Course content includes concepts in Body, Effort, Shape, Space, Kinesthetic Response, Scoring, and Contact.

Student Learning Outcomes

1. Understand the core concepts of exploration and authenticity and the importance of these ideas to a modern dancer and choreographer
2. Demonstrate immediacy of presence, both physically and mentally, in the way that they responding to both choices and instincts in the moment
3. Connect the concepts learned in Modern dance technique to the study of dance improvisation and the concepts of this class to outside work as dancers, students and citizens
4. Access the constantly expanding movement vocabulary which will inform their work moving forward in dance technique and composition. An understanding of temporal, spatial, effort and motion awareness
5. Improvise confidently both individually and as part of a group

DANC 2310. Bronze American Rhythm

Course Description

Bronze level American Rhythm patterns, techniques, and partnering with emphasis on elements of dance.

Student Learning Outcomes

In this course, you will:

1. Learn to dance the Full Bronze syllabus figures in 5 American Style Rhythm dances
2. Develop Bronze level dance technique
3. Gain deeper understanding of the Elements of Dance
4. Develop rhythmic accuracy in movement, ability to dance on time & discover phrasing
5. Develop Cuban Motion, proper carriage, poise, and grace that pertain to Rhythm dances
6. Further lead & follow skills that will enable you to dance at more advanced levels
7. Master your ability to recognize the music associated with each dance
8. Learn & practice social & performance dance skills
9. Understand and appreciate the process of creating original amalgamations

10. Expand your knowledge of the history of the Rhythm dances through research outside of class and provide information through video, written and oral form.
11. Expand his/her knowledge of dance forms through attending two (2) NMSU Dance Department performances and writing a critique on ONE of the performances.
12. Will be able to demonstrate the Full Bronze Figures in the American Style Rhythm

DANC 2311. Bronze American Smooth

Course Description

Bronze level American Smooth patterns, technique, and partnering with an emphasis on the elements of dance.

Student Learning Outcomes

The student will…

1. Learn to dance the Bronze DIVIDA Manual in 4 American Smooth Style Dances.
2. Develop Bronze level dance technique.
3. Gain a deeper understanding of the Elements of Dance.
4. Develop rhythmic accuracy in movement, ability to dance on time & discover phrasing.
5. Further develop lead & follow skills that will enable you to dance at more advanced levels.
6. Master your ability to recognize the music associated with each dance.
7. Learn & practice social & performance dance skills.
8. Understand and appreciate the process of creating original amalgamations.
9. Further your knowledge of the four dances by doing research, writing a report and giving and oral presentation to the class.
10. Expand your knowledge of other dance forms by attending two (2) NMSU Dance Department performances & writing a critique on one performance.
11. Enjoy the process!

DANC 2320. Bronze International Latin

Course Description

This is the style of Latin dance that is danced around the globe and is featured in the World DanceSport Championships. Students will learn the Bronze Level figures and techniques in four (4) International Style dances: Rumba, Cha, Samba & Jive.

Student Learning Outcomes

1. Learn to dance the Bronze DIVIDA Material for the International Latin Syllabus Develop Bronze level dance technique.
2. Gain deeper understanding of the Elements of Dance Develop Smooth accuracy in movement, ability to dance on time discover phrasing.
3. Further develop lead follow skills that will enable you to dance more advanced levels.

DANC 2321. Bronze International Standard

Course Description

This is the style of Ballroom dance that is performed around the globe and is featured in the World DanceSport Championships. Learn the Bronze Level figures and techniques in five (5) International Style dances: Waltz, Tango, Viennese Waltz, Foxtrot & Quickstep. Students will focus on understanding technical elements of dance, memorizing and performing routines.

Student Learning Outcomes

In this course students will:

1. Learn to dance the Bronze Syllabus figures in the five (5) International Standard Ballroom Dances
2. Develop Bronze International Style dance technique
3. Gain deeper understanding of the Elements of Dance
4. Develop rhythmic accuracy in movement, ability to dance on time & discover phrasing

5. Further lead & follow skills that will enable you to dance at more advanced levels
6. Learn & practice performance dance skills
7. Understand and appreciate the process of creating original amalgamations
8. Expand your knowledge of other dance forms by attending required (2) NMSU Dance
9. Department performances and writing a critique of one performance
10. Enjoy the process!

DANC 2325. Contemporary African Dance

Course Description

Contemporary African Dance is designed to further the student's abilities in the aesthetics of African dance technique in a more advanced and fast paced format. We will utilize the language of African dance as a basis for movement development while incorporating other dance forms that influence contemporary African artists today. This class will develop the knowledge and appreciation of contemporary African movements, music, and culture. Class will be approached from a contemporary perspective with an emphasis on the marriage between rhythm and dance. This class will help enhance efficient use of relaxed, heavy weight, grounding, weight-shifting, release, and movement.

Student Learning Outcomes

Not Available

DANC 2360. Dance Studio Management

Course Description

Visualization, management and leadership for a dance studio.

Student Learning Outcomes:

At the successful completion of the course, the student will demonstrate:

1. The ability to create a vision, mission statement a, business plan which will include both short and long-term goals.
2. The procedure to develop a financial budget, forecasting revenues and identifying operating cost.
3. Evaluating methods for determining facility acquisition and affordability.
4. Exposing the student to staffing requirements and the processes of employee benefits, policies and procedures, hiring and firing.
5. The student will develop an understanding of customer service, marketing and sales techniques.
6. The class will culminate with the student having in their possession a manual for the creation of a dance studio. 26

DANC 2400. Music Essentials for Contemporary Dance

Course Description

Overview of fundamental elements of music and historically significant collaborations between choreographers and composers in contemporary dance.

Student Learning Outcomes:

Students who earn a passing grade in the course will demonstrate the following:

1. General comprehension and knowledge of the historical periods, and stylistic trends in the history of western music from Antiquity to the present
2. general knowledge of the cultural and geopolitical context surrounding these trends and styles
3. Aural and conceptual recognition of common musical forms, and structures, i.e.. ABA, song form, waltzes, and other smaller forms
4. Basic knowledge of rhythm, simple meters, and simple rhythmic notation, i.e.. short and long note values, and dotted values
5. General knowledge of essential music terminology (melody, harmony, counterpoint etc.) - Basic understanding of harmony, i.e.. "The Phrase Model", and melodic phrasing in musical works for the concert hall
6. Scholarly research in the fields of music and dance, and/or collaborative skills through composition of a final project

DANC 2420. Music Essentials for Flamenco

Course Description

Overview of fundamental elements of music and historically significant collaborations between choreographers and composers in contemporary dance.

Student Learning Outcomes:

Students who earn a passing grade in the course will demonstrate the following:

1. Ability to define Flamenco song forms for styles and elements.
2. Knowledge of wide variety of Flamenco song forms and the leading interpreters/innovators/composers of these styles.
3. Basic knowledge of the history of Flamenco music and the lives and music of representative interpreters/innovators/composers.
4. Ability to apply listening skills to a variety of musical examples.
5. Demonstrate basic music/rhythmic notation skills and apply these skills specifically in contexts of Flamenco Dance (i.e. palomas patterns).

DANC 2460. Dance for Musical Theatre

Course Description

This course will supplement the dance technique curriculum specifically in support of the study of Musical Theatre. Students will practice various social, world, and theatrical dance forms, learn selections from iconic choreography, experience mock dance auditions, and explore the skill of dance composition for musical theatre repertory.

Student Learning Outcomes

1. Participate successfully in dance techniques and styles outside of the basic tap, jazz, ballet, and modern dance curriculum
2. Recognize and contextualize musical theatre history and repertory through exposure to significant historical choreography and choreographers
3. Understand and excel at the skill of taking part in a musical theatre dance audition
4. Demonstrate improvement in overall physical capability, musicality, and movement memory
5. Appreciate the practice of musical theatre dance as an artform and a discipline

DANC 2690. Flamenco II

Course Description

Flamenco techniques and styles at the intermediate level.

Student Learning Outcomes

Students will develop an intermediate understanding and application of:

1. alignment, anatomy and kinesiology in flamenco dance
2. strength, stamina, flexibility, and coordination within flamenco dance vocabulary
3. fundamental concepts of space, time, and effort utilized in flamenco dance

DANC 2993. Workshop in Dance

Course Description

Varies

Student Learning Outcomes

Varies

DANC 2996. Topics in Dance

Course Description

Varies
Student Learning Outcomes
Varies

DANC 2998. Internship
Course Description
Varies
Student Learning Outcomes
Varies

Dental Assisting (DAST)

DAST 1110. Dental Science I
Course Description
This is an introduction course that will introduce the student to dental assisting and prepare them for the dental assisting program. The focus will be on the history of dentistry, ethics and code of conduct in dentistry, prevention, anatomical basics of the head and neck, and anatomy and physiology of body systems as they relate to dentistry. The laboratory component will include simulation software and in-person observation of dental procedures. Students will receive basic training in HIPAA and Bloodborne Pathogens.
Student Learning Outcomes
1. Pronounce, define, and spell all key terms relevant to assigned chapters.
2. Analyze historical individuals and their significant contribution(s)to today's dentistry.
3. Associate the concept of professionalism and differentiate each professional and their role in dentistry.
4. Summarize the fundamental principles of ethics for a dental professional.
5. Explain HIPAA, Patient Safety Act, and Patients' Bill of Rights.
6. Describe the purpose and limitations of disinfection, methods of disease transmission, significance of PPE and barrier techniques, sterilizing and protecting against BBP.
7. Summarize the difference between anatomy and physiology to interpret the 10 body systems.
8. Identify the basic anatomy of head and neck regions in preparation for clinical dental assisting.
9. Apply the components of a preventative dentistry program to create an individualized plan assessing oral hygiene products, dietary analysis, and fluoride needs assessment.
10. Examine the role of a dental assistant by live observation and completing specific simulation assignments.

DAST 1111. Dental Materials Theory
Course Description
Covers the composition, properties, classifications, uses, and manipulation of materials commonly used in dentistry. Topics also include legal, ethical, and safety issues related to the use of dental materials.
Student Learning Outcomes
1. Explain the properties, composition, handling, storage, dispensing and disposal of dental materials used chairside and in the laboratory.
2. Describe the legal and ethical considerations for using dental materials in a safe and responsible manner.
3. Describe the role of the dental auxiliary in the selection, preparation, and placement of dental materials.

DAST 1111L. Dental Materials Laboratory

Dental Materials Laboratory

Course Description

The laboratory emphasizes first-hand observations and hands-on performance of skill competencies that support the concepts taught in the theory course.

Student Learning Outcomes

1. Demonstrate the handling, storage, dispensing and disposal of dental materials used chairside and in the laboratory.
2. Demonstrate the role of the dental auxiliary in the legal, ethical, and safe use of dental materials.

DAST 1117. Principles and Techniques of Dental Radiology I

Course Description

Provides an introduction to the study of the science of x-radiation as it pertains to dentistry. Includes topics such as radiation protection, infection control, image characteristics, dental image production, dental x-radiation equipment, radiation physics and radiation biology.

Student Learning Outcomes

1. Determine, categorize and apply the appropriate radiation health protection techniques used in dentistry.
2. Recognize the fundamental concepts of radiation physics and radiation biology.
3. Recall radiation exposure guidelines, units used to measure exposure, radiation safety legislation and regulation.
4. Outline the infection control procedures necessary before, during and after x-ray exposure.
5. Identify the component parts of both intraoral and extraoral dental x-ray machines.
6. Determine how milliamperage, kilovoltage peak and exposure time all influence the quality of the x-ray beam
7. Differentiate between the factors that influence radiation characteristics and image characteristics.
8. Compare direct digital imaging and indirect digital imaging and explain how each image is captured and retrieved.
9. State the basic principles of both the paralleling technique and bitewing technique.
10. Illustrate the placement of a receptor, beam alignment device, position-indicating device (PID) and the central ray for both the paralleling and bitewing technique.
11. Distinguish between radiolucent and radiopaque areas on a dental radiograph.
12. Explain and identify the general diagnostic criteria for intraoral images.
13. Describe the step-by-step procedures for image mounting, viewing and interpretation of radiographs.
14. Identify anatomical landmarks and dental anatomy found on intraoral images.

DAST 1119. Fundamentals of Dental Assisting

Course Description

This introductory course provides students with foundational knowledge and skills essential for a career in dental assisting including infection control and safety protocols, OSHA regulations and the management of hazardous materials. Additionally, this course includes ergonomics, patient communication, and ethical considerations.

Student Learning Outcomes

1. Describe the importance of ergonomics and safe work practices in the dental setting.
2. Explain the principles of office organization and workflow.
3. Describe patient care and infection control protocols.
4. Describe disease transmission, disinfection, sterilization, hazardous materials according to State and Federal guidelines.
5. Describe methods to reduce bacterial contamination in dental unit waterlines.
6. Interpret dental ethics and jurisprudence.
7 Utilize effective patient communication skills.

8. Understand and utilize dental terminology

DAST 1123. Dental Radiology

Course Description

This course focuses on the principles and techniques of dental radiography. Students will study radiation physics, hygiene, and safety protocols. Emphasis is placed on the fundamentals of intraoral and extraoral radiographic techniques, including exposure, quality assurance, and interpretation of radiographs. The course also covers patient selection criteria and explores other ancillary radiographic techniques.

Student Learning Outcomes

1. Explain the principles of radiation physics in the production of x-rays.
2. Discuss the effects of ionizing radiation on living tissues and implement appropriate safety measures.
3. Recognize appropriate receptors and exposure factors.
4. Differentiate intraoral and extraoral radiographic techniques including landmarks and interpretation.
5. Explain infection control protocols during all radiographic procedures.
6. Recognize legal and ethical considerations related to dental radiography.
7. Develop communication strategies as related to dental radiology.

DAST 1123L. Dental Radiology Laboratory

Course Description

The .aboratory emphasizes first-hand observations and hands-on performance of skill competencies that support the concepts taught in the theory course.

Student Learning Outcomes

1. Produce high-quality dental radiographs in a safe, legal and ethical manner.
2. Effectively communicate with and manage patients during radiographic procedure.

DAST 1140. Bio Dental Science I

Course Description

This introductory course provides students with a foundational understanding of dental sciences. Students will study human anatomy and physiology, with a specific emphasis on the head, neck, and relevant body systems.
Furthermore, the course delves into oral biology, including the anatomy, histology, and physiology of the oral cavity, teeth, gums, and supporting structures. Students will acquire and utilize dental terminology related to tooth morphology, dentition, oral embryology, oral pathology, oral anatomy, and histology.

Student Learning Outcomes

1. Demonstrate knowledge of general and dental anatomy and physiology.
2. Identify dental numbering systems and tooth identification.
3. Explain the development and structure of teeth and associated structures.
4. Identify common medical and dental diseases and treatments.
5. Describe tooth morphology, histology, and embryology.

DAST 1141. Dental Education Issues

Course Description

An orientation to Dental Clinical Practicum II, which includes familiarization with various dental specialty settings, operations, and evaluation procedures. Students review chairside procedures, share their experiences, and discuss national

and state credentials, current concepts in dental and medical health technology and trends, dental careers, employment opportunities, personality types, emotional intelligence, cultural diversity, and the New Mexico Dental Practice Act.

Student Learning Outcomes

1. Analyze best practices in clinical experiences.
2. Explain current concepts and trends in dental and medical technology.
3. Describe career goals and prepare a cover letter, resume, and job application.
4. Describe the procedures needed for a job interview, contract signing, salary negotiations, and job termination.
5. Explore personality types and emotional intelligence as they relate to dental profession.
6. Demonstrate compassion, empathy, and sensitivity to patients of different cultural backgrounds.
7. Describe the scope of duties for a dental auxiliary in the state of New Mexico.

DAST 1193L. Principles and Techniques of Dental Radiology I Laboratory

Course Description

This course provides the application of hands on instruction in radiation protection for the operator and patient, infection control, image characteristics, dental film exposure, processing and mounting, operation and care of digital x-ray equipment.

Student Learning Outcomes

1. Understand radiation safety for both operator and patient.
2. Be proficient in patient and operator radiation safety.
3. Identify dental radiographic film and phosphoric plates.
4. Use an xcp holding device.
5. Perform various radiation exposures on mannequins using paralleling techniques.
6. Build skill level with individual film exposures.
7. Perform a full mouth series of radiographs using the paralleling technique.
8. Perform a full-mouth series of radiographs with limited errors within a designated time frame.
9. Process radiographs using a Scan-X processor using Eaglesoft software.
10. Appropriately mount all radiographs using dental landmarks.

DAST 1240. Preventative Dentistry/Oral Health Care

Course Description

The goal of the dental profession is to protect and preserve the oral health of the public. Each dental assistant is a member of a team of healthcare workers combatting diseases that jeopardize the oral health of community members. This course will emphasize proper brushing techniques, nutrition, and overall healthcare for the dental patient. After learning preventative dentistry concepts, students serve the local community by providing oral health care and preventative education. Some classes are held at Luna Community College dental facility; students will also travel to district schools. These experiences will enhance the knowledge of the participating student in preventative dental care and enrich his or her communication skills.

Student Learning Outcomes

1. Recognize states of intraoral health and disease.
2. Demonstrate oral hygiene techniques to promote optimal oral health.
3. Identify characteristics of each age group in order to effectively communicate oral hygiene education.
4. Relate the relationship of nutrition to general and oral health.
5. Provide preventative dental education to individuals and groups in community settings.
6. Differentiate the variety of preventive oral health procedures and when they’re indicated.
7. Explore the impact of fluoride on oral health.

DAST 1292L. Fundamentals of Chairside Assisting I Laboratory

Course Description

This course provides the clinical application of hands-on instruction in the use and sterilization of all dental instruments and basic fundamentals of chairside assisting. Subject areas are arranged in a clinical competency program, which is a method of study that helps the student master each skill before advancing to the next level.

Student Learning Outcomes

1. Identify the parts, function and care of dental equipment in the operatory.
2. Demonstrate stated dress code and professionalism in all laboratory and/or clinical areas.
3. Demonstrate correct hand hygiene procedures and placement of PPEs.
4. Demonstrate the correct grasps and body mechanics utilizing the various dental instruments.
5. Demonstrate the correct seating position for a patient and the dental team member while maintaining ergonomics.
6. Demonstrate preparation for seating and dismissing patients.
7. Obtain vital signs and document the findings consistent with instructor findings.
8. Identify the anatomical structures and landmarks of the face and oral vestibule and describe their basic function.
9. Demonstrate the disinfection and preparation of the dental operatory and prepare the acceptable disinfection and sterilization solutions.
10. Demonstrate patient education, including oral hygiene instructions by selecting the appropriate toothbrushing method and various auxiliary aids for patients with various needs.
11. Demonstrate various techniques for isolation and retraction.
12. Demonstrate the correct selection/positioning of the evacuator tips for various areas in the oral cavity.
13. State and apply the principles of four-handed dentistry including: correct methods for instrument transfer, various techniques for isolation, indirect vision and retraction, the correct grasps and fulcrum used with dental instruments as well as correct positioning of the evacuator tip for various areas in the oral cavity.
14. Demonstrate CDC recommendations for dental unit water quality.
15. Identify instruments used for examination, restorative and accessory dentistry and placement of instruments on a tray in accordance to their use.
16. Identify burs used in each handpiece and explain the type and appropriate number series and size and demonstrate correct method of clean-up and care.
17. Assembly of matrix band and universal retainer.
18 Demonstrate the placement of topical anesthetic identified by injection type and/or procedure.
19. Identification the parts and assemble an anesthetic syringe.

DAST 1310. Clinical Experience I

Course Description

Introduces clinical practice through student preceptorships utilizing four-handed dentistry at chair-side including expanded function in general dentistry delegated to the dental assistant as designated by the State Dental Practice Act and as part of the Commission on Dental Accreditation's requirement of minimum clinical hours.

Student Learning Outcomes

1. Demonstrate competence in all laboratory, clinical, and office-management skills in general dentistry.
2. Demonstrate competence in community dental health education.
3. Maintain a record of required activities in each clinical assignment.
4. Discuss clinical experiences during scheduled seminars.
5. Complete required skills and clinical hours by the specified deadline.

DAST 1512. Bio Dental Science II

Course Description

This course builds upon foundational knowledge, focusing on advanced concepts crucial for successful dental auxiliary. This course includes microbiology related to infection control and disease prevention, oral pathology and nutrition, pharmacology, patient care, medical and dental emergencies and preventive dentistry.

Student Learning Outcomes

1. Explain microbiology and its role in infection control.
2. Identify oral diseases and their impact on patient health.
3. Describe pharmacology principles and the use of medications in dentistry.
4. Develop strong communication and patient care skills.
5. Implement preventive measures such as patient education and plaque control programs.
6. Analyze the relationship between nutrition and oral health.
7. Recognize and respond to medical and dental emergencies.

DAST 1512L. Bio Dental Science II Laboratory

Course Description

Lab and pre-clinical experience for DAST 1512. The lab emphasizes hands-on practice to support concepts learned in DAST 1512.

Student Learning Outcomes

1. Perform and assist in caries detection and caries risk assessment.
2. Perform and assist in periodontal charting.
3. Demonstrate bacterial growth on agar in relationship with the action of a variety of mouthwashes on plaque.
4. Identify oral bacterial flora using Gram staining.
5. Perform and assist in preventive dental procedures.
6. Demonstrate how to interpret food labels and perform dietary analysis.
7 Demonstrate the relationship between salivary pH and diet.
8. Identify common oral pathologies.
9. Demonstrate skills needed in documenting patient records.
10. Take and record vital signs.
11. Assist, perform, and chart intra-oral and extra-oral examination.
12. Demonstrate understanding of types of treatment plans.
13. Perform extra-oral and intra-oral photography.
14. Demonstrate an understanding of Health Insurance Portability and Accountability Act (HIPAA).
15. Demonstrate an understanding of dental prescriptions and abbreviations.
16. Demonstrate the skills needed to deal with physically and mentally compromised patients.
17. Assist in dental and medical emergencies and perform basic life-support and cardiopulmonary resuscitation (CPR)

DAST 1515. Bio-Dental Science III

Course Description

An introduction to biomedical and dental sciences with emphasis on head and neck anatomy and tooth morphology. Includes microbiology, general anatomy and physiology, histology and embryology of the oral cavity, pathology and pharmacology as they relate to dentistry.

Student Learning Outcomes

1. Demonstrate the ability to express the history of dentistry, important contributions of historical figures to dentistry, and the importance of professional organizations.
2. Discuss how the study of microbiology relates to dentistry.
3. Utilize and demonstrate the ability to use basic anatomic terms to describe and identify structures of general human anatomy and physiology.
4. Identify and describe the structures associated with head and neck anatomy.
5. Identify, locate, and describe bones muscles, and major vessels of head and neck.
6. Summarize function and location of bones, muscles, and major vessels of the head and neck.
7. Differentiate between primary and permanent dentition by nomenclature, development, eruption patterns, and crown/root morphology.
8. Explain location, function, and dysfunctions of major salivary glands.
9. Summarize normal and abnormal actions of the temporomandibular joint.
10 Identify major areas and function of lymph nodes in the head and neck region.
11. Differentiate extra oral and intra oral landmarks.
12. Describe normal prenatal, embryonic and histological development with emphasis on face, neck, oro-facial structures and dentition.
13. Demonstrate the ability to be able to distinguish between normal and pathological abnormalities of the oral structures.
14. Describe the use/effect of pharmacological agents in dentistry.

DAST 1517. Principles and Techniques of Dental Radiology II

Course Description

This course builds on the comparison and contrast between the bisecting and paralleling techniques used for exposing intra oral radiographic films. Topics to be covered include paralleling technique, bitewing technique, introduction to radiographic examination, bisecting technique, occlusal and localization technique, digital radiography, normal anatomy, and identification of restorations in a radiograph.

Student Learning Outcomes

1. State the basic principle of the paralleling technique and illustrate the placement of the film, film holder, position indicating device (PID), and central ray.
2. Identify and describe the radiographic appearance of various restorations, materials, and foreign objects often found in the oral cavity.
3. State the basic principles of the bisecting technique and illustrate the location of the film, tooth, imaginary bisector, central ray, and position indicating device.
4. List the three types of intraoral radiographic examinations.
5. List and describe two methods of film mounting and identify the preferred method.
6. State the basic principles of the bite wing technique.
7. Describe the use and purpose of the occlusal examination.
8. Describe the purpose, use and fundamentals of panoramic radiography.
9. Describe the patient preparations, equipment preparations, and patient positioning procedures needed before exposing a panoramic film.
10. Identify and describe the normal anatomic landmarks of the maxilla and mandible on dental radiographs.
11. Describe what information is placed on the film mount.
12. Describe how the identification dot is used to determine film orientation.
13 Identify and describe film exposing errors.

14. Discuss the fundamentals of digital radiography.
15. Describe common physical and developmental disabilities and what modifications in technique may be necessary during the radiographic examination.
16. Describe how to control the gag reflex using operator attitude, patient and equipment preparations, exposure sequencing, film placement and technique, and helpful hints.

DAST 1519. Clinical Procedures I

Course Description

This foundational course introduces essential chairside assisting skills and knowledge including patient care, infection control, safety, legal and ethical considerations.

Student Learning Outcomes

1. Describe essential chairside assisting skills.
2. Explain patient care procedures while considering infection control and safety protocols.
3. Outline the legal and ethical implications of expanded functions.
4 Interpret the ethical and professional standards of conduct.

DAST 1519L. Clinical Procedures I Laboratory

Course Description

Application of essential chairside assisting skills and knowledge including patient care, infection control, safety, legal and ethical considerations.

Student Learning Outcomes

1. Perform essential chairside assisting skills.
2. Demonstrate patient care procedures while considering infection control and safety protocols.
3. Apply the legal and ethical implications of expanded functions.

DAST 1593L. Principles and Techniques of Dental Radiology II Laboratory

Course Description

This course provides the application of principals with hands on instruction in bisecting and paralleling techniques used during exposure of intra oral radiographic films. Instruction will include occlusal and localization technique, digital radiography, identification of anatomical landmarks, and identification of restorations in a radiograph. Students will expose radiographs on human subjects.

Student Learning Outcomes

1. Perform radiographs utilizing several different techniques.
2. Maintain patient and operator radiation safety.
3. Expose both horizontal and vertical bite wing x-rays.
4. Take occulsal films on adults and children.
5. Use a snap a ray holding device.
6. Take a full-mouth series of radiographs using the bisecting technique.
7. Process radiographs using a Scan-X processor using Eaglesoft software.
8. Appropriately mount all radiographs using dental and anatomical landmarks.
9. Perform 4 Patient full mouth surveys and send copy of diagnostic films with patient.

DAST 2220. Dental Practice Management

Course Description

This course equips students with essential skills for success in a dental office setting. Core areas of study includes front office operations and practice management.

Student Learning Outcomes

1. Identify and practice dental office operations.
2. Demonstrate effective verbal and nonverbal communication skills accommodating diverse populations.
3. Compare and contrast business principles as they pertain to the dental industry.
4. Utilize professional customer service skills.

DAST 2222. Community Dental Health

Course Description

This course introduces the principles and practices of dental public health. Students will explore epidemiology and biostatistics, disease prevention and control, health promotion, and healthcare delivery.

Student Learning Outcomes

1. Define the purpose and scope of dental public health.
2. Discuss the epidemiology and biostatistics of oral diseases.
3. Identify and analyze factors influencing oral health within communities.
4. Develop and implement community-based oral health education programs.
5. Provide Oral Health Education and Counseling.
6. Analyze and apply principles of research as related to public health.

DAST 2310. Clinical Experience II

Course Description

Continuation of clinical practice through student preceptorships utilizing four-handed dentistry at chair-side including expanded function in general and specialty dentistry delegated to the dental assistant as designated by the State Dental Practice Act and as part of the Commission on Dental Accreditation's requirement of minimum clinical hours.

Student Learning Outcomes

1. Demonstrate competence in all laboratory, clinical, and office-management skills in general and specialty dentistry.
2. Demonstrate competence in community dental health education.
3. Maintain a record of required activities in each clinical assignment.
4. Discuss clinical experiences during scheduled seminars.
5. Complete required skills and clinical hours by the specified deadline.

DAST 2513. Clinical Procedures II

Course Description

This course builds upon foundational skills, focusing on specialized procedures and expanded functions within various dental specialties following legal, ethical and safety guidelines.

Student Learning Outcomes

1. Describe different types of restorative and cosmetic dental procedures.
2. Describe different types of dental implants and the surgical procedures involved.
3. Describe various endodontic procedures, including root canal therapy.
4. Describe the goals and techniques of nonsurgical and surgical periodontal therapy.
5. Describe the role of the oral and maxillofacial surgery assistant during surgical procedures by maintaining asepsis.
6. Describe the unique dental needs of pediatric and special needs patients.
7. Describe different types of malocclusion and orthodontic treatment options.

8. Describe the components, construction, and home care for fixed and removable prosthodontics.

DAST 2513L. Clinicial Procedures II Laboratory

Course Description

Application of foundational skills, focusing on specialized procedures and expanded functions within various dental specialties following legal, ethical and safety guidelines.

Student Learning Outcomes

1. Perform different types of restorative and cosmetic dental procedures.
2. Assist with different types of dental implants and the surgical procedures involved.
3. Assist with various endodontic procedures, including root canal therapy.
4. Assist with the techniques of nonsurgical and surgical periodontal therapy.
5. Maintain asepsis while assisting with oral and maxillofacial surgery.
6. Accommodate the unique dental needs of pediatric and special needs patients.
7. Assist with orthodontic treatment options and various types of malocclusion.
8. Assist with fixed and removable prosthodontic procedures.

DAST 2990. Dental Assisting Practicum

Course Description

This course is the clinical component of the program that combines general practice and experiences in the work place. Seminar topics focus on the practicum experiences and critique of performance

Student Learning Outcomes

1. Assist the dentist chairside in general and specialty practices with procedures such as oral evacuation, instrument transfer, dental material preparation, various infection control procedures, and charting.
2. Perform various chairside, laboratory, and front office duties.
3 Work independently, but with direct supervision from licensed/certified dental assistant, hygienist or dentist in placement of rubber dam, coronal polishing, pit and fissure sealants, and topical fluoride. Receive dental/medical information and take vital signs.
4. Expose, process, and duplicate radiographs in accordance with New Mexico Dental Regulations.
5. Educate patients about dental disease, plaque control, oral hygiene and the role of proper nutrition in managing dental disease. Organize and participate a community project included in this objective.
6. Identify and manage medical emergencies in the dental environment.
7. Create study models, temporary crowns, custom trays, and mix a wide variety of dental materials.
8. Maintain aseptic and safe environment through proper disinfection and sterilization techniques with adherence to safety and OSHA guidelines.
9. Recognize and Adhere to HIPAA.
10. Manage the business/financial aspects of a dental practice (i.e. preparing insurance forms, appointment scheduling, answering telephone, bookkeeping, and inventory control).
11. Demonstrate ethical and professional behavior in the clinical setting.
12. Demonstrate competency in skills needed to function as a dental assistant. To include confidence in patient management, positive attitude about self, members of the dental team, and the dental profession.
13. Display professional dependability and ability to promote teamwork.
14. Demonstrate ethical decision making processes.
15. Define oral pathology and identify the dental assistant's role in this specialty.

DAST 2996. Topics in Dental Assisting
Course Description
Varies
Student Learning Outcomes
Varies

DAST 2999. Dental Assisting Capstone
Course Description
Varies
Student Learning Outcomes
Varies

Dental Hygiene (DHYG)

DHYG 2205. Introduction to Dental Hygiene
Course Description
This course is an overview of topics and issues germane to the practice of dental hygiene.
Student Learning Outcomes

1. Describe the science and practice of dental hygiene.
2. Assess the current issues in dental hygiene.
3. List the basic principles of dental hygiene practice.
4. Describe the policies and procedures of the Dental Hygiene Program.
5. Defend the need for professional socialization of dental hygienists.

DHYG 2210. Preclinical Dental Hygiene Seminar
Course Description
This foundational course provides dental hygiene students with the introductory knowledge, skills, and attitudes essential for success in the clinical setting emphasizing scientific principles, current theory, prevention of disease transmission, ethical and professional patient treatment and clinical preparation for comprehensive patient care.
Student Learning Outcomes

1. Describe infection control protocols for safe dental hygiene practice.
2. Identify equipment and materials for sterilization and disinfection.
3. Explain ergonomics and positioning strategies for safe patient and operator interaction.
4. Discuss time and motion management principles for clinical efficiency.
5. Describe protocols for medical emergency prevention and management.
6. Demonstrate the ability to obtain and record a comprehensive health history.
7. Identify key anatomical landmarks for patient assessment and charting.
8. Describe the properties and applications of preventive pharmacological agents.
9. List diagnostic and screening tools used in clinical examinations.
10. Recognize the importance of consistent patient assessment based on professional standards.

DHYG 2212. Preclinical Dental Hygiene Seminar
Course Description

This foundational course provides dental hygiene students with the introductory knowledge, skills, and attitudes essential for success in the clinical setting emphasizing scientific principles, current theory, prevention of disease transmission, ethical and professional patient treatment and clinical preparation for comprehensive patient care.

Student Learning Outcomes

1. Describe infection control protocols for safe dental hygiene practice.
2. Identify equipment and materials for sterilization and disinfection.
3. Explain ergonomics and positioning strategies for safe patient and operator interaction.
4. Discuss time and motion management principles for clinical efficiency.
5. Describe protocols for medical emergency prevention and management.
6. Demonstrate the ability to obtain and record a comprehensive health history.
7. Identify key anatomical landmarks for patient assessment and charting.
8. Describe the properties and applications of preventive pharmacological agents.
9. List diagnostic and screening tools used in clinical examinations.
10. Recognize the importance of consistent patient assessment based on professional standards.

DHYG 2213. Oral Histology and Embryology

Course Description

This course provides a comprehensive introduction to the microscopic structures of the oral tissues and their embryological formation.

Student Learning Outcomes

1. Define and explain the concepts of dental histology and embryology.
2. Describe the embryological development, morphology, and histology of the human dentition and its associated structures.

DHYG 2214. Head and Neck Anatomy

Course Description

This course provides a comprehensive study of the anatomy and physiology of the head and neck regions with a specific emphasis on oral structures and their functions.

Student Learning Outcomes

1. Discuss the clinical applications of the study of head and neck anatomy by dental professionals.
2. Identify the anatomical structures of the head and neck.
3. Discuss normal anatomic variation and how it applies to different structures of the head and neck.
4. Identify deviations from normal, and how it applies to different structures of the head and neck.
5. Integrate the knowledge of head and neck anatomy into clinical practice of patient examination, dental radiology, and the future use of local anesthetics.

DHYG 2215. Tooth Anatomy and Morphology

Course Description

This course provides a comprehensive study of human dentition, including their development and relationships within the oral cavity. Key areas of focus include universal charting, numbering systems, cavity classification, and laboratory activities enhance observational and clinical skills.

Student Learning Outcomes

1. Describe the anatomy, physiology and stages of the human dentitions.
2. Explain the concept of occlusion and malocclusion.

3. Describe dental numbering systems and tooth identification.
4. Explain the eruption process and the eruption schedule for primary and permanent dentitions.

DHYG 2216. Dental Radiology

Course Description

This course focuses on the principles and techniques of dental radiography. Students will study radiation physics, hygiene, and safety protocols. Emphasis is placed on the fundamentals of intraoral and extraoral radiographic techniques, including exposure, quality assurance, and interpretation of radiographs. The course also covers patient selection criteria and explores other ancillary radiographic techniques.

Student Learning Outcomes

1. Explain the principles of radiation physics in the production of x-rays.
2. Discuss the effects of ionizing radiation on living tissues and implement appropriate safety measures.
3. Recognize appropriate receptors and exposure factors.
4. Differentiate intraoral and extraoral radiographic techniques including landmarks and interpretation.
5. Explain infection control protocols during all radiographic procedures.
6. Recognize legal and ethical considerations related to dental radiography.
7. Develop communication strategies as related to dental radiology.

DHYG 2216L. Dental Radiology Laboratory

Course Description

The laboratory emphasizes first-hand observations and hands-on performance of skill competencies that support the concepts taught in the theory course.

Student Learning Outcomes

1. Produce high-quality dental radiographs in a safe, legal and ethical manner.
2. Effectively communicate with and manage patients during radiographic procedure.

DHYG 2220. Clinical Dental Hygiene Seminar I

Course Description

A continuation of clinical skills, patient assessment, treatment, scheduling, preventive techniques and application of dental hygiene procedures at the intermediate level. Work-based instruction that helps students synthesize new knowledge, apply previous knowledge or gain experience managing the workflow. Practical experience is simultaneously related to theory. Direct supervision is provided by the clinical faculty.

Student Learning Outcomes

1. Explain fundamental principles of infection control and patient safety.
2. Describe methods for assessing oral health conditions.
3. Discuss strategies for ensuring efficiency and safety in clinical practice.
4. Analyze techniques used in preventive dental care.
5. Identify factors that influence patient health and treatment considerations.
6. Interpret patient assessment data for informed decision-making.
7. Discuss protocols for referrals and emergency management.
8. Evaluate approaches to patient education and communication.
9. Examine ethical and professional responsibilities in dental care.
10. Integrate evidence-based concepts into dental hygiene practice.

DHGY 2222. Clinical Dental Hygiene I

Course Description

Building upon the foundational skills acquired in Preclinical Dental Hygiene, this course transitions students into the clinical setting where they begin providing care to patients. Emphasis is placed on applying infection control protocols, conducting comprehensive assessments, and implementing basic treatment plans with close faculty supervision. Specific clinical requirements are set for this program and may not be transferrable to other programs.

Student Learning Outcomes

1 .Apply universal precautions in clinical care.
2. Perform effective sterilization and disinfection procedures.
3. Show proper patient/operator positioning during treatment.
4. Demonstrate emergency prevention strategies in patient care.
5. Conduct thorough patient assessments.
6. Implement treatment plans based on patient assessment.
7. Apply instrumentation techniques to remove deposits effectively.
8. Demonstrate ethical reasoning in clinical decision-making.

DHYG 2223. General and Oral Pathology

Course Description

Introduction to general pathology with focused study of diseases and disorders of the oral cavity and their interrelationship with body systems; developmental anomalies of the teeth and jaws; manifestations of disease in the oral cavity, head and neck.

Student Learning Outcomes

1. Describe pathological processes and their effects on the immune system and body organ systems.
2. Differentiate oral conditions based on clinical and radiographic characteristics for accurate diagnosis.
3. Assess oral lesions to determine their significance and the need for referral.
4. Communicate effectively about oral disease manifestations with healthcare professionals and patients.
5. Integrate oral pathology knowledge into treatment planning, patient education, and evidence-based care.

DHYG 2224. Periodontology

Course Description

Study of normal and diseased periodontium to include the structural, functional and environmental factors. Emphasis on etiology, pathology, evaluation of disease, treatment modalities, and therapeutic and preventative periodontics relative to the hygienist's role as a co-therapist in a contemporary practice setting.

Student Learning Outcomes

1. Describe the characteristics of healthy and diseased periodontium to support accurate diagnosis.
2. Classify periodontal diseases to guide treatment planning.
3. Explain the causes and progression of periodontal diseases and their impact on the periodontium.
4. Identify key considerations for periodontal surgical and nonsurgical treatments.
5. Discuss the influence of systemic health factors on periodontal disease progression and management.

DHYG 2225. Dental Materials

Course Description

Covers the composition, properties, classifications, uses, and manipulation of materials commonly used in dentistry. Topics also include legal, ethical, and safety issues related to the use of dental materials.

Student Learning Outcomes

1. Explain the properties, composition, handling, storage, dispensing and disposal of dental materials used chairside and in the laboratory.
2. Describe the legal and ethical considerations for using dental materials in a safe and responsible manner.
3. Describe the role of the dental auxiliary in the selection, preparation, and placement of dental materials.

DHYG 2225L. Dental Materials Laboratory

Course Description

The laboratory emphasizes first-hand observations and hands-on performance of skill competencies that support the concepts taught in the theory course.

Student Learning Outcomes

1. Demonstrate the handling, storage, dispensing and disposal of dental materials used chairside and in the laboratory.
2. Demonstrate the role of the dental auxiliary in the legal, ethical, and safe use of dental materials.

DHYG 2226. Medical and Dental Emergencies

Course Description

This course provides an overview of medical and dental emergencies encountered most frequently in the dental setting. The course also focuses on the recognition, prevention, preparation and management of these emergencies.It also provides the student with knowledge and techniques on how to address those emergencies should they occur.

Student Learning Outcomes

1. Describe the components and purpose of an emergency kit in managing medical emergencies in a dental setting.
2. Apply treatment protocols for managing medical emergencies during dental care.
3. Recognize abnormal vital signs and their implications for emergency intervention.
4. Explain the key steps in preparing a dental office for effective emergency management.
5. Demonstrate techniques for managing airway obstructions and foreign body aspirations in emergencies.

DHYG 2227. Clinical Dental Hygiene II

Course Description

Clinic II advances students' clinical competencies by refining their instrumentation techniques, treatment planning, and patient management skills. With increased independence, students will provide care for patients with varying oral health needs while learning to evaluate treatment effectiveness and make appropriate modifications. Specific clinical requirements are set for this program and may not be transferrable to other programs.

Student Learning Outcomes

1. Maintain universal precautions in all patient interactions.
2. Demonstrate adherence to sterilization and disinfection standards.
3. Apply patient/operator positioning to optimize clinical efficiency.
4. Assess patient risk factors to prevent medical emergencies.
5. Perform individualized treatment procedures.
6. Demonstrate precision in instrumentation techniques.
7. Evaluate patient responses and adjust treatment accordingly.
8. Apply ethical and professional standards to clinical practice.

DHYG 2228. Pain and Anxiety Management

Course Description

Study of the application of various physical, chemical, and psychological modalities to the prevention and treatment of preoperative and postoperative patient anxiety and pain. Emphasis on administration of local anesthesia and nitrous oxide.

Student Learning Outcomes

1. Explain the anatomy and physiology of nerve conduction, including pain transmission mechanisms and how they are influenced by local anesthetics.
2. Discuss the pharmacological properties, actions, contraindications, and potential adverse reactions of local anesthetic agents, vasoconstrictors, and nitrous oxide.
3. Evaluate the effects of local anesthetics on the central nervous system (CNS) and cardiovascular system (CVS), including recognition and management of adverse reactions.
4. Describe the biotransformation processes of esters and amides, the concept of drug half-life, and the clinical relevance of pKa and pH in anesthesia.
5. Identify clinical signs and symptoms of adverse reactions to local anesthetics and vasoconstrictors, and describe appropriate management protocols for these reactions.
6. List and explain the maximum recommended doses for local anesthetics and vasoconstrictors, and discuss dose modifications for children, adults, and patients with compromised health.
7. Describe the steps to recognize and manage medical emergencies related to anesthesia administration, including syncope, allergic reactions, and cardiovascular complications.
8 Evaluate patient medical and dental histories to identify risk factors that may influence the selection of anesthetic agents and necessitate medical consultation.
9. Discuss proper protocols for handling sharps, preventing cross-contamination, and managing equipment used in local anesthesia.
10. Explain the importance of emergency preparedness in the dental office, including recognizing symptoms of undiagnosed medical conditions, responding to adverse drug reactions, and implementing emergency protocols to ensure patient safety.

DHYG 2228L. Pain and Anxiety Management Clinical

Course Description

Clinical application of concepts learned in Pain and Anxiety Management. Emphasis on the administration and techniques of local anesthesia and monitoring nitrous oxide.

Student Learning Outcomes

1. Demonstrate the proper technique for administering local anesthetic injections, including infiltrations and nerve blocks, to ensure effective pain control and patient comfort.
2. Apply knowledge of intraoral landmarks to accurately and safely perform various local anesthetic injections, such as the ASA, PSA, IA, and mental nerve blocks.
3. Evaluate a patient's medical and dental history to identify contraindications and determine the appropriate anesthetic agents, vasoconstrictors, and techniques for treatment.
4. Administer nitrous oxide-oxygen sedation safely and effectively, monitoring the patient's physiological and psychological responses throughout the procedure.
5. Identify and manage adverse reactions or medical emergencies associated with the administration of local anesthetics, vasoconstrictors, or nitrous oxide, including syncope, allergic reactions, or toxicity.
6. Calculate and adjust dosages of local anesthetics, vasoconstrictors, and nitrous oxide based on patient factors such as age, weight, medical history, and health status.
7. Ensure proper handling and disposal of sharps and other equipment to maintain infection control and safety during anesthetic administration.

8.Educate patients about the procedure, expected outcomes, dosage safety, and post-operative considerations associated with local anesthesia and nitrous oxide sedation.

DHYG 2229. Clinical Dental Hygiene Seminar II

Course Description

Continuing development of a theoretical framework of dental hygiene treatment with advancement of dental hygiene proficiency in all areas of dental hygiene treatment. Presentation and discussion of case histories from patients and preventive measures employed against disease concurrent with clinical practice with emphasis on adjunctive therapies and treating the older adult population.

Student Learning Outcomes

1. Describe stimuli and pain characteristics specific to hypersensitivity and explain how this relates to differential diagnosis. Describe the factors that contribute to dentin exposure and behavioral changes that could decrease hypersensitivity.
2. Describe two mechanisms of desensitization and their associated treatment interventions for managing dentin hypersensitivity.
3. Analyze the mechanisms, safety, and efficacy of tooth bleaching agents, including patient-specific conditions, expected stain responses, potential side effects, and appropriate management interventions.
4. Evaluate the physiological, cognitive, systemic, and oral changes associated with aging, and apply best practices in communication and the dental hygiene process of care to effectively manage the older adult patient.
5. Demonstrate competency in extraoral and intraoral dental photography by selecting appropriate equipment, explaining its purpose to patients, and utilizing photographic records for patient education, treatment planning, lesion documentation, and integration into the patient chart.

DHYG 2230. Clinical Dental Hygiene Seminar III

Course Description

Continuing development of a theoretical framework of dental hygiene treatment with advancement of dental hygiene proficiency in all areas of dental hygiene treatment. Presentation and discussion of case histories from patients and preventive measures employed against disease concurrent with clinical practice with emphasis on special needs patients.

Student Learning Outcomes

1. Discuss advanced concepts in periodontal therapy and patient care.
2. Apply pharmacological principles to dental hygiene treatment.
3. Evaluate patient outcomes to guide treatment decisions.
4. Explore interdisciplinary approaches to comprehensive patient care.
5. Develop strategies for managing medical emergencies in a clinical setting.
6. Assess risk factors affecting oral and systemic health.
7. Discuss approaches to patient education and disease prevention.
8. Analyze patient documentation and follow-up care planning.
9. Examine strategies for long-term patient management and referrals.
10. Recognize the importance of self-assessment and ongoing professional development.

DHYG 2232. Clinical Dental Hygiene III

Course Description

Clinic III, students manage more complex cases, requiring advanced critical thinking and problem-solving skills. They will integrate diagnostic tools, adapt treatment strategies, and demonstrate greater autonomy in decision-making. Emphasis is

placed on professional judgment, ethical considerations, and comprehensive patient care. Specific clinical requirements are set for this program and may not be transferrable to other programs.

Student Learning Outcomes

1. Implement universal precautions.
2. Evaluate sterilization and disinfection protocols for effectiveness.
3. Demonstrate advanced patient/operator positioning techniques.
4. Develop strategies for managing medical emergencies.
5. Integrate diagnostic and assessment techniques into treatment planning.
6. Demonstrate critical thinking in managing complex patient cases.
7. Assess the effectiveness of treatment outcomes.
8. Apply ethical reasoning and professionalism in clinical decision-making.

DHYG 2233. Pharmacology

Course Description

Study of the pharmacologic aspects of drugs and drug groups with which the dentist and dental hygienist are directly and indirectly concerned. Emphasis is placed on nomenclature, origin, physical and chemical properties, preparation, modes of administration and effects of drugs upon the body systems.

Student Learning Outcomes

1. Identify the effects of commonly used drugs on dental treatment.
2. Describe strategies for managing drug interactions, medical emergencies, and oral manifestations related to drug use in dental practice.
3. Apply pharmacological principles to the management of patient care in a clinical dental setting.
4. Explain approaches to ensuring safe dental care for patients with complex medical histories.
5. Incorporate pharmacological knowledge and ethical considerations into dental care practices.

DHYG 2234. Research Methodology

Course Description

This course provides an introduction to the principles and application of research methods in social, behavioral and medical research.

Student Learning Outcomes

1. Explain how oral health research and the process of scientific inquiry knowledge development and daily practice.
2. Explain how an evidence-based decision-making approach enhances critical thinking and professional decision-making regarding patient care.
3. Describe the scientific method and research process.
4. Use the Internet and electronic resources in research and understand how they relate to dental hygiene education, practice and research.
5. Conduct an effective literature search using electronic databases (such as PubMed, MEDLINE, and CINAHL), professional journals, government documents, product literature and other print publications, video and other forms of multimedia.
6. Develop a PICO (or equivalent) research question to address an identified practice problem.
7. Discuss different research designs and when each is appropriate to use.
8. Explain the elements necessary to obtain valid and reliable results for observational, exploratory and experimental research.
9. Evaluate oral health research articles applying concepts of research design and methodology.

10. Interpret oral health data by proper application of statistical principles and tests.
11. Critically analyze different print and electronic information sources and apply to the practice of dental hygiene.
12. Gain an appreciation for the role of research in evidence-based dental hygiene practice.

DHYG 2240. Clinical Dental Hygiene Seminar IV

Course Description

A continuation of information to prepare the student for advanced clinical practice. Provides an in-depth study of dental hygiene care for diverse patient populations and provides a forum for evaluation of the service project from Dental Public Health, and synthesis of all dental hygiene knowledge, skills and attitudes into a case presentation.

Student Learning Outcomes

1. Explore advanced concepts in dental hygiene care and patient management.
2. Discuss strategies for handling medical emergencies in a clinical setting.
3. Analyze patient assessment data to support interdisciplinary treatment planning.
4. Evaluate the effectiveness of dental hygiene interventions for long-term patient outcomes.
5. Examine professional responsibilities in mentoring and education within the field.
6. Develop strategies for addressing barriers to oral health care in diverse populations.
7. Explore approaches to collaborative, patient-centered care in dental hygiene practice.
8. Assess clinical practices using evidence-based research to support continuous improvement.
9. Discuss the legal, ethical, and professional considerations in patient documentation.
10. Recognize the role of dental hygienists in leadership, research, and advocacy for oral health.

DHYG 2242. Clinical Dental Hygiene IV

Course Description

As the final clinical course, Clinic 4 prepares students for professional practice by refining their ability to manage diverse and complex patient cases with confidence and competence. Students will demonstrate mastery of clinical skills, collaborate with healthcare professionals, and develop strategies for lifelong learning and ethical practice in dental hygiene. Specific clinical requirements are set for this program and may not be transferrable to other programs.

Student Learning Outcomes

1. Implement universal precautions across all clinical settings.
2. Develop an evidence-based approach to sterilization and disinfection.
3. Demonstrate mastery of patient/operator positioning.
4. Create a risk management plan for emergency prevention and response.
5. Synthesize patient data to develop comprehensive treatment plans.
6. Lead interprofessional collaboration to enhance patient care.
7. Design a system for evaluating treatment effectiveness.
8. Advocate for ethical and professional excellence in clinical practice.

DHYG 2243. Principles of Practice

Course Description

Examination of the dental hygienist's role in both traditional and non-traditional employment settings. Career planning, resume preparation and interviewing are practices. An understanding of the law, professional ethics of dental hygiene and the need for lifelong learning are emphasized. Future roles of the dental hygienist and emerging issues in dental hygiene will be explored.

Student Learning Outcomes

1. Analyze the core values found in the Codes of Ethics of professional dental organizations and their application to dental hygiene practice.
2. Compare the ethical theories.
3. Demonstrate an ethical decision-making framework by applying it to case-based scenarios and defending the chosen course of action.
4. Evaluate the differences between different legal frameworks for the licensing and practice of dental hygienists.
5. Create a protocol for addressing cultural competence and sensitivity in patient care delivery, including strategies to overcome health literacy challenges.

DHYG 2244. Dental Public Health Education

Course Description

Study of principles and concepts of community public health and dental health education. Emphasis on dental epidemiology and statistical methods, community assessment, educational planning, implementation, and evaluation, scientific review of literature, and classroom presentation.

Student Learning Outcomes

1. Participate in community programs to prevent oral diseases and promote health.
2. Deliver evidence-based oral health care and education to diverse populations.
3. Develop strategies for implementing and evaluating oral health programs.
4. Advocate for oral health promotion through collaboration with various stakeholders.
5. Apply scientific research to evaluate dental products, techniques, and policies for informed decision-making.

DHYG 2320. Preclinical Dental Hygiene

Course Description

Clinical application of basic theories and procedures used in dental hygiene practice. The emphasis is on the techniques of instrumentation used in performing diagnostic| preventive and therapeutic services utilized in providing comprehensive patient care. The dental hygiene student will have an opportunity to practice techniques on manikins and student partners in the clinic.

Student Learning Outcomes

1. Demonstrate basic dental hygiene skills as evidenced by a 75% or higher accuracy on learning assessments.
2. Demonstrate the principles and procedures required for comprehensive dental hygiene patient care that are based on scientific evidence.
3. Integrate the knowledge of head and neck anatomy, tooth morphology, and dental radiology into clinical examination and instrumentation.
4. Demonstrate professional communication styles that will be used to help interview and educate patients and work as a productive team member.
5. Develop critical thinking, problem solving skills, and ethical decision-making skills which will help integrate theory into practice in both pre-clinical and clinical settings and will be applied to case studies and to case management.
6. Model professional behavior at all times.
7. Explain the importance of infection control and asepsis, OSHA Standards for infection control and hazard communications, SJC policies and procedures and utilize methods of prevention of disease transmission including:
    a. use of personal protective equipment.
    b. use of universal/standard precautions and procedures for general asepsis.
    c. proper unit and operatory maintenance.
    d. use of sterilization equipment.

8. Discuss the importance of patient's personal, medical and dental health histories and develop appropriate interviewing techniques that involve the patient and lead to consent for treatment.
9. Demonstrate record keeping skills that meet medico-legal requirements including signatures of supervising clinicians and apply this knowledge when presented with case scenarios reflecting comprehensive patient care.
10. Demonstrate the principles of operator positioning to avoid occupational injuries.
11 Demonstrate the procedures of the following patient assessments and explain their relationship to providing comprehensive patient care.
    a. medical/dental/social history
    b. vital signs.
    c. extra/oral and intraoral examinations including common pathological conditions.
    d. dental examination including clinical recognition of dental caries.
    e. periodontal examination including gingival description and periodontal charting.
12. Demonstrate an understanding of basic instrument fundamentals including the use of:
    a. mouth mirror
    b. dental explorers
    c. periodontal probes
    d. sickle scalers
    e. universal and area specific curets
    f. dental handpiece and prophy angles.
    g. ultra-sonic scalers / air powder polishers
13 .Discuss oral infection control and demonstrate personal oral hygiene techniques and aids.
14. Demonstrate selective polishing and the application of topical fluorides.
15. Demonstrate the use of all clinic forms, references, and an understanding of all institution/s Dental Hygiene Policies and Procedures in the application of clinical procedures

DHYG 2321. Preclinical Dental Hygiene Seminar

Course Description

Introductory knowledge, skills and attitudes to function in the clinical setting and be able to continue in clinical dental hygiene courses. Emphasis on scientific principles and current theory, prevention of disease transmission, ethical and professional treatment of patients, clinical preparation and comprehensive care of the patient.

Student Learning Outcomes

1. Explain the application of basic theoretical background necessary to ensure a safe and effective clinical environment for both clinician and patient.
2. Develop a theoretical framework for comprehensive patient care that is evidence-based and can be applied in the preclinical and clinical settings throughout the course of this professional program.
3. Develop critical thinking and problem-solving skills which will help integrate theory into practice in preclinical and clinical settings and will be applied to case studies.
4. Model professional behavior at all times.
5. Discuss the role of the professional dental hygienist, the dental hygiene process of care and factors that influence clinical practice.
6. Discuss the importance of the patient's personal, medical and dental health history and develop appropriate interviewing techniques that involve the patient and lead to consent for treatment.
7. Demonstrate record keeping skills that meet medico-legal requirements including signatures of supervising clinicians and apply this knowledge when presented with case scenarios reflecting comprehensive patient care.

8. Discuss caries, gingivitis and periodontal disease development and identify contributing factors to this development and basic oral self-care strategies designed to eliminate or control these conditions.
9. Provide rationale for the use of fluoride and chemotherapeutic agents for oral hygiene care.
10. Recognize dental deposits including plaque, calculus and stains and describe their origin and influence on oral health.
11. Explain the procedure of developing a dental hygiene care plan and provide rationale for its use in comprehensive patient care.
12. Describe the fundamental procedures associated with ethical and professional treatment of patients in the SJC clinic.
13. Discuss behavior management techniques for patients in the SJC clinic.

DHYG 2322. Clinical Dental Hygiene I

Course Description

Introduction to the clinic and patient clinical skills, patient assessment, treatment and appointment scheduling, preventive techniques and application of dental hygiene procedures in the clinical setting. Practical experience is simultaneously related to theory. Direct supervision is provided by the clinical faculty.

Student Learning Outcomes

1. Provide introductory level comprehensive dental hygiene care within recommended time limits at competency levels of 75% or higher.

DHYG 2323. Dental Hygiene Seminar I

Course Description

Continuing development of a theoretical framework of dental hygiene treatment with advancement of dental hygiene proficiency in all areas of dental hygiene treatment. Presentation and discussion of case histories from patients and preventive measures employed against disease concurrent with clinical practice with emphasis on special needs patients.

Student Learning Outcomes

1. Evaluate scientific research and integrate the research into evidence-based dentistry.
2. Develop individualized patient assessment protocols based on theoretical framework for comprehensive patient care, taking into account patient's cultural background, psychosocial status and risk factors for oral disease
3. Develop appropriate dental hygiene diagnoses for patients based on detailed dental hygiene assessments including: medical/dental history, extra/intra-oral exams, radiographs, dental exams, periodontal and gingival assessments, plaque maps and other oral health risk assessments.
4. Design health promotion/ disease prevention plans which meet identified patient needs and incorporate appropriate patient self-care strategies using established educational principles.
5. Develop dental hygiene treatment plans with appropriate, evidenced-based therapy and evaluations for children, adolescents, and adults presenting with gingivitis and slight to moderate periodontal disease and other common health problems.
6. Evaluate common oral physiotherapy aids, dentifrice, mouth rinses and other oral self-care products and select appropriate items for individual patients.
7. Discuss bottled water and fluoridation.
8. Discuss dental sealants, their benefits, risks and techniques for application.
9. Explain the rationale and technique for sharpening dental hygiene instruments.
10. Discuss the signs of abuse and how dental health care providers can document and report.
11. Discuss various types of oral prosthetic appliances and their care.

12. Describe cultural differences and how they may affect the dental hygiene process of care
13. Discuss psychological and physiological aspects of addiction with specific attention to tobacco, alcohol and methamphetamines.
14. Develop patient intervention strategies appropriate for addictions listed above.
15. Demonstrate critical thinking, problem solving and ethical decision-making skills within the front office management to include; patient scheduling, patient billing, fee collection and deposits and data entry.
16. Plan, implement and evaluate intervention strategies that will promote and maintain oral health and overall health including oral self-care behaviors.
    a. understanding of patient motivation and behavior and help the student plan and implement strategies that enhance student–patient interaction.

DHGY 2324. Clinical Dental Hygiene Seminar II

Course Description

A continuation of clinical skills, patient assessment, treatment, scheduling, preventive techniques and application of dental hygiene procedures at the intermediate level. Work-based instruction that helps students synthesize new knowledge, apply previous knowledge or gain experience managing the workflow. Practical experience is simultaneously related to theory. Direct supervision is provided by the clinical faculty.

Student Learning Outcomes

1. Apply the theory, concepts, and skills involving comprehensive patient care at an intermediate level to patients with AAP Class I, II and III with a clinical competency average of 75% or higher.

DHYG 2325. Dental Hygiene Seminar II

Course Description

Continuing development of a theoretical framework of dental hygiene treatment with advancement of dental hygiene proficiency in all areas of dental hygiene treatment. Presentation and discussion of case histories from patients and preventive measures employed against disease concurrent with clinical practice with emphasis on adjunctive therapies and treating the older adult population.

Student Learning Outcomes

1. Describe stimuli and pain characteristics specific to hypersensitivity and explain how this relates to differential diagnosis. Describe the factors that contribute to dentin exposure and behavioral changes that could decrease hypersensitivity.
2. Describe two mechanisms of desensitization and their associated treatment interventions for managing dentin hypersensitivity.
3. Analyze the mechanisms, safety, and efficacy of tooth bleaching agents, including patient-specific conditions, expected stain responses, potential side effects, and appropriate management interventions.
4. Evaluate the physiological, cognitive, systemic, and oral changes associated with aging, and apply best practices in communication and the dental hygiene process of care to effectively manage the older adult patient.
5. Demonstrate competency in extraoral and intraoral dental photography by selecting appropriate equipment, explaining its purpose to patients, and utilizing photographic records for patient education, treatment planning, lesion documentation, and integration into the patient chart.

DHYG 2326. Clinical Dental Hygiene III

Course Description

A continuation of clinical skills, patient assessments, treatment and appointment scheduling, preventive techniques and application of dental hygiene procedures at the intermediate to advanced level. Work-based instruction that helps students synthesize new knowledge, apply previous knowledge or gain experience managing the workflow. Practical experience is simultaneously related to theory. Direct supervision is provided by the clinical faculty.

Student Learning Outcomes

1. Communicate patients' awareness of relationship between systemic and oral health.

DHYG 2327. Dental Hygiene Seminar III

Course Description

Continuing development of a theoretical framework of dental hygiene treatment with advancement of dental hygiene proficiency in all areas of dental hygiene treatment. Presentation and discussion of case histories from patients and preventive measures employed against disease concurrent with clinical practice with emphasis on special needs patients.

Student learning outcomes

1. Integrate the knowledge of multifaceted, advanced patient care into the Dental Hygiene care plan.
2. Assess, evaluate, demonstrate a broad understanding of a complicated, comprehensive case presentation and be able to answer questions using critical thinking skills.
3. Understand root morphology in preparation for advanced instrumentation.
4. Discuss the role of advanced instrumentation in non-surgical periodontal treatment as it relates to technique, instrument selection, aims and expected outcomes.
5. Explain the rationale for maintenance appointments and describe the criteria to consider in selecting appointment intervals.
6. List and describe local delivery agents a dental hygienist can utilize as supplemental care procedures following non-surgical periodontal therapy.
7. Assemble a nutritional analysis of the Case Documentation/ Presentation patient that integrates cultural preferences.
8. Integrate a nutritional analysis into comprehensive patient care, understand how nutrition relates to caries risk assessment. Recognize eating disorders as component of nutritional analysis.
9. Demonstrate the ability to assess nutritional needs as they relate to oral health care.
10. Understand rationale and timing of dental hygiene patient education. Collaborate with patient to identify and demonstrate preventive aid plans that are personalized and demonstrate cultural awareness.
11. Describe emergency situations and protocol in the clinical setting.
12. Identify the HIPAA regulations as they pertain to the dental setting.
13. Explain the role of the dental hygienist in the care of the patient with disabilities. Define and understand palliative care, evidence based dental hygiene interventions, and the hygienist's role as part of the palliative team.
    a. Suggest adaptations and dental hygiene care factors to consider for patients with hearing or visual problems
14. Explain mechanisms of action of Fluoride in caries prevention. Explain the role of community water fluoridation. Incorporate F therapy into patient prevention plans. Preform a CAMBRA on case doc. patient.
15 .Integrate the practice of dental hygiene into a case presentation that demonstrates the application of a more advanced level of dental hygiene knowledge, skills, and attitudes.
16. Demonstrate critical thinking and clinical reasoning skills while examining several case studies.
17. Explain the role of the dental hygienist in the care of patients with nicotine use. Assess and develop a dental hygiene care plan for the patient who uses nicotine.
18. Recognize the protocols for developing a nicotine cessation program.

19. Describe the signs of abuse, neglect, and human trafficking. Explain the role of the dental hygienist in reporting and documenting suspected abuse.

DHYG 2328. Clinical Dental Hygiene IV

Course Description

The clinical sessions combine both basic and advanced dental hygiene skills with time management techniques essential for private practice. Comprehensive patient care to include assessment, dental hygiene diagnosis, treatment planning, implementation and evaluation of dental hygiene care, nonsurgical periodontal therapy, adjunct clinical procedures, ultrasonic instrumentation, patient management, sealants, and comprehensive programs for control of dental diseases will be emphasized. Practical experience is simultaneously related to theory. Course consists of faculty supervised patient treatment in the clinic.

Student Learning Outcomes

1. Apply the theory, concepts, and skills involving comprehensive patient care at an advanced level to patients with various complexities of oral disease. Clinical competency will be demonstrated at 85% or higher.
2. Demonstrate legal and ethical behavior, safety practices, interpersonal and teamwork skills, and appropriate written and verbal communication skills using the terminology of the occupation as evidenced by an 85% or higher accuracy on learning assessments.
3. Expand patients' awareness of relationship between systemic and oral health.
4. Encourage patients' responsibility for oral health and role in successful therapy.
5. Recognize and respond to patients' psycho/social issues.
6. Effectively communicate with peers, patients, faculty and other health care providers.
7. Demonstrate critical thinking, problem solving and ethical decision-making skills.
8. Demonstrate effective team partnerships.
9. Develop collaborative treatment modalities with partner, patient, dentist and other health professionals.
10. Select and use appropriate indices and assessments for initial, outcomes/ re-evaluation and health maintenance visits; i.e.: general health evaluation, intra-oral and extra-oral assessment, periodontal and dental evaluation, radiographic evaluation, functional occlusion, nutritional assessment.
11. Evaluate the needs of patients, analyze the impact of assessment findings on treatment and prognosis and develop treatment plans and case presentations that recognize and incorporate the complexity of all patient needs.
12. Provide individualized treatment, education and patient care i.e., debridement, root planing, improved effectivity and efficiency with ultrasonic, margination, antimicrobial therapy, sealants, desensitization, and nutritional counseling, referral for general or oral health concerns, pain and anxiety control, education, patient skill enhancement and appliance care.
13. Provide individualized dental hygiene services to promote patient health for a variety of patients including children, adolescents, adults, geriatric, low income, edentulous/partially edentulous.
14. Provide individualized dental hygiene services to promote health for special needs patients.

Patients with Special Needs are defined as those patients whose medical, physical, psychological, or social conditions make it necessary to modify normal dental routines in order to provide dental treatment for that individual. These individuals include, but are not limited to, people with intellectual and/or developmental disabilities, complex medical problems, and significant physical limitations.

15 .Increase production while maintaining quality.

16. Complete Internal Rotations:

a. Radiology and Sterilization: Anticipate and manage needs of multiple clinicians, critically evaluate and troubleshoot processing errors, adhere to OSHA guidelines. Use proper PPE's, manage the clinic supply system, operate and maintain sterilization equipment.
b. Assistant: Employ team work necessary for efficient clinic operation, independently evaluate, determine and meet the needs of other clinicians, operate and maintain clinic equipment.
c. Office: Adhere to HIPPA regulations, operate and maintain office equipment, utilize practice management software, provide excellent customer service, manage data entry, critically evaluate and audit charts, maintain a clean and organized office space. Demonstrate critical thinking, problem solving and ethical decision-making skills within front office management to include: patient scheduling, patient billing, fee collection, deposits and data entry.

DHYG 2329. Dental Hygiene Seminar IV

Course Description

A continuation of information to prepare the student for advanced clinical practice. Provides an in-depth study of dental hygiene care for patients with special needs and provides a forum for evaluation of the service project from Community Dental Health, and synthesis of all dental hygiene knowledge, skills and attitudes.

Student Learning Outcomes

1. Analyze theoretical basis for clinical activities including topics regarding special needs patients.
2. Accurately describe safety procedures and universal precautions.
3. Plan treatment and predict outcomes based on patient history and clinical evidence
4. Demonstrate critical thinking, problem solving and ethical decision-making skills
5. Analyze advanced instrument design, functions and applications
6. Identify dental hygiene care procedures to be considered when providing care to patients who are physically or mentally compromised.
7. Explain the types of care necessary and adaptations that must be made by the patient and dental hygienist relating to dental care of the patient with physical impairments and disabilities.
8. Explain the role of the dental hygienist in providing care for the oral and maxillofacial surgery patient.
9. Identify key nutritional concepts and the relationship to dental disease.
10. Develop a plan for dental hygiene care for a patient with cancer before, during, and after therapy and describe the purposes of each step of the plan.
11. Explain the importance of assessment, dental hygiene care, and emergency care of the patient with a seizure disorder.
12. Differentiate between the classifications of epileptic syndromes and describe dental hygiene care and emergency care services that may be required for this patient.
13. Describe the expected capabilities of the patient with mental disabilities and describe alternate methods of teaching basic oral care procedures.
14. Describe frequently encountered psychiatric disorders and relate this knowledge to an understanding of the patient's needs and behaviors.
15. Describe the oral conditions associated with a patient with an alcohol and/or drug related disorder.
16. Describe the role of the dental hygienist in caring for the patient with diabetes and differentiate between Type I and Type II diabetes.
17. Describe modification in dental hygiene care for the following special population groups and give examples of oral health conditions that might be evident with these patients:
    a. Preadolescent to Postmenopausal Patients

b. Pregnant Patients

18. Differentiate between the various cardiovascular diseases. Identify signs, symptoms, and dental management of patients with CV diseases.
19. Integrate the practice of dental hygiene into a Literature Review and PowerPoint presentation that demonstrates the application of an advanced level of dental hygiene knowledge, skills and attitudes.

DHYG 2990. Dental Hygiene Practicum
Course Description
Varies
Student Learning Outcomes
Varies

DHYG 2996. Dental Hygiene Topics
Course Description
Varies
Student Learning Outcomes
Varies

Diagnostic Medical Sonography (DMSO)

DMSO 1110. Introduction to Clinical Practicum
Course Description
Introduction to working in the medical environment. Includes preparation for clinical internship and observation hours in the ultrasound department.
Student Learning Outcomes

1. Recognize sonographic anatomy on observed sonographic procedures.
2. Identify and adhere to clinical site practices and policies.
3. Describe aspects of the clinical experience.
4. Demonstrate effective communication skills with patients and healthcare team members.

DMSO 1111. Introduction Sonography/Patient Care
Course Description
Introduction to the careers in sonography, terminology, medical ethics, scanning planes, applications of ultrasound, professional standards and patient care.
Student Learning Outcomes

1. Describe essential functions of the sonographer in the health care setting.
2. Distinguish key patient care differences based on patient demographics.
3. Develop and apply professional ethics in line with industry standards.
4. Describe best practices for infection control in the medical setting.

DMSO 1111L. Introduction Sonography/Patiend Care Laboratory
Introduction to working in the medical environment. Includes safety procedures for interactions with patients, including but not limited to transfer, moving and positioning techniques. Patient assessment methods and procedures. Protection of drains, tubes, intravenous lines, and infusion pumps. Gloving gowning, and sterile procedures. Safe use and application of sonography equipment. Professional behavior and responsibility of the sonographer in the diagnostic imaging lab

STUDENT LEARNING OUTCOMES:

1. Demonstrate safe patient interaction techniques in a simulated clinical environment, including proper communication, transfers, moving, and positioning.
2. Perform basic patient assessments (e.g., verification, mobility status, comfort, and safety considerations) to support appropriate sonographic procedures.
3. Operate introductory sonography equipment safely and appropriately, including power-up, basic controls (knobology), and probe handling, in accordance with lab protocols.
4. Integrate infection control principles into all lab activities to minimize the risk of contamination and maintain a safe clinical environment.
5. Respond appropriately to common lab-based clinical scenarios, identifying hazards and implementing corrective actions to promote patient and operator safety.

DMSO 1114. Introduction to Clinical Practicum II

Course Description

Development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the developmental level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under direct supervision.

Student Learning Outcomes

1. Demonstrate proficiency in patient care skills.
2. Recognize sonographic anatomy.
3. Assist with basic sonographic procedures in the clinical setting.
4. Describe aspects of the clinical experience.

DMSO 1115. Sonographic Cross-Sectional Anatomy

Course Description

Sonographic Cross-Sectional Anatomy

A study of sectional anatomy of the transverse, longitudinal, and coronal planes are included with an emphasis on the organs of sonographic interest. Correlation with other imaging procedures will be emphasized.

Student Learning Outcomes

1. Demonstrate knowledge of human gross anatomy and sectional anatomy as it applies to diagnostic medical sonography.
2. Demonstrate knowledge of correlation of sonographic anatomy with other imaging procedures such as computerized tomography, radiologic imaging, or MRI.
3. Demonstrate knowledge of the body planes as they apply to sonographic sections.

DMSO 1116. Vascular Technology I

Course Description

Review of basic ultrasound physics and principles, peripheral vascular anatomy, hemodynamics, Doppler evaluation, peripheral vascular scanning techniques, physiologic testing and the carotid arteries and the peripheral vascular system.

Student Learning Outcomes

1. Describe peripheral and cerebrovascular anatomy and physiology.
2. Identify normal anatomy and waveforms on sonographic images and correlative imaging procedures.
3. Correlate Doppler waveforms to hemodynamic principles.
4. Differentiate venous and arterial hemodynamic principles.

DMSO 1116L. Vascular Technology I Laboratory

Course Description

Includes protocol development, scanning techniques, recognition of anatomical relationships and the normal ultrasound appearance of the carotid arteries and peripheral vasculature utilizing real-time sonographic equipment including Doppler.

Student Learning Outcomes

1. Recognize and document peripheral and cerebrovascular anatomy on sonographic examinations.
2. Develop protocols for thorough imaging of peripheral and cerebrovascular sonographic imaging.
3. Describe Doppler waveforms and correlate findings with hemodynamic principles.

DMSO 1120. Abdominal Sonography

Course Description

Emphasis is placed on recognizing the anatomy, physiology and pathology of the peritoneal organs, preverterbral vessels and abdominal wall. Laboratory tests, signs and symptoms of disease of the peritoneal abdominal organs will be discussed. Scanning techniques and protocols will be included.

Student Learning Outcomes

1. Recognize and identify the sonographic appearance of normal anatomic structures, including anatomic variants and normal Doppler patterns of the peritoneal organs preverterbral vessels and abdominal wall.
2. Recognize and identify the abnormal sonographic and Doppler patterns of disease processes, pathology, and pathophysiology of the peritoneal organs, preverterbral vessels and abdominal wall.
3. Demonstrate knowledge of related imaging, laboratory, functional testing procedures and differential diagnosis.
4. Demonstrate knowledge of the role of the sonographer in performing interventional/invasive procedures.

DMSO 1125. Gynecological Sonography

Course Description

Emphasis is placed on recognizing gynecological anatomy, physiology and pathology. Laboratory tests, signs and symptoms of gynecologic disease will be discussed. Scanning techniques and protocols will be included.

Student Learning Outcomes

1. Recognize and identify the sonographic appearance of normal anatomic structures of the female pelvis, including anatomic variants and normal Doppler patterns.
2. Recognize and identify the abnormal sonographic and Doppler patterns of disease processes, pathology, and pathophysiology of the female pelvis.
3. Demonstrate knowledge of related imaging, laboratory, functional testing procedures and differential diagnosis.
4. Demonstrate knowledge of Scanning techniques and protocols.
5. Demonstrate knowledge of the role of the sonographer in performing interventional/invasive procedures.

DMSO 1130. Sonographic Physics I

Course Description

Introduces the basic principles of acoustical physics including sound production, propagation, interactive properties of ultrasound with human tissues, basic ultrasound instrument operation, quality assurance testing, bioeffects and acoustic artifacts.

Student Learning Outcomes

1. Apply and solve problems using mathematics it applies to acoustic parameters.
2. Demonstrate knowledge basic concepts of acoustic physics.

3. Demonstrate knowledge of transducer parameters and selection.
4. Demonstrate knowledge acoustical artifacts.

DMSO 1131. Pelvic Sonography

Course Description

Includes the anatomy, sectional anatomy and normal physiology of the pelvic structures; including the uterus, ovaries, prostate, pelvic muscles, lower GI, appendix and vessels as well as scanning techniques, sonographic appearance and Doppler evaluation of the pelvis.

Student Learning Outcomes

1. Describe the relational anatomy of the pelvic organs.
2. Distinguish the sonographic appearance of male and female pelvic anatomy.
3. Discuss the physiology of pelvic organ systems.
4. Correlate the physiologic cycles of pelvic organs with the appropriate sonographic appearances.

DMSO 1131L. Pelvic Sonography Laboratory

Course Description

Includes protocol development, scanning techniques, recognition of anatomical relationships and the normal ultrasound appearance of the pelvic structures including the uterus, ovaries, prostate, lower gastrointestinal system, appendix and pelvic muscles utilizing real-time sonographic equipment including Doppler.

Student Learning Outcomes

1. Identify normal anatomy of the male and female pelvis on sonographic images.
2. Produce diagnostic sonographic images of pelvic organs.
3. Develop protocols for thorough sonographic evaluation of the pelvic organs.
4. Correlate sonographic findings with the normal physiologic processes of the female pelvic organs.

DMSO 1140. Abdominal Sonography

Course Description

Includes the anatomy, sectional anatomy and normal physiology of prevertebral vessels, liver, biliary system, pancreas, upper gastrointestinal system, kidneys, adrenals, and spleen as well as scanning techniques, sonographic appearance and Doppler evaluation of the deep abdominal organs.

Student Learning Outcomes

1. Identify the normal anatomy of the abdominal organs.
2. Describe the physiology of abdominal organs and how it relates to sonographic appearances.
3. Describe the relational anatomy of abdominal organ systems.

DMSO 1140L. Abdominal Sonography Laboratory

Course Description

Includes protocol development, scanning techniques, recognition of anatomical relationships and the normal ultrasound appearance of prevertebral vessels, liver, biliary system, pancreas, upper gastrointestinal system, kidneys and spleen utilizing real-time sonographic equipment including Doppler.

Student Learning Outcomes

1. Identify the abdominal organs on sonographic images.
2. Produce diagnostic quality sonographic images of the abdominal organs.
3. Correlate sonographic appearances with the normal physiology of abdominal organs.

4. Develop protocols for thorough and efficient imaging of the abdominal organs.

DMSO 1150. Sonographic Principles and Instrumentation I

Course Description

Includes the fundamental properties and mathematical relationships between variables of wave parameters, acoustic variables, attenuation, pulsed wave operation, transducers, system operation, Doppler, and artifacts utilizing real-time sonographic equipment.

Student Learning Outcomes

1. Describe the physics principles related to sonographic imaging.
2. Correlate physics principles to technical factor adjustments on sonographic equipment.
3. Solve mathematical equations related to sonographic physics principles.

DMSO 1170. Clinical Practicum I

Course Description

Development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the developmental level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under direct supervision.

Student Learning Outcomes

1. Develop professional skills necessary in the clinical environment.
2. Perform basic sonographic procedures with minimal assistance from preceptors.
3. Assist with complex/advanced sonographic procedures under the guidance of preceptors.

DMSO 1180. Clinical Practicum II

Course Description

Development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the beginner level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continue observation, assistance and performance of patient care and sonographic duties under direct supervision.

Student Learning Outcomes

1. Demonstrate general and sonographic knowledge to function as a member of the healthcare team.
2. Identify and interpret data from patient charts.
3. Perform a broad range of general sonographic examinations with minimal to moderate assistance.
4. Demonstrate effective oral and written communication skills.

DMSO 1193. Sonographic Concepts Laboratory I

Course Description

Basic general and vascular sonographic concepts and anatomy lab. Laboratory sessions will introduce students to basic scanning techniques, sonographic anatomy and imaging protocols.

Student Learning Outcomes

1. Demonstrate knowledge of human gross anatomy and sectional anatomy as it applies to diagnostic medical sonography.
2. Recognize and identify the sonographic appearance of normal anatomic structures, including anatomic variants and normal Doppler patterns.
3. Demonstrate knowledge of the body planes as they apply to sonographic sections.
4. Demonstrate knowledge of image optimization techniques.

5. Demonstrate basic knowledge of imaging protocols.

DMSO 1520. Abdominal Sonography II

Course Description

The emphasis of this course is on recognizing the anatomy, physiology and pathology of the following as they relate to sonographic imaging: breast, musculoskeletal system, gastrointestinal system, non-cardiac chest, superficial and retroperitoneal structures, abdominal wall, cavities and vasculature. The sonographer's role in ultrasound-guided procedures as well as pre- and post-organ transplant imaging will also be presented. Laboratory tests, signs and symptoms of disease will be discussed. Scanning techniques and protocols will be included.

Student Learning Outcomes

1. Demonstrate knowledge of the physiology, pathophysiology, sonographic technique, measurements, sonographic appearances, and Doppler patterns, where applicable, in both normal and abnormal structures including: breast, musculoskeletal system, gastrointestinal system, non-cardiac chest, superficial and retroperitoneal structures, abdominal wall, cavities and vasculature.
2. Demonstrate knowledge of related imaging, laboratory, functional testing procedures and differential diagnosis.

DMSO 1525. Obstetrical Sonography

Course Description

Emphasis is placed on recognizing obstetrical anatomy, physiology and pathology. Laboratory tests, signs and symptoms of obstetrical and fetal disease will be discussed. Scanning techniques and protocols will be included.

Student Learning Outcomes

1. Demonstrate knowledge of the sonographic appearance of normal maternal gynecological structures during the first, second, and third trimesters.
2. Demonstrate knowledge of the sonographic appearance of normal embryonic, and fetal anatomic structures during the first, second, and third trimesters.
3. Demonstrate knowledge of the sonographic appearance of normal fetal growth parameters.
4. Demonstrate knowledge of the sonographic appearance of obstetric abnormalities, disease, pathology, and pathophysiology.
5. Demonstrate knowledge of the role of the sonographer in performing interventional/invasive procedures.

DMSO 1526. 1st Trimester Obstetric Sonography

Course Description

Includes the embryology, anatomy, sectional anatomy, normal physiology, biometrics, assessment, and sonographic appearance of the 1st trimester fetus, placenta, uterus and adnexa as well as scanning techniques according to recognized protocols.

Student Learning Outcomes

1. Describe the embryology and normal development of the 1st trimester pregnancy.
2. Recognize the sonographic anatomy of normal 1st trimester pregnancy.
3. Relate the gestational age with sonographic findings to recognize normal development of the 1st trimester pregnancy.

DMSO 1527. 2nd/3rd Trimester Obstetric Sonography

Course Description

Includes the anatomy, sectional anatomy, normal physiology, biometrics, assessment, and sonographic appearance of the 2nd and 3rd trimester fetus, placenta, uterus, and adnexa as well as scanning techniques according to recognized protocols.

Student Learning Outcomes

1. Describe the normal anatomy and physiology of the 2nd and 3rd trimester pregnancy.
2. Correlate the sonographic appearance of the pregnancy with the gestational age to identify appropriate growth and development of the fetus.
3. Develop protocols for efficient and thorough scanning of the pregnancy.
4. Describe best practices for imaging the pregnancy in accordance with ALARA principles.

DMSO 1528. High Risk Obstetric Sonography

Course Description

Includes congenital malformations of the developing fetus, high risk pregnancies, multiple gestation, maternal conditions and invasive procedures.

Student Learning Outcomes

1. Describe the sonographic signs of fetal anomalies.
2. Identify the risk factors for congenital anomalies to correlate with clinical history.
3. Describe the process for imaging multiple gestations.
4. Identify best practices for safe imaging in the high risk pregnancy.

DMSO 1530. Sonographic Physics II

Course Description

This course presents concepts of transducer parameters and functions, detail resolution, imaging instrumentation design and function, bio-effects, and emerging technologies in sonographic imaging.

Student Learning Outcomes

1. Demonstrate knowledge of transducer construction, how a transducer generates pulses and receives echoes.
2. Demonstrate knowledge of how sound beams are focused and scanned through anatomy.
3. Demonstrate knowledge of spatial detail resolution and the factors that determine spatial detail resolution.
4. Compare linear, convex, phased, and vector arrays and relate the technical needs and developments that have driven advancement in ultrasound imaging.
5. Demonstrate knowledge of image production and optimization through application of concepts of transducer selection, principles of instrumentation and modes of operation, operator control options, image storage devices and emerging technologies.

DMSO 1590. Clinical Sonography I

Course Description

Supervised clinical experience in area hospitals and health care facilities to develop the student's general ultrasonic skills in a diagnostic environment.

Student Learning Outcomes

1. Obtain, review, and integrate pertinent patient history and supporting clinical data to facilitate optimum diagnostic results.
2. Perform appropriate procedures and record anatomic, pathologic, and/or physiologic data for interpretation by a physician.
3. Record, analyze, and process diagnostic data and other pertinent observations made during the procedure for presentation to the interpreting physician.

4. Exercise discretion and judgment in the performance of sonographic and/or other diagnostic services.
5. Demonstrate appropriate communication skills with patients and colleagues.
6. Act in a professional and ethical manner.
7. Provide patient education related to medical ultrasound and/or other diagnostic vascular techniques and promote principles of good health.

DMSO 1593. Sonographic Concepts Laboratory II

Course Description

Intermediate general and vascular sonographic concepts and anatomy lab. Laboratory sessions will build upon student's clinical experience of scanning techniques, sonographic anatomy and imaging protocols. Intermediate proficiency levels toward image acquisition, implementing technical quality and imaging.

Student Learning Outcomes

1. Demonstrate knowledge of human gross anatomy and sectional anatomy as it applies to diagnostic medical sonography.
2. Recognize and identify the sonographic appearance of specified normal anatomic structures including anatomic variants.
3. Demonstrate knowledge of the body planes as they apply to sonographic sections.
4. Perform limited sonographic exams of specified organs utilizing standard protocols.
5. Apply Doppler principles.
6. Recognize normal Doppler patterns.
7. Identify and measure specified anatomical structures.
8. Demonstrate knowledge of imaging instruments.
9. Apply specified image optimization techniques. Identify imaging artifacts.

DMSO 2020. Pediatric Sonography

Course Description

Ultrasound evaluation relating to the pediatric population. Includes scanning techniques, transducer selection, and scanning protocols relating to normal and pathologic conditions that affect the premature infant, newborn and pediatric population across a variety of body systems.

Student Learning Outcomes

1. Identify anatomy, relational anatomy, anatomic variants, and sonographic appearances of normal anatomical structures related to the pediatric population.
2. Demonstrate knowledge of the physiology, pathophysiology, sonographic technique, measurements, sonographic appearances, and Doppler patterns, where applicable, in both normal and abnormal pediatric structures.
3. Demonstrate knowledge in scanning technique, protocol and modifications based on sonographic findings.
4. Demonstrate knowledge and application of patient care as it pertains to the pediatric population.

DMSO 2030. Sonographic Physics III

Course Description

Presents concepts of advanced physics, principles of Doppler techniques, hemodynamics, flow analysis, quality control procedures and research statistics and design. This course also includes a review of all Sonographic Physics concepts in preparation for the Sonographic Principles and Instrumentation board exam.

Student Learning Outcomes

1. Explain principles of normal adult cardiovascular physiology and hemodynamics.

2. Explain the laws and principles that govern hemodynamics and their clinical significance in normal and diseased states.
3. Evaluate spectral Doppler data to assess flow dynamics for disease.
4. Describe the qualitative and quantitative methods used to determine vascular function and patency in common disease states.
5. Identify the primary components of imaging instruments involved in performing Doppler interrogation of the vascular system.
6. Identify and explain image optimization techniques.

DMSO 2090. Clinical Sonography II

Course Description

Supervised clinical experience in area hospitals and health care facilities to develop the student's general ultrasonic skills in a diagnostic environment.

Student Learning Outcomes

1. Obtain, review, and integrate pertinent patient history and supporting clinical data to facilitate optimum diagnostic results.
2. Perform appropriate procedures and record anatomic, pathologic, and/or physiologic data for interpretation by a physician.
3. Record, analyze, and process diagnostic data and other pertinent observations made during the procedure for presentation to the interpreting physician.
4. Exercise discretion and judgment in the performance of sonographic and/or other diagnostic services.
5. Demonstrate appropriate communication skills with patients and colleagues.
6. Act in a professional and ethical manner.
7. Provide patient education related to medical ultrasound and/or other diagnostic vascular techniques, and promote principles of good health.

DMSO 2093. Sonographic Concepts Lab III

Course Description

Advanced general, and introductory vascular, sonographic concepts lab. Laboratory sessions will build upon students' clinical experience of scanning techniques, sonographic anatomy and imaging protocols. Students will develop proficiency in image acquisition, implementing technical quality, imaging protocols, interpretation and case analysis. B-Mode imaging, color flow image interpretation, and spectral Doppler waveform analysis will be practiced.

Student Learning Outcomes

1. Demonstrate knowledge of human gross anatomy and sectional anatomy as it applies to diagnostic medical sonography.
2. Recognize and identify the sonographic appearance of normal anatomic structures including anatomic variants.
3. Demonstrate knowledge of the body planes as they apply to sonographic sections.
4. Perform complete sonographic exams of specified organs utilizing standard protocols within a specified time frame.
5. Apply Doppler principles.
6. Recognize normal Doppler patterns.
7. Identify and measure specified anatomical structures.
8. Demonstrate knowledge of imaging instruments.
9. Apply advanced image optimization techniques.

DMSO 2110. Introduction to Vascular Sonography

Course Description

Course includes arterial and venous anatomy, vascular anatomy, vascular imaging protocols, basic scanning techniques, and transducer manipulation. Two dimensional B-Mode imaging, color flow image interpretation, and spectral Doppler waveform analysis will be discussed. Vascular disease and its effect on blood flow will be covered.

Student Learning Outcomes

1. Demonstrate knowledge of vascular pathology and pathophysiology.
2. Explain mechanisms of normal vascular hemodynamics.
3. Apply knowledge of vascular anatomy and physiology to evaluate sonographic findings for disease in the vascular system.
4. Apply knowledge of sonographic appearances, sonographic techniques, measurements, and Doppler flow characteristics to assess both normal and abnormal vascular structures.

DMSO 2216. Vascular Technology II

Course Description

Includes the pathology and pathophysiology of the vascular system, scanning techniques, clinical presentation, ultrasound appearance and Doppler evaluation seen with pathological conditions of the carotid arteries, deep and peripheral vascular systems.

Student Learning Outcomes

1. Describe risk factors for vascular pathology.
2. Correlate Doppler waveforms with hemodynamic principles in the presence of pathology.
3. Describe the sonographic appearance of pathology in peripheral and cerebrovascular systems.
4. Identify modifications to sonographic techniques when pathology is identified.

DMSO 2230. Gynecologic Pathology

Course Description

Includes the pathology and pathophysiology of the female reproductive system, scanning techniques, clinical presentation, ultrasound appearance and Doppler evaluation seen with pathological conditions of the uterus, ovaries, and adnexa.

Student Learning Outcomes

1. Recall the normal gynecological anatomy to identify variations or the presence of pathology.
2. Describe risk factors, clinical findings, and the sonographic appearance of gynecological pathologies.
3. Identify diagnostic differentials based on the sonographic appearance of gynecological pathologies.

DMSO 2240. Abdominal Pathology I

Course Description

Includes the pathology and pathophysiology of abdominal structures of the prevertebral vessels, liver, biliary system, pancreas, spleen and gastrointestinal system; scanning techniques, ultrasound appearance, clinical presentation and Doppler evaluation seen with pathological conditions.

Student Learning Outcomes

1. Recall the normal anatomy and physiology of the abdominal organs to recognize variations on sonographic images.
2. Describe modifications to the sonographic technique based when pathology is identified.
3. Correlate sonographic findings with clinical information to identify diagnostic differentials.

DMSO 2245. Abdominal Pathology II

Course Description
Includes the pathology and pathophysiology of abdominal structures of the genitourinary system, spleen, retroperitoneum, adrenal glands, abdominal wall and prostate; scanning techniques, ultrasound appearance, clinical presentation and Doppler evaluation seen with pathological conditions.
Student Learning Outcomes
1. Recall the normal anatomy and physiology of the abdominal organs to recognize variations on sonographic images.
2. Describe modifications to the sonographic technique when pathology is identified.
3. Correlate sonographic findings with clinical information to identify diagnostic differentials.

DMSO 2250. Sonographic Principles and Instrumentation II
Course Description
Includes properties of sound and its use in diagnostic imaging, artifacts, system operation, Doppler, basic hemodynamics, image optimization, bio effects, quality assurance, and new technologies in ultrasound imaging.
Student Learning Outcomes
1. Explain the physics principles associated with sonographic imaging.
2. Describe how physics principles modify the sonographic image.
3. Relate ultrasound physics to bio effects and best practices for safe sonographic imaging.

DMSO 2270. Clinical Practicum III
Course Description
Continued development of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at an intermediate level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under limited supervision.
Student Learning Outcomes
1. Consistently demonstrate professional skills and etiquette in the clinical setting.
2. Perform basic and advanced sonographic procedures with minimal assistance from preceptors.
3. Perform complex sonographic procedures with guidance from preceptors.
4. Analyze clinical experiences to broaden patient care skills.

DMSO 2280. Clinical Practicum IV
Course Description
Application of technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at a proficient level. Ongoing reinforcement and broadening of knowledge base related to hospital procedures and policies. Continued observation, assistance and performance of patient care and sonographic duties under limited supervision.
Student Learning Outcomes
1. Demonstrate professional communication with patients and healthcare team members.
2. Perform basic and advanced sonographic procedures with minimal assistance from preceptors.
3. Perform complex sonographic procedures with guidance from preceptors.
4. Analyze clinical experiences to broaden patient care skills.

DMSO 2290. Clinical Sonography III
Course Description
Supervised clinical experience in area hospitals and health care facilities to develop the student's ultrasonic skills in a diagnostic environment. May include vascular sonography opportunities.

Student Learning Outcomes

1. Obtain, review, and integrate pertinent patient history and supporting clinical data to facilitate optimum diagnostic results.
2. Perform appropriate procedures and record anatomic, pathologic, and/or physiologic data for interpretation by a physician.
3. Record, analyze, and process diagnostic data and other pertinent observations made during the procedure for presentation to the interpreting physician.
4. Exercise discretion and judgment in the performance of sonographic and/or other diagnostic services.
5. Demonstrate appropriate communication skills with patients and colleagues.
6. Provide patient education related to medical ultrasound and/or other diagnostic vascular techniques, and promote principles of good health.

DMSO 2291. Registry Preparation: OB/GYN

Course Description

Registry preparation mock examinations over materials covered in Obstetric and Gynecological ultrasound. Students must pass this course with a 74% or better OR pass national certification in OB/GYN Sonography.

Student Learning Outcomes

1. Recall knowledge of normal anatomy, physiology, and pathology of obstetric and gynecological structures.
2. Evaluate sonographic images and patient history to identify likely pathologies.
3. Self-reflect on tested concepts to identify concepts that require further studying.

DMSO 2292. Registry Preparation: Abdomen

Course Description

Registry preparation mock examinations over materials covered in abdominal ultrasound including small parts and superficial structures. Students must pass this course with a 74% or better OR pass ARDMS national certification exam in Abdominal Sonography.

Student Learning Outcomes

1. Recall knowledge of normal anatomy, physiology, and pathology of abdominal and superficial structures.
2. Evaluate sonographic images and patient history to identify likely pathologies.
3. Self-reflect on tested concepts to identify concepts that require further studying.

DMSO 2293. Registry Preparation: Vascular

Course Description

Registry preparation mock examinations over materials covered in vascular ultrasound. Students must pass this course with a 74% or better OR pass national certification in Vascular Technology.

Student Learning Outcomes

1. Identify and describe vascular anatomy.
2. Recognize vascular pathology based on sonographic images.
3. Describe hemodynamic changes associated with vascular pathology.
4. Demonstrate understanding of patient care, exam protocols, and department procedures.

DMSO 2295. Small Parts and Superficial Structures

Course Description

Includes anatomy, pathology and pathophysiology, protocol development, scanning techniques, recognition of anatomical structures and the normal and pathological ultrasound appearance of the breast, thyroid, neck, scrotum, non-cardiac chest and musculoskeletal ultrasound.

Student Learning Outcomes

1. Describe the anatomy and physiology of small parts and superficial structures.
2. Identify normal anatomy, anatomical variants, and pathology on sonographic images of superficial structures.
3. Correlate sonographic appearances of pathologies with clinical history to develop diagnostic differentials of superficial structures.

DMSO 2695. Registry Review

Course Description

This course will prepare the students for selected ARDMS registry exams.

Student Learning Outcomes

1. Demonstrate mastery of subject matter in the subject area of Abdomen.
2. Demonstrate mastery of subject matter in the subject area of Ob/Gyn.

DMSO 2996. Diagnostic Medical Sonography Topics

Course Description

Varies

Student Learning Outcomes

Varies

DMSO 2999. Diagnostic Medical Sonography Capstone

Course Description

Varies

Student Learning Outcomes

Varies

Digital Studies (DGST)

DGST 1110. Introduction to Digital Studies

Course Description

Introduces an interdisciplinary approach to the interactions between the digital and material worlds. Includes the analysis of digital cultures and history, development of digital identity, and creative work with digital tools.

Student Learning Outcomes

1. Demonstrate effective use of digital tools for constructing knowledge and producing cultural objects.
2. Explain and critique elements of digital cultures and communities.
3. Describe how digital culture reproduces elements of material culture, such as power dynamics, biases, and systems of privilege.
4. Construct and curate a digital identity or identities.

DGST 1120. Introduction to Digital Humanities

Course Description

This course introduces students to the methods and inquiries of the humanities fields generally, but with special attention to the use of digital tools to analyze traditional texts and traditional methods analyzing digital texts. Also uses digital tools in the production and demonstration of knowledge in the course.

Student Learning Outcomes

1. Compare and contrast humanities methods and inquiry from those of other disciplines.
2. Analyze traditional texts with a variety of digital tools.
3. Create hypotheses or theses about traditional or digital texts and test them with digital tools.
4. Create multi-modal texts to demonstrate understanding of humanistic ideas, questions, and texts.

Early Childhood Education (ECED)

ECED 1110. Child Growth Development, and Learning

Course Description

This basic course in the growth, development, and learning of young children, prenatal through age eight, provides students with the theoretical foundation for becoming competent early childhood professionals. The course includes knowledge of how young children grow, develop and learn. Major theories of child development are integrated with all domains of development, including biological-physical, social, cultural, emotional, cognitive and language. The adult's role in supporting each child's growth, development and learning is emphasized.

Course Competencies

This course is part of the articulated Universal Catalogue of Courses for Early Childhood Education in the State of New Mexico. The following objectives are taken from the New Mexico State Department of Education's Common Core Competencies for early childhood professionals (see Common Core Content manual). Upon completion of this course, students will be able to demonstrate the following competencies at the established level of proficiency:

1. Incorporate understanding of developmental stages, processes, and theories of growth, development, and learning into developmentally appropriate practice. A.1
2. Demonstrate knowledge of the interaction between maturation and environmental factors that influence physical, social, emotional, cognitive, and cultural domains in the healthy development of each child. A.2
3. Demonstrate knowledge of the significance of individual differences in development and learning.
4. Demonstrate knowledge of how certain differences may be associated with rate of development and developmental patterns associated with developmental delays and/or specific disabilities. A.3
5. Demonstrate knowledge of the similarities between children who are developing typically and those with diverse abilities. A.4
6. Demonstrate knowledge of the many functions that language serves in the cognitive, social, and emotional aspects of development in the formative years. A.7
7. Demonstrate knowledge of the developmental sequence of language and literacy, including the influence of culture and home factors. A.8
8. Demonstrate knowledge of how children acquire and use verbal, non-verbal, and alternative means of communication. A.9
9. Demonstrate knowledge of the relationship among emotions, behaviors, and communication skills to assist children in identifying and expressing their feelings in appropriate ways. A.10
10. Use appropriate guidance to support the development of self-regulatory capacities in young children. A.11

ECED 1115. Health, Safety, and Nutrition

Course Description

This course provides information related to standards and practices that promote children's physical and mental well-being sound nutritional practices, and maintenance of safe learning environments. It includes information for developing sound health and safety management procedures for indoor and outdoor learning environments for young children. The course

examines the many scheduling factors that are important for children's total development, healthy nutrition, physical activity, and rest.

Course Competencies

This course is part of the articulated Universal Catalogue of Courses for Early Childhood Education in the State of New Mexico. The following objectives are taken from the New Mexico State Department of Education's Common Core Competencies for early childhood professionals (see Common Core Content manual). Upon completion of this course, students will be able to demonstrate the following competencies at the established level of proficiency:

1. Recognize and respond to each child's physical health, intellectual and emotional well-being, and nutritional and safety needs. B.1
2. Articulate an understanding of indoor and outdoor learning environments that provide opportunities for children to put into practice healthy behaviors (physically, socially and emotionally). B.2
3. Use appropriate health appraisal and management procedures and makes referrals when necessary. B.3
4. Recognize signs of emotional distress, child abuse, and neglect in young children and use procedures appropriate to the situation, such as initiating discussions with families, referring to appropriate professionals, and, in cases of suspected abuse or neglect, reporting to designated authorities. B.4
5. Establish an environment that provides opportunities and reinforcement for children's practice of healthy behaviors that promote appropriate nutrition and physical and psychological well-being. B.5
6. Provide a consistent daily schedule for rest/sleep, as developmentally appropriate. B.6
7. Implement health care and educational activities for children and families based on health and nutritional information that is responsive to diverse cultures. B.7
8. Assist young children and their families, as individually appropriate, in developing decision- making and interpersonal skills that enable them to make healthy choices and establish health-promoting behaviors. B.8

ECED 1120. Guiding Young Children

Course Description

This course explores various theories of child guidance and the practical applications of each. It provides developmentally appropriate methods for guiding children and effective strategies and suggestions for facilitating positive social interactions. Strategies for preventing challenging behaviors through the use of environment, routines and schedule will be presented. Emphasis is placed on helping children become self- responsible, competent, independent, and cooperative learners and including families as part of the guidance approach.

Course Competencies

This course is part of the articulated Universal Catalogue of Courses for Early Childhood Education in the State of New Mexico. The following objectives are taken from the New Mexico State Department of Education's Common Core Competencies for early childhood professionals (see Common Core Content manual). Upon completion of this course, students will be able to demonstrate the following competencies at the established level of proficiency:

1. Apply knowledge of cultural and linguistic diversity and the significance of socio-cultural and political contexts for development and learning and recognize that children are best understood in the contexts of family, culture and society. A.6
2. Demonstrate knowledge of the many functions that language serves in the cognitive, social, and emotional aspects of development in the formative years. A.7
3. Demonstrate knowledge of the relationship among emotions, behaviors, and communication skills to assist children in identifying and expressing their feelings in appropriate ways. A.10
4. Use appropriate guidance to support the development of self-regulatory capacities in young children. A.11
5. Recognize and respond to each child's physical health, intellectual and emotional well-being, and nutritional and safety needs. B.1
6. Demonstrate knowledge and skill in building positive, reciprocal relationships with families. C.1

7. Demonstrate knowledge of and respect for variations across cultures, in terms of family strengths, expectations, values, and child-rearing practices. C.4
8. Demonstrate the ability to incorporate the families' desires and goals for their children into classroom or intervention strategies. C.7
9. Demonstrate knowledge and skills in developmentally appropriate guidance techniques and strategies that provide opportunities to assist children in developing positive thoughts and feelings about themselves and others through cooperative interaction with peers and adults. E.3
10. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.7
11. Demonstrate knowledge of assessment techniques, interpretation of assessment information in the application of this

ECED 1125. Assessment of Children and Evaluation of Programs

Course Description

This basic course familiarizes students with a variety of culturally appropriate assessment methods and instruments, including systematic observation of typically and non-typically developing children. The course addresses the development and use of formative and summative assessment and evaluation instruments to ensure comprehensive quality of the total environment for children, families, and the community. Students will develop skills for evaluating the assessment process and involving other teachers, professionals and families in the process.

Course Competencies

This course is part of the articulated Universal Catalogue of Courses for Early Childhood Education in the State of New Mexico. The following objectives are taken from the New Mexico State Department of Education's Common Core Competencies for early childhood professionals (see Common Core Content manual). Upon completion of this course, students will be able to demonstrate the following competencies at the established level of proficiency:

1. Demonstrate ability to choose valid tools that are developmentally, culturally, and linguistically appropriate; use the tools correctly; make appropriate referrals; and interpret assessment results, with the goal of obtaining valid, useful information to inform practice and decision making. F.1
2. Demonstrate knowledge of maintaining appropriate records of children's development and behavior that safeguard confidentiality and privacy. F.2 3.
3. Demonstrate knowledge of the educator's role as a participating member of the assessment process as described and mandated by state and federal regulations for Individual family service plans (IFSP) and individual education plans (IEP). F.3
4. Demonstrate understanding of the influences of environmental factors, cultural/linguistic differences, and diverse ways of learning on assessment outcomes. F.4 5.
5. Involve the family and, as appropriate, other team members in assessing the child's development, strengths, and needs in order to set goals for the child. F.5 6.
6. Articulate an understanding of the distinctions and definitions of assessment concepts (e.g., screening, diagnostic assessment, standardized, testing, accountability assessment). F.6 7.
7. Apply understanding of assessment concepts toward selection of appropriate formal assessment measures, critiquing the limitations of inappropriate measures, and discussing assessment issues as part of interdisciplinary teams. F.7
8. Articulate an understanding that responsible assessment is legally and ethically grounded and guided by sound professional. It standards is collaborative and open with the goal of supporting diverse children and families. F.8
9. Demonstrate knowledge of assessment techniques, interpretation of assessment information in the Application of this data to curriculum development and/or intervention planning. F.9
10. Demonstrate knowledge of a variety of techniques and procedures to evaluate and modify program goals for young children and their families. F.10.

11. Demonstrate knowledge and use of program evaluation to ensure comprehensive quality of the total Environment for children, families, and the community. F.11
12. Use both self and collaborative evaluations as part of ongoing program evaluations. F.12

ECED 1130. Family and Community Collaboration

Course Description

This beginning course examines the involvement of families and communities from diverse cultural and linguistic backgrounds in early childhood programs. Ways to establish collaborative relationships with families in early childhood settings is discussed. Families' goals and desires for their children will be supported through culturally responsive strategies.

Course Competencies

This course is part of the articulated Universal Catalogue of Courses for Early Childhood Education in the State of New Mexico. The following objectives are taken from the New Mexico State Department of Education's Common Core Competencies for early childhood professionals (see Common Core Content manual). Upon completion of this course, students will be able to demonstrate the following competencies at the established level of proficiency:

1. Demonstrate knowledge and skill in building positive, reciprocal relationships with families. C.1
2. Articulate an understanding of a safe and welcoming environment for families and community members. C.2
3. Develop and maintain ongoing contact with families through a variety of communication strategies. C.3
4. Demonstrate knowledge of and respect for variations across cultures, in terms of family strengths, expectations, values, and child-rearing practices. C.4
5. Articulate understanding of the complexity and dynamics of family systems. C.5
6. Demonstrate understanding of the importance of families as the primary educator of their child. C.6
7. Involve families and community members in contributing to the learning environment. C.9
8. Demonstrate ability to communicate to families the program's policies, procedures, and those procedural safeguards that are mandated by state and federal regulations. C.11
9. Apply knowledge of family theory and research to understand family and community characteristics including socioeconomic conditions; family structures, relationships, stressors, and supports (including the impact of having a child with diverse abilities); home language and ethnicity. C.12
10. Demonstrate knowledge of and skill to access community resources that assist families and contribute directly or indirectly to children's positive development such as mental health services, health care, adult education, English language instruction, and economic assistance. C.13
11. Demonstrate effective written and oral communication skills when working with children, families, and early care, education, and family support professionals. E.14
12. Demonstrate a commitment to leadership and advocacy for Excel®lence in programs and services for young children and their families. G.6

ECED 1135. 45 Hour Early Entrance Level Course

Course Description

The 45-Hour early Entrance Level Course is designed to give the student an introduction to the field of early care, education, and family support. Developmentally appropriate expectation and practices and the New Mexico Competencies provide the foundation for this course.

Student Learning Outcomes

Not Available

ECED 1140. Foundations of Early Childhood

Course Description

An introduction for entry-level professionals to the field of early care, education and family support. This course meets New Mexico licensing standards for entry level curriculum and address the seven competency areas for early childhood education. The 45-hour entry level course may be used as part of the 120 clock hours of child study required by the CDA.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Discuss and observe the growth, development and learning of children from birth through age 8.
2. Identify and Implement basic physical health, emotional well-being, nutritional and safety practices that meet the needs of children from birth through age 8.
3. Identify ways to establish a collaborative relationships with each child's family in order to promote family centered practices in early childhood settings.
4. Define developmentally appropriate ways of teaching that support the learning of relevant curriculum content.
5. Define and observe how the learning environment supports children's growth, development and learning.
6. Define ways in which early childhood professionals can learn about each child's growth, development and learning through the use of appropriate assessment procedures.
7. Discuss appropriate procedures for sharing assessment results with families.
8. Discuss and define the meaning of professionalism.

ECED 1145. Literacy through Play

Course Description

Play provides a meaningful context in which children can construct literacy knowledge. This course addresses methods in which literacy learning is embedded in play situations. Students will investigate integrated, content-focused activities and examine the design of literacy-rich play settings. Students are introduced to the teacher's role in providing children with countless opportunities to practice reading, writing, speaking and listening.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe, in general terms, the role of play in young children's emergent literacy development
2. Demonstrate how literacy play is integrated into learning activities.
3. Identify ways in which teachers can support literacy development
4. Discuss how elements of a literacy enriched learning environment supports children's literacy development.

ECED 1150. Guided Discovery - Science in the Early Childhood Classroom

Course Description

This basic course examines science curriculum for children between the ages of three and five years of age. Students will study how the early childhood teacher creates a scientific environment for the child that enables him/her to develop an understanding of self and the world through Investigation and active exploration. Teacher behaviors that facilitate discovery will be explored.

Student Learning Outcomes

1. Identify the components of a science curriculum that best contribute to children's understanding of the world.
2. Identify appropriate science content, the “what" of science, in the early childhood classroom.
3. Explain how science can be Integrated In a classroom for young children between the ages of three and five.
4. Describe the teacher’s role in science and learning.

ECED 1155. Working with Challenging Behaviors

Course Description

An introductory course in working with children from birth through 8 years who are difficult to raise or teach because of their different temperaments. Students learn how to deal with children who are fidgety and unable to be still, who are easily overstimulated and impulsive, and who exhibit aggressive, highly distractible and unpredictable behaviors.

Student Learning Outcomes

1. Identify and describe the difficult child.
2. Describe the most common behaviors of the difficult child.
3. Identify and describe the successful techniques used in managing the behavior of difficult children.
4. Identify protective and risk factors in raising and working with difficult children

ECED 1160. Introduction to Observing & Recording Young Children

Course Description

A course covering techniques for observing and recording behaviors of young children for the purpose of understanding child development, assisting in achieving goals, providing for individual needs, and developing a daily curriculum based on Identified needs. The course does not use standardized testing procedures but focuses on information in a functional assessment format to determine what a child can and cannot yet do from a developmental perspective.

Student Learning Outcomes

1. Observe young children in an objective manner;
2. Integrate observation information into daily curriculum planning;
3. Write Individual Education Plans on individual children

ECED 1240. Principles and Practices in Infant Family Studies

Course Description

Intended to assist students to understand infant and toddler development in the context of relationships. This course defines and implements basic elements of quality programming for all infants and toddlers in safe, healthy, responsive caring environments, including the child's home. The experiences in identified settings will support strong nurturing relationships, cultural competence, diverse learning needs and styles of every child, appropriate guidance techniques and partnership with the families, cultures, and community represented. Students are assisted through the course in gaining the ability to observe, discuss, and implement basic elements of quality programming for infants and toddlers in home, small-group, or whole-group care situations. *Competencies for this degree pathway are defined by NM Department of Health/FIT and the New Mexico Infant Mental Health Association

Student Learning Outcomes

1. Demonstrate ability to define and apply caregiving practices and programming that support the optimal development of all infants and toddlers using a team approach
    a. Form responsive affectionate relationships with infants and toddlers (*1.2., 4.1, ** Level 1, Direct Service Skills, and IVa.A.)
    b. Promote mutually satisfying, growth-promoting interactions between parents/caregivers and children (*4.1, 4.2, **Level 1, Direct Service Skills, IV.a A, C)
    c. Provide trust and security for infants and toddlers (*4.1, 4.4, ** Level 1, Direct Service Skills, and IV.a.
    d. Help toddlers learn to control their impulses while giving them space to work through their emotions (*4.4, ** Level 1, Direct Service Skills, and IVb.B, D)
    e. Be aware of and provide for experiences that allow both child and parent to adjust to the program (*5.1. 5.2, ** Level 1, Systems Expertise, and IV. G; IV. b. B.
    f. Understand how play supports infant/toddler learning (*4.2, 4.3, 4.4, 4.5, 5.1I, ** Level 1, Direct Service Skills, and IV.a. B.)
    g. Provide an environment that encourages self-regulation (*5.2, ** Level 1, Direct Service Skills, and IV.b. A. F)
    h. Take advantage of unplanned encounters that allow toddlers to show competence (*4.2, 4.3, 4.4, 4.5, 5.1, 5.2, ** Level 1, Direct Service Skills, and IV. b. C)

i. Allow toddlers to make choices where appropriate (*4.2, 4.3, 4.4, 4.5, 5.1, 5.2, ** Level 1, Direct Service Skills, and IV.b. B)
j. Provide and, as necessary, adapt challenging toys and materials that ensure success (*4.2, 4.3, 4.4, 4.5, 5.1, 5.2, ** Level 1, Direct Service Skills, and IV. b. G, H, L)
k. Select and use age-appropriate books that represent children's home and cultural environment (*4.2, 4.3, 4.4, 4.5, 5.1, 5.2, ** Level 1, Direct Service Skills, and IV.I, J, K)
l. Offer, and as necessary, adapt a variety of activities and experiences that promote creativity and creative expression, including music, art, and sand and water play (*4.2, 4.3, 4.4, 4.5, 5.1, 5.2, ** Level 1, Direct Service Skills, and IV.b. E 13. Allow infants and toddlers to develop relationships with one or two main adults and support involvement of families. (*4.2, 4.4, ** Level 1, Direct Service Skills, Level 1, Systems Expertise, and IV.M, N)

ECED 1898. Internship in Early Childhood Education
Course Description
This is a field experience course under the direction of a faculty supervisor and cooperating professional in an approved program serving children from birth to age eight. Programs may include the WNMU Early Childhood Programs, Head Start, Foy Child Care Center, an Accredited Public School, or family or center childcare programs that have documented, formal early care and education training of supervising staff, NM State Star Level Three Certification or higher and/or program accreditation.
Student Learning Outcomes
Not Available

ECED 1996. Special Topics
Course Description
Varies
Student Learning Outcomes
Varies

ECED 1998. Childhood Development Field Experience
Course Description
Field experience that meets the requirements of the Child Development Certificate issued by the New Mexico Children Youth and Families Department (CYFD). Students apply developmentally appropriate practices, establish partnerships with families, and design programs/curriculum that are culturally and linguistically appropriate.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Identify and describe best practices for programs for children based on the age of the child
2. Demonstrate an understanding of regulations of health, safety, and nutrition as they relate to young children
3. Apply best practices in a field experience through an observation

ECED 2110. Professionalism
Course Description
This course provides a broad-based orientation to the field of early care and education. Early childhood history, philosophy, ethics and advocacy are introduced. Basic principles of early childhood systems are explored. Multiple perspectives on early care and education are introduced. Professional responsibilities such as cultural responsiveness and reflective practice are examined.
Course Competencies

This course is part of the articulated Universal Catalogue of Courses for Early Childhood Education in the State of New Mexico. The following objectives are taken from the New Mexico State Department of Education's Common Core Competencies for early childhood professionals (see Common Core Content manual). Upon completion of this course, students will be able to demonstrate the following competencies at the established level of proficiency:

1. Recognize signs of emotional distress, child abuse, and neglect in young children and use procedures appropriate to the situation, such as initiating discussions with families, referring to appropriate professionals, and, in cases of suspected abuse or neglect, reporting to designated authorities. B.4
2. Demonstrate ability to communicate to families the program's policies, procedures, and those procedural safeguards that are mandated by state and federal regulations. C.11
3. Use both self and collaborative evaluations as part of ongoing program evaluations. F.12
4. Demonstrate ability to adhere to early childhood professional codes of ethical conduct and issues of confidentiality. G.1
5. Demonstrate awareness of federal, state, and local regulations, and public policies regarding programs and services for children birth through eight years of age. G.2
6. Demonstrate understanding of conditions of children, families, and professionals; the historical and current issues and trends; legal issues; and legislation and other public policies affecting children, families, and programs for young children and the early childhood profession. G.3
7. Demonstrate critical reflection of one's own professional and educational practices from community, state, national, and global perspectives. G.4
8. Demonstrate understanding of the early childhood profession, its multiple historical, philosophical, and social foundations, and how these foundations influence current thought and practice. G.5
9. Demonstrate knowledge in technology resources to engage in ongoing professional development. G.7

ECED 2115. Introduction to Language, Literacy, and Reading

Course Description

This course is designed to prepare early childhood professionals for promoting children's emergent literacy and reading development. Through a developmental approach, the course addresses ways in which early childhood professionals can foster young children's oral language development, phonemic awareness, and literacy problem solving skills, fluency, vocabulary, and comprehension. This course provides the foundation for early childhood professionals to become knowledgeable about literacy development in young children. Instructional approaches and theory-based and research-based strategies to support the emergent literacy and reading skills of native speakers and English language learners will be presented.

Course Competencies

This course is part of the articulated Universal Catalogue of Courses for Early Childhood Education in the State of New Mexico. The following objectives are taken from the New Mexico State Department of Education's Common Core Competencies for early childhood professionals (see Common Core Content manual). Upon completion of this course, students will be able to demonstrate the following competencies at the established level of proficiency:

1. Demonstrate knowledge of the many functions that language serves in the cognitive, social, and emotional aspects of development in the formative years. A.7
2. Demonstrate knowledge of the developmental sequence of language and literacy, including the influence of culture and home factors. A.8
3. Demonstrate knowledge of how children acquire and use verbal, non-verbal, and alternative means of communication. A.9
4. Develop partnerships with family members to promote early literacy in the home. C.8
5. Establish partnerships with community members in promoting literacy. C.10
6. Demonstrate knowledge of the reading and writing components of emergent literacy at each developmental level. D.4

7. Provide and use anti-bias materials/literature and experiences in all content areas of the curriculum. D.7
8. Create and manage a literacy-rich environment that is responsive to each child's unique path of development. E.9
9. Use a variety of strategies during adult-child and child-child interactions and facilitate communication and dialogue of expressive language and thought. E.10
10. Demonstrate a variety of developmentally appropriate instructional strategies that facilitate the development of literacy skills. E.11

ECED 2120. Curriculum Development through Play Birth through Age 4 (PreK)

Course Description

The beginning curriculum course places play at the center of curriculum in developmentally appropriate early childhood programs. It addresses content that is relevant for children birth through age four in developmentally and culturally sensitive ways of integrating content into teaching and learning experiences. Information on adapting content areas to meet the needs of children with special needs and the development of IFSPs is included. Curriculum development in all areas, including literacy, numeracy, the arts, health, science, social skills, and adaptive learning for children, birth through age four, is emphasized.

Course Competencies

This course is part of the articulated Universal Catalogue of Courses for Early Childhood Education in the State of New Mexico. The following objectives are taken from the New Mexico State Department of Education's Common Core Competencies for early childhood professionals (see Common Core Content manual). Upon completion of this course, students will be able to demonstrate the following competencies at the established level of proficiency:

1. Use appropriate guidance to support the development of self-regulatory capacities in young children. A.11
2. Demonstrate knowledge of relevant content for young children and developmentally appropriate ways of integrating content into teaching and learning experiences for children from birth to four (0-4) years of age. D.1
3. Demonstrate the integration of knowledge of how young children develop and learn with knowledge of the concepts, inquiry tools, and structure of content areas appropriate for different developmental levels. D.2
4. Adapt content to meet the needs of each child, including the development of individualized family service plans (IFSP) or individualized education plans (IEP) for children with diverse abilities through the team process with families and other team members. D.6
5. Demonstrate knowledge of varying program models and learning environments that meet the individual needs of all young children, including those with diverse abilities. E.1
6. Create environments that encourage active involvement, initiative, responsibility, and a growing sense of autonomy through the selection and use of materials and equipment that are suitable to individual learning, developmental levels, diverse abilities, and the language and cultures in New Mexico. E.2
7. Create and manage inclusive learning environments that provide individual and cooperative opportunities for children to construct their own knowledge through various strategies that include decision-making, problem solving, and inquiry experiences. E.4
8. Demonstrate understanding that each child's creative expression is unique and can be encouraged through diverse ways, including creative play. E.5
9. Plan blocks of uninterrupted time for children to persist at self-chosen activities, both indoors and outdoors. E.6
10. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.7
11. Use and explain the rationale for developmentally appropriate methods that include play, small group projects, open-ended questioning, group discussion, problem solving, cooperative learning and inquiry experiences to help young children develop intellectual curiosity, solve problems, and make decisions. E.8
12. Demonstrate a variety of developmentally appropriate instructional strategies that facilitate the development of emergent literacy skills. E.11

13. Demonstrate knowledge of assessment techniques, interpretation of assessment information in the application of this data to curriculum development of intervention planning. F.9

ECED 2121. Curriculum Development through Play Birth through Age 4 (PreK) Practicum

Course Description

The beginning practicum course is a co-requisite with the course Curriculum Development through Play – Birth through Age 4. The field-based component of this course will provide experiences that address curriculum content that is relevant for children birth through age four in developmentally and culturally sensitive ways of integrating content into teaching and learning experiences. Information on adapting content areas to meet the needs of children with special needs and the development of IFSPs is included. Curriculum development in all areas, including literacy, numeracy, the arts, health, science, social skills, and adaptive learning for children, birth through age four, is emphasized.

Course Competencies

This course is part of the articulated Universal Catalogue of Courses for Early Childhood Education in the State of New Mexico. The following objectives are taken from the New Mexico State Department of Education's Common Core Competencies for early childhood professionals (see Common Core Content manual). Upon completion of this course, students will be able to demonstrate the following competencies at the established level of proficiency:

1. Provide a variety of activities that facilitate development of the whole child in the following areas: Physical/motor, social/emotional, language/cognitive and adaptive/living skills. A.5
2. Develop, implement and evaluate an integrated curriculum that focuses on children's development and interests, using their language, home experiences, and cultural values. D.5
3. Provides and uses anti-bias materials and literature, and experiences in all content areas of the curriculum. D.7
4. Create and manage inclusive learning environments that provide individual and cooperative opportunities for children to construct their own knowledge through various strategies that include decision-making, problem solving, and inquiry experiences. E.4
5. Demonstrate understanding that each child's creative expression is unique and can be encouraged through diverse ways, including creative play. E.5
6. Plan blocks of uninterrupted time for children to persist at self-chosen activities, both indoors and outdoors. E.6
7. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.7
8. Use and explain the rationale for developmentally appropriate methods that include play, small group projects, open-ended questioning, group discussion, problem solving, cooperative learning and inquiry experiences to help young children develop intellectual curiosity, solve problems, and make decisions. E.8

ECED 2130. Curriculum Development and Implementation Age 3 (PreK) through Grade 3

Course Description

The curriculum course focuses on developmentally appropriate curriculum content in early childhood programs, age 3 through third grade. Development and implementation of curriculum in all content areas, including literacy, numeracy, the arts, health and emotional wellness, science, motor and social skills, is emphasized. Information on adapting content areas to meet the needs of children with special needs and the development of IEP's is included.

Course Competencies

This course is part of the articulated Universal Catalogue of Courses for Early Childhood Education in the State of New Mexico. The following objectives are taken from the New Mexico State Department of Education's Common Core Competencies for early childhood professionals (see Common Core Content manual). Upon completion of this course, students will be able to demonstrate the following competencies at the established level of proficiency:

1. Use appropriate guidance to support the development of self-regulatory capacities in young children. A.11
2. Demonstrate the integration of knowledge of how young children develop and learn with knowledge of the concepts, inquiry tools, and structure of content areas appropriate for different developmental levels. D.2

3. Demonstrate knowledge of what is important in each content area, why it is of value, and how it links with early and later understandings within and across areas. D.3
4. Demonstrate knowledge of the language, reading and writing components of emergent literacy at each developmental level. D.4
5. Adapt content to meet the needs of each child, including the development of individualized family service plans (IFSP) or individualized education plans (IEP) for children with diverse abilities through the team process with families and other team members. D.6
6. Demonstrate knowledge of varying program models and learning environments that meet the individual needs of all young children, including those with diverse abilities. E.1
7. Create environments that encourage active involvement, initiative, responsibility, and a growing sense of autonomy through the selection and use of materials and equipment that are suitable to individual learning, developmental levels, diverse abilities, and the language and cultures in New Mexico. E.2
8. Create and manage inclusive learning environments that provide individual and cooperative opportunities for children to construct their own knowledge through various strategies that include decision-making, problem solving, and inquiry experiences. E.4
9. Demonstrate understanding that each child's creative expression is unique and can be encouraged through diverse ways, including creative play. E.5
10. Plan blocks of uninterrupted time for children to persist at self-chosen activities, both indoors and outdoors. E.6
11. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.7
12. Demonstrate knowledge of developmentally appropriate uses of technology, including assistive technology. E.12
13. Demonstrate knowledge of assessment techniques, interpretation of assessment information in the application of this data to curriculum development of intervention planning. F.9

ECED 2131. Curriculum Development and Implementation Age 3 (PreK) through Grade 3 Practicum

Course Description

The beginning practicum course is a co-requisite with the course Curriculum Development and Implementation: Age 3 through Grade 3. The field-based component of this course will provide experiences that address developmentally appropriate curriculum content in early childhood programs, age 3 through third grade. Development and implementation of curriculum in all content areas, including literacy, numeracy, the arts, health and emotional wellness, science, motor and social skills is emphasized. Information on adapting content areas to meet the needs of children with special needs and the development of IEPs is included.

Course Competencies

This course is part of the articulated Universal Catalogue of Courses for Early Childhood Education in the State of New Mexico. The following objectives are taken from the New Mexico State Department of Education's Common Core Competencies for early childhood professionals (see Common Core Content manual). Upon completion of this course, students will be able to demonstrate the following competencies at the established level of proficiency:

1. Provide a variety of activities that facilitate the development of the whole child in the following areas: Physical/motor, social/emotional, language/cognitive and adaptive/living skills. A.5
2. Develop, implement and evaluate an integrated curriculum that focuses on children's development and interests, using their language, home experiences, and cultural values. D.5
3. Provides and uses anti-bias materials and literature, and experiences in all content areas of the curriculum. D.7
4. Create and manage inclusive learning environments that provide individual and cooperative opportunities for children to construct their own knowledge through various strategies that include decision-making, problem solving, and inquiry experiences. E.4
5. Demonstrate understanding that each child's creative expression is unique and can be encouraged through diverse ways, including creative play. E.5

6. Plan blocks of uninterrupted time for children to persist at self-chosen activities, both indoors and outdoors. E.6
7. Demonstrate understanding of the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning. E.7
8. Use and explain the rationale for developmentally appropriate methods that include play, small group projects, open-ended questioning, group discussion, problem solving, cooperative learning and inquiry experiences to help young children develop intellectual curiosity, solve problems, and make decisions. E.8

ECED 2140. Effective Program Development for Diverse Learners and their Families

Course Description

This course addresses the role of a director/ administrator in the implementation of family-centered programming that includes individually appropriate and culturally responsive curriculum in a healthy and safe learning environment for all children and their families.

Student Learning Outcomes

1. Describe important aspects of leadership that an administrator in an early childhood setting must demonstrate.
2. Identify and describe ways in which classrooms can have a multicultural environment.
3. Observe a classroom and identify, using photographs, good practice with classroom environment.
4. Describe important aspects of a good early childhood curriculum.
5. Describe how culture and socioeconomic factors influence classroom environment.

ECED 2141. Effective Program Development for Diverse Learners and their Families Practicum

Course Description

Provides opportunities for students to apply knowledge gained from Curriculum for Diverse Learners and their Families in a practicum setting.

Student Learning Outcomes

1. Describe the requirements to maintain and enhance the physical and mental health, safety, and nutrition components of a program.
2. Demonstrate knowledge of facility management to include evaluation, maintenance, security, and meeting applicable codes.
3. Demonstrate knowledge of planning for appropriate indoor and outdoor environments; Identify ways to support early childhood educators in the selection of appropriate materials and equipment for the environment.
4. Demonstrate knowledge of the impact of the environment on children's learning and development.
5. Demonstrate knowledge of early care and education curriculum that is individually, culturally linguistically, and developmentally responsive.
6. Describe a variety of curriculum goals and teaching strategies.
7. Describe the importance of ongoing curriculum assessment and planning, and collaboration with teachers, families and community entities; Identify ways to support early childhood educators in curriculum assessment and planning.
8. Demonstrate knowledge of family/community involvement in effective program development.
9. Describe the importance of supporting families as partners in early care and education program development.
10. Describe both informal and formal communication systems with families that encourage information sharing and joint decision making.
11. Identify strategies for resolving conflicts and supporting families with diverse backgrounds and parenting expectations.
12. Identify the range of family needs including transitional periods.

13. Identify within the community the network to support families with their special need.;
14. Describe a "family friendly" inclusive philosophy.
15. Demonstrate knowledge of a director's role as an educational leader in an inclusive setting:
16. Describe what a director does in supporting the instructional component of the program for children, staff, and families.
17. Identify resources that a director might use to keep current with information relating to the instructional component of the program.
18. Describe ways to involve teachers in instructional decision making.

ECED 2150. Relationships and Reflective Practice in Infant Family Studies

Course Description

This course is intended to develop a philosophical and ethical base for the Family, Infant, Toddler entry-level practitioner. Students will develop professional skills in advocacy, policy, family and collegial relationship- building, and reflective practice. Students are required to complete a field experience of 45 hours. Students must complete the practicum hours to pass this course.

Student Learning Outcomes

Students will:

1. Identify and describe differences in cultural practice in child-rearing that will enable the caregiver to work effectively with families of diverse cultural backgrounds.
2. Identify and describe ethical and professional considerations to be followed in working with families.
3. Identify and describe key behaviors in caregiver and infant relationships.

Competencies	
Demonstrate knowledge of child development in the context of primary relationships and in the domains of perceptual, motor, social, emotional, communication, adaptive, and cognitive growth for typically and atypically developing infants and toddlers.	
***** when citing the FIT Competencies ****** when citing the New Mexico Infant Mental Health Association	
*1.1 ** Level 1, Theoretical Foundations, and I. A, I. G.	1. Demonstrate understanding of infant and toddler development theories including the ability to critically examine these theories.
*1.1. ** Level 1, Theoretical Foundations, Thinking, and Reflection, and I. I., I. J.	3. Understand possible meanings of infant states of consciousness, behaviors and cues.
* 1.1 ** Level 1, Theoretical Foundations, and I. D.	4. Demonstrate knowledge of brain development and the fundamentals of early attachment.
*1.1 ** Level 1, Theoretical Foundations, and I. B.	5. Demonstrate understanding of how infant's biological predispositions and environmental experiences (including cultural experience) interact to influence development.
Demonstrate basic knowledge of the characteristics of the conditions associated with developmental delay (e.g., biological, environmental, medical factors) as well as those characteristics which place the infant and toddler at risk for delayed development (e.g., biological, environmental and/or medical).	
*1.1	1. Demonstrate basic knowledge of the characteristics of the conditions associated with developmental delay (e.g., biological,

** Level 1, Theoretical Foundations, and I. C.	environmental, medical factors) as well as those characteristics that place the infant or toddler at risk for delayed development (e.g., biological, environmental and/or medical).
Knowledge of and respect for variations across cultures, in terms of family strengths, expectations, values, and childrearing practices as they influence an infant's development and learning.	
*1.2, 2.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and I.F.	**1.** Demonstrate an awareness that there are various cultural differences in childrearing practices (e.g., feeding, sleep routines, health and nutrition, guidance and nurturing).
*1.2, 2.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. H.	2. Demonstrate basic knowledge of cultural practices specific to the infant or toddler's health, including health conditions and developmental delays.
*2.1, 2.2 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. G.	3. Show awareness that families' health practices may be culturally appropriate and not indicative of child abuse or neglect.
*1.2, 2.1, 2.2 ** Level 1, Theoretical Foundations, Systems Expertise and Direct Service Skills and II. A.	4. Demonstrate basic knowledge of infant mental health. a. Demonstrate understanding of processes to support building positive parent-child relationships within the context of individual development of the infant and toddler and frameworks of family, community and culture. b. Understand the dynamics for families' capacity for change within cultural contexts to support infant toddler mental health.
Demonstrate ability to promote good health, nutrition and a safe environment for infants and toddlers, including those with or at-risk for developmental delay.	
*2.3 ** Level 1, Direct Service Skills, and II. C., II. D.	1. Demonstrate ability to identify possible child abuse, neglect, and emotional distress, and know legal requirements and agency procedures for reporting suspected abuse or neglect.

ECED 2151. Relationships and Reflective Practice in Infant Family Studies Practicum

Course Description

This course provides application of knowledge gained from Relationships and Reflective Practice in Infant Family Studies. Students must pass a background check to successfully complete the course requirements. Students are required to complete a practicum of 45 hours.

Student Learning Outcomes

1. Demonstrate basic understanding of the impact of the staff-parent relationship as it relates to positive, mutually satisfying and growth-promoting parent-child interactions.
2. Use basic understanding of and respect for the family's role in the development of their infant and toddler within diversity of culture, community and ability.
3. Develop the ability to work collaboratively with the community toward promoting the health, welfare, and development of infants and toddlers, including those with or at-risk for developmental delay.
4. Demonstrate ability to carry out responsibilities with infants and families in a professional manner and engage as a professional.

Competencies

Demonstrate knowledge of child development in the context of primary relationships and in the domains of perceptual, motor, social, emotional, communication, adaptive, and cognitive growth for typically and atypically developing infants and toddlers.	
* when citing the FIT Competencies ** when citing the New Mexico Infant Mental Health Association	
*1.1 ** Level 1, Theoretical Foundations, and I. A, I. G.	1. Demonstrate understanding of infant and toddler development theories including the ability to critically examine these theories.
*1.1. ** Level 1, Theoretical Foundations, Thinking, and Reflection, and I. I., I. J.	3. Understand possible meanings of infant states of consciousness, behaviors and cues.
* 1.1 ** Level 1, Theoretical Foundations, and I. D.	4. Demonstrate knowledge of brain development and the fundamentals of early attachment.
*1.1 ** Level 1, Theoretical Foundations, and I. B.	5. Demonstrate understanding of how infant's biological predispositions and environmental experiences (including cultural experience) interact to influence development.
Demonstrate basic knowledge of the characteristics of the conditions associated with developmental delay (e.g., biological, environmental, medical factors) as well as those characteristics which place the infant and toddler at risk for delayed development (e.g., biological, environmental and/or medical).	
*1.1 ** Level 1, Theoretical Foundations, and I. C.	1. Demonstrate basic knowledge of the characteristics of the conditions associated with developmental delay (e.g., biological, environmental, medical factors) as well as those characteristics that place the infant or toddler at risk for delayed development (e.g., biological, environmental and/or medical).
Knowledge of and respect for variations across cultures, in terms of family strengths, expectations, values, and childrearing practices as they influence an infant's development and learning.	
*1.2, 2.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and I.F.	5. Demonstrate an awareness that there are various cultural differences in childrearing practices (e.g., feeding, sleep routines, health and nutrition, guidance and nurturing).
*1.2, 2.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. H.	6. Demonstrate basic knowledge of cultural practices specific to the infant or toddler's health, including health conditions and developmental delays.
*2.1, 2.2 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. G.	7. Show awareness that families' health practices may be culturally appropriate and not indicative of child abuse or neglect.
*1.2, 2.1, 2.2 ** Level 1, Theoretical Foundations, Systems Expertise and Direct Service Skills and II. A.	8. Demonstrate basic knowledge of infant mental health. a. Demonstrate understanding of processes to support building positive parent-child relationships within the context of individual development of the infant and toddler and frameworks of family, community and culture. c. Understand the dynamics for families' capacity for change within cultural contexts to support infant toddler mental health.

Demonstrate ability to promote good health, nutrition and a safe environment for infants and toddlers, including those with or at-risk for developmental delay.	
*2.3 ** Level 1, Direct Service Skills, and II. C., II. D.	2. Demonstrate ability to identify possible child abuse, neglect, and emotional distress, and know legal requirements and agency procedures for reporting suspected abuse or neglect.

ECED 2210. Foundations in Early Childhood Education

Course Description

This course provides students with knowledge of the historical, philosophical and social foundations of the early childhood education profession and how these foundations influence current thought and practices. A particular emphasis will be placed on developmental issues for children, birth through the age of eight. Topics include a survey of the history of early childhood education and professionalism, ethical codes of conduct, and issues of advocacy in the field. Upon completion of the course, students will articulate a well-designed personal early childhood education philosophy that supports practices of inclusion and cultural and linguistic diversity in early education. This course requires 10 hours of fieldwork in an early childhood program

Student Learning Outcomes

1. Articulate a well-designed personal philosophy that includes both support of practices of inclusion and cultural and linguistic diversity in early education and knowledge of the profession.
2. Articulate a multicultural perspective responsive to culturally diverse communities in New Mexico.
3. Define early childhood theories and practices that advocate for Excel®lence in early childhood programs.
4. Identify issues, legislation and other public policies that affect children, families, and the early childhood profession.

ECED 2215. Program Management

Course Description

This course emphasizes the technical knowledge necessary to develop and maintain an effective early care and education program. It focuses on sound financial management and vision, the laws and legal issues that affect programs, and state and national standards such as accreditation.

Student Learning Outcomes

1. Develop a comprehensive program philosophy.
2. Demonstrate the ability to develop systems that are effective for quality program operation.
3. Create a program budget and understand the Income and Expense sides and what affects each part.
4. Model best practices that integrate various leadership styles.

ECED 2220. Teaching Children Games and Fitness

Course Description

An introductory course in teaching games and physical activities for Pre K and elementary age children. The course teaches students how to develop and implement an elementary school physical education curriculum. The course explores developmental stages, motor skill assessment, games, and fitness activities for youngsters. Incorporating methods of effective teaching, enhancing student learning, and managing students effectively are emphasized.

Student Learning Outcomes

1. Understand the need for physical fitness.
2. Be able to discuss the benefits of physical fitness, nutrition and health.
3. Be able to develop and apply appropriate physical fitness programs.
4. Understand the importance of proper nutrition and weight control programs.
5. Demonstrate knowledge of the basic principles of movement.
6. Be able to create lead-up, small, and large group games and activities.
7. Be able to develop and present a lesson plan appropriate for children.

8. Demonstrate a basic understanding of ways one can modify physical activities so that ALL children may participate safely.
9. Display effective teaching techniques during teaching practicum.
10. Be able to incorporate health and fitness activities into their daily lives.
11. Demonstrate an understanding of body mechanics as related to the developmental stages of childhood.
12. Be able to discuss and offer solutions to contemporary physical education problems and to identify the place of physical education in the elementary school program.
13. Be able to list the needs and interests of different age groups in physical education programming.

ECED 2225. Playful Relationships
Course Description
This course is designed to teach the techniques of Playful Parenting based on Therapeutic Play Therapy. This instruction builds on techniques that allow caregivers and teachers to develop or strengthen relationships with young children (ages 3-10). The class will use a format of experiential learning activities, lecture, small and large discussion groups and videotaping with critique.
Student Learning Outcomes
Not Available

ECED 2230. Confident Parenting
Course Description
This course is designed to enhance the skills and knowledge of parents and other childcare givers. Topics for discussion will address the physical, social/emotional, and cognitive development of the child. Issues will include such things as typical child development, positive guidance, communication, self-esteem and the role of the parent in meeting children's needs.
Student Learning Outcomes
Not Available

ECED 2240. Infant Toddler Growth and Development (Prenatal to Age 3)
Course Description
Provides both basic knowledge of typically and atypically developing young children from the prenatal period to 36 months and a foundational understanding for the promotion of the health, well-being and development of all infants and toddlers within the context of family, community and cultural environments. The course examines infancy and toddlerhood with an emphasis on the interrelationship of cognitive, physical, social and emotional development, mental health and early parent-child relationships. Students must complete the practicum hours to pass this course.
Student Learning Outcomes
1. Demonstrate understanding of significant theories of child development.
2. Identify and describe significant milestones in child development.
3. Identify and describe major stages in infant brain development.
4. Apply understanding of how delayed development will affect the different domains: physical-motor, perception, cognition, learning, language, personality, emotional, and social behavior.
5. Explore and describe cultural differences in child development.

Demonstrate knowledge of child development in the context of primary relationships and in the domains of perceptual, motor, social, emotional, communication, adaptive, and cognitive growth for typically and atypically developing infants and toddlers.	
***** when citing the FIT Competencies ****** when citing the New Mexico Infant Mental Health Association	
*1.1	1. Demonstrate understanding of infant and toddler development theories including the ability to critically examine these theories.

** Level 1, Theoretical Foundations, and I. A, I. G.	
*1.1 ** Level 1, Theoretical Foundations, and I. A., I. D.	2. Be able to describe milestones, characteristic trends and individual variation in the normal development of physical-motor capacities, perception, cognition, learning, language, personality, emotional and social behavior.
*1.1. ** Level 1, Theoretical Foundations, Thinking, and Reflection, and I. I., I. J.	3. Understand possible meanings of infant states of consciousness, behaviors and cues.
* 1.1 ** Level 1, Theoretical Foundations, and I. D.	4. Demonstrate knowledge of brain development and the fundamentals of early attachment.
*1.1 ** Level 1, Theoretical Foundations, and I. B.	5. Demonstrate understanding of how infant's biological predispositions and environmental experiences (including cultural experience) interact to influence development.
*1.1 ** Level 1, Theoretical Foundations, Thinking, and Reflection, and I.C.	6. Identify how delays or risk factors may affect different domains of development, including attachment and socio-emotional development; sensory, perceptual and motor development; and cognitive development (i.e., knowledge, understanding, communication and language
*1.1. ** Level 1, Theoretical Foundations, Thinking, and Reflection, and I.C.	7. Demonstrate understanding of how infant/toddler personality, behavior, strengths, delay, or risk factors may affect child-caregiver interactions.
*1.2 ** Level 1, Theoretical Foundations, and 1.H.	8. Demonstrate knowledge of the developmental sequence of language and literacy of infants and toddlers in the context of family and culture.
Demonstrate basic knowledge of the characteristics of the conditions associated with developmental delay (e.g., biological, environmental, medical factors) as well as those characteristics which place the infant and toddler at risk for delayed development (e.g., biological, environmental and/or medical).	
*1.1 ** Level 1, Theoretical Foundations, and I. C.	1. Demonstrate basic knowledge of the characteristics of the conditions associated with developmental delay (e.g., biological, environmental, medical factors) as well as those characteristics that place the infant or toddler at risk for delayed development (e.g., biological, environmental and/or medical).
*1.1 ** Level 1, Theoretical Foundations, and I. D.	2. Identify how delays or risk factors may affect different domains of development, including attachment and socio-emotional development; sensory, perceptual and motor development; and cognitive development (knowledge, understanding, communication, and language).
*1.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. G.	3. Demonstrate basic knowledge of how health problems, chronic disorders, or communicable diseases impact the infant or toddler and his or her family.
*1.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. E.	4. Know basic hygiene practices, including universal precautions and health checks.

Knowledge of and respect for variations across cultures, in terms of family strengths, expectations, values, and childrearing practices as they influence an infant's development and learning.	
*1.2, 2.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and I.F.	**9.** Demonstrate an awareness that there are various cultural differences in childrearing practices (e.g., feeding, sleep routines, health and nutrition, guidance and nurturing).
*1.2, 2.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. H.	10. Demonstrate basic knowledge of cultural practices specific to the infant or toddler's health, including health conditions and developmental delays.
*2.1, 2.2 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. G.	11. Show awareness that families' health practices may be culturally appropriate and not indicative of child abuse or neglect.
*1.2, 2.1, 2.2 ** Level 1, Theoretical Foundations, Systems Expertise and Direct Service Skills and II. A.	12. Demonstrate basic knowledge of infant mental health. 13. Demonstrate understanding of processes to support building positive parent-child relationships within the context of individual development of the infant and toddler and frameworks of family, community and culture. 14. Understand the dynamics for families' capacity for change within cultural contexts to support infant toddler mental health.
Demonstrate ability to promote good health, nutrition and a safe environment for infants and toddlers, including those with or at-risk for developmental delay.	
*2.1 ** Level 1, Theoretical Foundations, and II. C.	1. Demonstrate basic knowledge of the health problems common in infants and toddlers, including those with, or at risk for developmental delay, with chronic disorders, or with communicable diseases.
*2.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. C.	2. Demonstrate basic knowledge of aspects of medical care of infants and toddlers, including premature and low birth-weight infants (e.g.., basic knowledge of the methods for maintaining technology dependent infants and toddlers).
*2.1, 2.2 ** Level 1, Direct Service Skills	3. Demonstrate basic knowledge of the nutrition, rest/sleep, and feeding needs specific to infants and toddlers, including those with physical impairments.

ECED 2241. Infant, Toddler Growth, Development Practicum

Course Description

This course provides application of knowledge gained from Infant Toddler Growth and Development. Students must pass a background check to successfully complete the course requirements. Students are required to complete a practicum of 45 hours.

Student Learning Outcomes

1. Demonstrate basic understanding of the impact of the staff-parent relationship as it relates to positive, mutually satisfying and growth-promoting parent-child interactions.
2. Use basic understanding of and respect for the family's role in the development of their infant and toddler within diversity of culture, community and ability.

3. Develop a basic level of ability to work collaboratively with the community toward promoting the health, welfare, and development of infants and toddlers, including those with or at-risk for developmental delay. Demonstrate ability to carry out responsibilities with infants and families in a professional manner and engage as a professional.

Course Competencies

This course is part of the required program of study for an Associate of Arts degree in early childhood education/family infant toddler studies in New Mexico. It will assist students in recognizing that children are best understood in the context of family, culture, community, and society. Upon completion of this course, students will be able to demonstrate the following competencies at the established level of proficiency:

Demonstrate knowledge of child development in the context of primary relationships and in the domains of perceptual, motor, social, emotional, communication, adaptive, and cognitive growth for typically and atypically developing infants and toddlers.	
***** when citing the FIT Competencies ****** when citing the New Mexico Infant Mental Health Association	
*1.1 ** Level 1, Theoretical Foundations, and I. A, I. G.	1. Demonstrate understanding of infant and toddler development theories including the ability to critically examine these theories.
*1.1 ** Level 1, Theoretical Foundations, and I. A., I. D.	2. Be able to describe milestones, characteristic trends and individual variation in the normal development of physical-motor capacities, perception, cognition, learning, language, personality, emotional and social behavior.
*1.1. ** Level 1, Theoretical Foundations, Thinking, and Reflection, and I. I., I. J.	3. Understand possible meanings of infant states of consciousness, behaviors and cues.
* 1.1 ** Level 1, Theoretical Foundations, and I. D.	4. Demonstrate knowledge of brain development and the fundamentals of early attachment.
*1.1 ** Level 1, Theoretical Foundations, and I. B.	5. Demonstrate understanding of how infant's biological predispositions and environmental experiences (including cultural experience) interact to influence development.
*1.1 ** Level 1, Theoretical Foundations, Thinking, and Reflection, and I.C.	6. Identify how delays or risk factors may affect different domains of development, including attachment and socio-emotional development; sensory, perceptual and motor development; and cognitive development (i.e., knowledge, understanding, communication and language
*1.1. ** Level 1, Theoretical Foundations, Thinking, and Reflection, and I.C.	7. Demonstrate understanding of how infant/toddler personality, behavior, strengths, delay, or risk factors may affect child-caregiver interactions.
*1.2 ** Level 1, Theoretical Foundations, and 1.H.	8. Demonstrate knowledge of the developmental sequence of language and literacy of infants and toddlers in the context of family and culture.
Demonstrate basic knowledge of the characteristics of the conditions associated with developmental delay (e.g., biological, environmental, medical factors) as well as those characteristics which place the infant and toddler at risk for delayed development (e.g., biological, environmental and/or medical).	
*1.1 ** Level 1, Theoretical Foundations, and I. C.	1. Demonstrate basic knowledge of the characteristics of the conditions associated with developmental delay (e.g., biological, environmental, medical factors) as well as those characteristics that

	place the infant or toddler at risk for delayed development (e.g., biological, environmental and/or medical).
*1.1 ** Level 1, Theoretical Foundations, and I. D.	2. Identify how delays or risk factors may affect different domains of development, including attachment and socio-emotional development; sensory, perceptual and motor development; and cognitive development (knowledge, understanding, communication, and language).
*1.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. G.	3. Demonstrate basic knowledge of how health problems, chronic disorders, or communicable diseases impact the infant or toddler and his or her family.
*1.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. E.	4. Know basic hygiene practices, including universal precautions and health checks.
Knowledge of and respect for variations across cultures, in terms of family strengths, expectations, values, and childrearing practices as they influence an infant's development and learning.	
*1.2, 2.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and I.F.	**15.**Demonstrate an awareness that there are various cultural differences in childrearing practices (e.g., feeding, sleep routines, health and nutrition, guidance and nurturing).
*1.2, 2.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. H.	16.Demonstrate basic knowledge of cultural practices specific to the infant or toddler's health, including health conditions and developmental delays.
*2.1, 2.2 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. G.	17.Show awareness that families' health practices may be culturally appropriate and not indicative of child abuse or neglect.
*1.2, 2.1, 2.2 ** Level 1, Theoretical Foundations, Systems Expertise and Direct Service Skills and II. A.	18. Demonstrate basic knowledge of infant mental health. 19. Demonstrate understanding of processes to support building positive parent-child relationships within the context of individual development of the infant and toddler and frameworks of family, community and culture. 20. Understand the dynamics for families' capacity for change within cultural contexts to support infant toddler mental health.
Demonstrate ability to promote good health, nutrition and a safe environment for infants and toddlers, including those with or at-risk for developmental delay.	
*2.1 ** Level 1, Theoretical Foundations, and II. C.	1. Demonstrate basic knowledge of the health problems common in infants and toddlers, including those with, or at risk for developmental delay, with chronic disorders, or with communicable diseases.
*2.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. C.	2. Demonstrate basic knowledge of aspects of medical care of infants and toddlers, including premature and low birth-weight infants (e.g.., basic knowledge of the methods for maintaining technology dependent infants and toddlers).

*2.1, 2.2 ** Level 1, Direct Service Skills	3. Demonstrate basic knowledge of the nutrition, rest/sleep, and feeding needs specific to infants and toddlers, including those with physical impairments.

ECED 2245. Effective Principles and Practices in Infant Family Studies

Course Description

This course is intended to assist students in developing strong nurturing relationships with infants/toddlers in partnership with caregivers. Students will gain an understanding of how children learn in the context of the relationships with their primary caregivers, how to meet the needs of very young children (birth to three years of age) in a variety of care giving settings, and how to meet the needs of adults who are addressing the needs of very young children and their families through relationship-based practices.

Student Learning Outcomes

1. Develop a theoretical understanding of infant and toddler development in the context of the close relationship with the caregiver.
2. Observe an experienced infant caregiver and reflect on the physical, social, emotional practices that create relationships with young children.
3. Describe the team approach to working with young children

Competencies	
Demonstrate knowledge of child development in the context of primary relationships and in the domains of perceptual, motor, social, emotional, communication, adaptive, and cognitive growth for typically and atypically developing infants and toddlers.	
***** when citing the FIT Competencies ****** when citing the New Mexico Infant Mental Health Association	
*1.1 ** Level 1, Theoretical Foundations, and I. A., I. D.	2. Be able to describe milestones, characteristic trends and individual variation in the normal development of physical-motor capacities, perception, cognition, learning, language, personality, emotional and social behavior.
* 1.1 ** Level 1, Theoretical Foundations, and I. D.	4. Demonstrate knowledge of brain development and the fundamentals of early attachment.
*1.1. ** Level 1, Theoretical Foundations, Thinking, and Reflection, and I.C.	7. Demonstrate understanding of how infant/toddler personality, behavior, strengths, delay, or risk factors may affect child-caregiver interactions.
*1.2 ** Level 1, Theoretical Foundations, and 1.H.	8. Demonstrate knowledge of the developmental sequence of language and literacy of infants and toddlers in the context of family and culture.
Demonstrate basic knowledge of the characteristics of the conditions associated with developmental delay (e.g., biological, environmental, medical factors) as well as those characteristics which place the infant and toddler at risk for delayed development (e.g., biological, environmental and/or medical).	
*1.1 ** Level 1, Theoretical Foundations, and I. C.	1. Demonstrate basic knowledge of the characteristics of the conditions associated with developmental delay (e.g., biological, environmental, medical factors) as well as those characteristics that place the infant or toddler at risk for delayed development (e.g., biological, environmental and/or medical).

*1.1 ** Level 1, Theoretical Foundations, and I. D.	2. Identify how delays or risk factors may affect different domains of development, including attachment and socio-emotional development; sensory, perceptual and motor development; and cognitive development (knowledge, understanding, communication, and language).
*1.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. E.	4. Know basic hygiene practices, including universal precautions and health checks.
Knowledge of and respect for variations across cultures, in terms of family strengths, expectations, values, and childrearing practices as they influence an infant's development and learning.	
*1.2, 2.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and I.F.	1. Demonstrate an awareness that there are various cultural differences in childrearing practices (e.g., feeding, sleep routines, health and nutrition, guidance and nurturing).
*1.2, 2.1 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. H.	2. Demonstrate basic knowledge of cultural practices specific to the infant or toddler's health, including health conditions and developmental delays.
*2.1, 2.2 ** Level 1, Theoretical Foundations and Direct Service Skills, and II. G.	3. Show awareness that families' health practices may be culturally appropriate and not indicative of child abuse or neglect.
*1.2, 2.1, 2.2 ** Level 1, Theoretical Foundations, Systems Expertise and Direct Service Skills and II. A.	4. Demonstrate basic knowledge of infant mental health. 5. Demonstrate understanding of processes to support building positive parent-child relationships within the context of individual development of the infant and toddler and frameworks of family, community and culture. 6. Understand the dynamics for families' capacity for change within cultural contexts to support infant toddler mental health.
Demonstrate ability to promote good health, nutrition and a safe environment for infants and toddlers, including those with or at-risk for developmental delay.	
*2.3 ** Level 1, Direct Service Skills, and II. C., II. D.	1. Demonstrate ability to identify possible child abuse, neglect, and emotional distress, and know legal requirements and agency procedures for reporting suspected abuse or neglect.

ECED 2250. Early Childhood Education Profession in New Mexico

Course Description

An introduction to the early childhood profession in New Mexico. Students develop a definition of advocacy for Excel®lence in state early childhood programs and discuss the diverse communities of New Mexico. Students examine state and national professional codes of ethics and conduct as well as federal, state and local regulations and legislation regarding programs of service for young children. Critical reflection of one's own professional and educational practices is emphasized along with professional development opportunities that would enhance knowledge and skills in working with young children.

Student Learning Outcomes

1. Write an emerging personal teaching philosophy statement. (Professionalism 1Sc; Communication 10Sd, 10Sf)
2. Examine and reflect on the teacher candidate proficiencies and dispositions as outlined in the SFCC Teacher Academy conceptual framework. (All areas)
3. Describe the New Mexico 3-tiered teacher licensure requirements and competencies. (Professionalism 1Ka)

4. Summarize the professional and ethical responsibilities of teachers. (Professionalism 1 Ka)
5. List characteristics of effective teachers and effective teaching. (Professionalism 1Sc)

ECED 2255. Curriculum Development-Learning Environment in Early Childhood Education

Course Description

An integration of knowledge of child development and learning theory with early childhood curriculum content for young children from age three to grade three. Students study the principles of designing and evaluating curriculum that is developmentally appropriate for young children. Content includes arts, literacy, mathematics, physical education, health, social studies, science and technology. Integrated curriculum that is supportive of language, home experiences and cultural values will be emphasized. This course requires 10 hours of fieldwork in an early childhood classroom approved by the instructor.

Student Learning Outcomes

1. Define, examine, and reflect on young children's approaches to learning. (Instructional Planning & Implementation 2Ka, 2Se; Classroom Management 3Ka, 3Sc; Diversity 6Kb, 6Sd; Development of the Student 8Sd; Family & Community 9Sd)
2. Identify principles of designing and evaluating developmentally appropriate curriculum. (Professionalism 1Sd; Classroom Management 3Sc; Technology 5Ka; Diversity SSe, 6Sd)
3. Define and reflect on the importance of "intentional teaching". (Professionalism 1Sc; Instructional Planning & Implementation 2Ka, 2Se, 2Sf)
4. List content Standards for the various content areas and be able to integrate them in developmentally centered practices. (Instructional Planning & Implementation 2Sd, 2Se, 2Sf; Diversity 6Sd; Development of the Student SSe)
5. Describe the benefits of technology in planning, implementation, and assessment of lessons. {Technology 5Ka, 5Kb)

ECED 2260. Assessment and Evaluation in Early Childhood Education

Course Description

Provides students with the ability to use a variety of assessment methods to determine the developmental levels and needs of young children age three to grade three. Learners are introduced to the meaning and uses of authentic assessment as well as various tools and assessment strategies. The course teaches students to 203 interpret observational and assessment data to monitor young children’s progress, guide instructional practice, and identify and refer at-risk children. This course requires 10 hours of fieldwork in an early childhood classroom approved by the instructor.

Student Learning Outcomes

1. Explain the value of assessment and its usefulness for early childhood teaching professionals. (Professionalism 1 Sc; Assessment 4Ka)
2. Conduct observations of children and the learning environment, record data objectively, and interpret the findings. (Instructional Planning & Implementation 2Kb, 2Sf; Assessment 4Sb, 4Sc, 4Sd)
3. Apply knowledge of child development in the interpretation and use of observational skills. (Assessment 4Sb; Development of the Student 8Ka, 8Kb)
4. Examine ethical behavior in assessment procedures. (Professionalism 1 Ka; Assessment 4Sd)
5. Develop an educational plan based on multiple observations across multiple domains. (Instructional Planning & Implementation 2Se, 2Sf; Assessment 4Sb)
6. Identify special education regulations and be able to describe the individual education plans (IEPC, IFPS) plans. (Inclusion 7Ka, 7Kb, 7Kc)

ECED 2270. Early Literacy I - Introduction to Theory & Models

Course Description

Focuses on theories and approaches to reading instruction for young children. Major topics in the course include early and emergent reading theories, stages of reading and emergent literacy at each developmental sequence of language and

literacy, which includes the influence of culture and home factors. Reading assessment practices require documentation of multiple sources including cultural and linguistic differences and diverse ways of learning. This course requires 10 hours of fieldwork in an early childhood classroom approved by the instructor.

Student Learning Outcomes

1. Articulate, verbally and in writing, the major theories and approaches to reading and writing instruction for young children. (Instructional Planning & Implementation 2Ka; Communication 10Kb, 10Kc)
2. Explain the role of language in emergent literacy development. (Communication 10Ka, 10Kb)
3. Identify the various stages of literacy development. (Instructional Planning & Implementation 2Ka; Development of the Student 8Kb)
4. Explore and analyze current research relating to the interaction between environment and literacy skills. (Professionalism 1Sd; Family & Community 9Kb, 9Kc; Communication 10Ka)

ECED 2275. Early Literacy II - Development and Implementation

Course Description

An exploration of principles that enhance the development and implementation of emergent literacy practices with young children. These principles include direct instruction, experiential learning, listening to and sharing stories, and book readings. Students also learn how to modify the literacy environment and to encourage family participation. Literacy principles and best practices become the basis for the discussion and activities supporting effective instructional strategies. This course requires 10 hours of fieldwork in an early childhood classroom approved by the instructor.

Student Learning Outcomes

1. Identify and apply best practices for different components of literacy for various developmental levels. (Instructional Planning & Implementation 2Sd, 2Se, 2Sf; Development of the Student BSc, BScl; Family & Community 9Sh)
2. Develop, implement, and evaluate a literacy rich environment within the classroom. (Family & Community 9Sd, 9Sf, 9Sg)
3. Evaluate student progress over time. (Instructional Planning & Implementation 2Sf; Assessment 4Sd, 4Se)
4. Articulate a personal philosophy of literacy instruction. (Professionalism 1Sc; Family & Community 9Se; Communication 10Kb, 10Kc)

ECED 2280. Professional Relationships

Course Description

This course addresses staff relations that will foster diverse professional relationships with families, communities and boards. Topics of staff recruitment, retention, support and supervision will lay the foundation for positive personnel, family and community relationships.

Student Learning Outcomes

1. Interview an administrator and write a paper describing personnel management, staff support, supervision, and professional development.
2. Identify and describe ethical and legal requirements in maintaining a professional relationship with subordinates, the community, clients, and fellow administrators.
3. Identify and describe technologies which may be used in an early childhood setting.
4. Identify and describe legal and ethical considerations in the employment of others.

ECED 2281. Professional Relationships Practicum

Course Description

Practical experience in the development of staff relationships that will foster professional relationships with families, communities and boards. Issues of staff recruitment, retention, support and supervision will lay a foundation for positive personnel management. Consent of instructor required. Restricted to ECED majors.

Student Learning Outcomes
Not Available

ECED 2992. Early Childhood Education Directed Study
Course Description
Varies
Student Learning Outcomes
Varies

ECED 2993. Workshop in Early Childhood Education
Course Description
Varies
Student Learning Outcomes
Varies

ECED 2996. Early Childhood Education Topics
Course Description
Varies
Student Learning Outcomes
Varies

ECED 2998. Early Childhood Education Field Experience
Course Description
Varies
Student Learning Outcomes
Varies

Economics (ECON)

ECON 1110. Survey of Economics
Course Description
This course will develop students' economics literacy and teach students how economics relates to the everyday life of individuals, businesses and society in general. The course will also introduce students to the roles different levels of governments play in influencing the economy. At the conclusion of the course, students will be able to identify economic causes for various political and social problems at national and international levels and have a better understanding of everyday economic issues that are reported in media and public forums.
Student Learning Outcomes

1. Gain and demonstrate a contextual understanding of economic terms and concepts.
2. Recognize and analyze common economic issues which relate to individual markets and the aggregate economy.
3. Learn basic economic principles that influence global trading and challenges relating to globalization.
4. Outline the implications of various economic policies on individuals and on economies.
5. Demonstrate ability to use diagrams and graphs to explain economic principles, policies and their applications.
6. Appreciate and understand how individual decisions and actions, as a member of society, affect economies locally, nationally and internationally.
7. Explain the roles of governments in influencing buyer and seller behavior in the market and how government failure occurs when intervention fails to improve or actually worsens economic outcomes.

8. Be able to apply course concepts to interpret, evaluate and think critically about economic events and policies, especially as regularly reported in the media and other public forums.

ECON 1996. Topics in Economics
Course Description
Varies
Student Learning Outcomes
Varies

ECON 2110. Macroeconomic Principles
Course Description
Macroeconomics is the study of national and global economies. Topics include output, unemployment and inflation; and how they are affected by financial systems, fiscal and monetary policies.
Student Learning Outcomes
Students should be able to:
1. Explain the concepts of opportunity cost, comparative advantage and exchange.
2. Demonstrate knowledge of the laws of supply and demand and equilibrium and use supply and demand curves to analyze responses of markets to external events.
3. Explain the circular flow model and use the concepts of aggregate demand and aggregate supply to analyze the response of the economy to disturbances.
4. Explain the concepts of gross domestic product, inflation and unemployment and how they are measured.
5. Describe the determinants of the demand for money, the supply of money and interest rates and the role of financial institutions in the economy.
6. Define fiscal policy and monetary policies and how these affect the economy.
7. Students will be able to identify the causes of prosperity, growth, and economic change over time and explain the mechanisms through which these causes operate in the economy.

ECON 2120. Microeconomic Principles
Course Description
This course will provide a broad overview of microeconomics. Microeconomics is the study of issues specific to households, firms, or industries with an emphasis on the role of markets. Topics discussed will include household and firm behavior, demand and supply, government intervention, market structures, and the efficient allocation of resources.
Student Learning Outcomes
Students should be able to:
1. Explain the concept of opportunity cost.
2. Demonstrate knowledge of the laws of supply and demand and equilibrium.
3. Use supply and demand curves to analyze responses of markets to external events.
4. Use supply and demand analysis to examine the impact of government intervention.
5. Explain and calculate price elasticity of demand and other elasticities.
6. Demonstrate an understanding of producer choice, including cost and break-even analysis.
7. Compare and contrast the following market structures: perfect competition, monopoly, monopolistic competition, and oligopoly.

ECON 2125. Society & Environment
Course Description

Introduces students to environmental and natural resource issues of both global and local scale. No prior economics coursework is required; basic economic tools will be introduced and then applied to a variety of environmental problems. This course will cover a variety of topics, including water & energy conservation, pollution taxes, tradable pollution permits and global warming.

Student Learning Outcomes

By the end of the course, students should be able to:

1. Describe historical patterns and trends of resource use and pollution creation for the US and the world.
2. Apply the concept of environmental externalities to a variety of real-world situations.
3. Use cost-benefit analysis to analyze policies to reduce pollution and discuss shortcomings of this approach.
4. Compare and contrast different policies for pollution reduction, including taxes, tradable permit systems, and direct regulatory approaches, with respect to both costs and effectiveness.
5. Identify common property resources and use information on extraction costs and market demand to predict outcomes and devise policies to improve outcomes.
6. Study one environmental issue in depth and apply a variety of the tools developed in this class to the issue. Produce a written research paper.
7. Describe the scientific evidence of climate change, summarize current global and national climate change policies and evaluate proposed policies with respect to effectiveness and cost.

ECON 2130. Personal Investing

Course Description

Personal investing should be considered introductory; however, it offers a wide-ranging overview of personal finance and the role financial assets can play in achieving personal financial goals. This course won't make you a millionaire, nor will it prepare you for a career as a hedge-fund manager. The goal is to increase your understanding of how financial markets work, and how to use financial assets as part of a life-long financial strategy. Your understanding of financial markets will be enhanced by learning the tools of economics, incorporating knowledge of human behavior, and becoming familiar with particular aspects of financial markets and assets.

Student Learning Outcomes

1. Identify and define the Life-Cycle model of personal finance, elements of the simple market model and extensions of the model in order to use the market model as a tool to understand behavior.
2. Appreciate the goal of retirement within the Life-Cycle model and understand the simple theory of taxes.
3. Understand fundamental principles that underlie corporate finance and become familiar with different types of assets and derivatives to comprehend the benefits of asset allocation and portfolio diversification.
4. Define risk and uncertainty to evaluate the Risk-Return tradeoff: opportunities available for return and risk.
5. Participate in discussions on particular aspects of financial markets.

ECON 2210. International Economics

Course Description

This course explores the prominent forces and core concepts of international economics and the relationships of nations and economic policy. It offers fresh perspectives on major world events of the last 40 years and recent economic milestones, such as the European Economic Community and the economic transformation of Russia and Eastern Europe.

Student Learning Outcomes

1. Students will be able to define and understand economic terms like the trade deficit, deregulation, import quotas, and balance of payments as evidenced by scoring 70% or better on a faculty prepared examination.
2. Students will be able to discuss and write about the global economy and its impact on business, industry, and the daily lives of citizens around the world by scoring in the 70th percentile on a faculty prepared examination.

ECON 2220. Economics of Race & Gender

Course Description
The aim of this course is to introduce you to how economics studies some of the main issues affecting men and women of different ethnic or racial backgrounds. Using economic theory as our framework for analysis, our discussions will include analysis of evidence and policies that address the issues at hand. Among the questions we will be addressing in this class are: why do women earn less than men, and blacks less than whites? Why has the labor force participation of women increased over the past half century, while black men's has decreased? How does marriage affect women's decision to work? How has the American family changed over the past century, among others.
Student Learning Outcomes
1. Demonstrate an understanding of introductory level economic models.
2. Gain an understanding of the historical evolution of family structure and analyze the dynamics of economic well-being associated with marriage and divorce.
3. Understand economic methods of analysis and complete/present an original research paper.
4. Assess the roles of race and gender in labor market models and evaluate its impact on labor market participation decision making.
5. Articulate some of the main issues affecting men and women of different ethnic or racial backgrounds.
6. Identify and evaluate the key models of discrimination, human capital, crime, and immigration.

ECON 2993. Economics Workshop
Course Description
Varies.
Student Learning Outcomes
Varies

ECON 2996. Economics Topics
Course Description
Varies.
Student Learning Outcomes
Varies

ECON 2998. Economics Independent Study
Course Description
Varies.
Student Learning Outcomes
Varies

Education (EDUC)

EDUC 1110. Freshman Orientation
Course Description
Introduction to the University and the College of Education. Discussion of planning for individualized education program and field experience.
Student Learning Outcomes
1. Demonstrates knowledge of and uses theories, approaches, methods, and techniques for teaching, reading, writing, and other academic skills in English and the native language.
2. Demonstrates knowledge of and applies management techniques appropriate to classrooms containing students who have varying levels of proficiency and academic experience in both languages.

Community/Family Involvement

The bilingual teacher:

1. Recognizes the importance of parental and community involvement for facilitating the learner's successful integration to his/her school environment.
2. Demonstrates knowledge of the teaching and learning patterns of the students' home environment and incorporates these into the instructional areas of program.

Assessment

The bilingual teacher:

1. Assesses oral and written language proficiency in academic areas in both languages utilizing the results for instructional placement, prescription, and evaluation.
2. Evaluates the growth of the learner's native and second language in the context of the curriculum.
3. Continuously assesses and adjusts her or his own language use in the classroom in order to maximize learner comprehension and verbal participation

EDUC 1120. Introduction to Education

Course Description

Introduction to the historical, philosophical, sociological foundations of education, current trends, and issues in education; especially as it relates to a multicultural environment. Students will use those foundations to develop effective strategies related to problems, issues and responsibilities in the field of education.

Student Learning Outcomes

1. Describe the teaching and learning of various American education settings including early childhood, elementary, middle school, high school, and special education.
2. Describe how teachers use educational theory and the results of research of students' learning.
3. Explain the techniques for establishing a positive and supportive environment in the classroom
4. Identify and describe instructional strategies supported by current research to promote thinking skills of all learners.
5. Recognize the teachers' role and responsibilities in an increasingly diverse, multicultural society.

EDUC 1125. Introduction to Education in New Mexico

Course Description

An exploration of contemporary issues around diversity, culture, and education in New Mexico. The course is of special interest to students considering a teaching career. Projects in schools and/or community sites are part of requirements. Each Student Learning Objective (SLO) is coded to the College of Education Understandings, Practices, and Identities, along with the Level I New Mexico Teacher Competencies (NMTC), and the Interstate Teacher Assessment and Support Consortium (InTASC) Standards.

Student Learning Student Learning Outcomes	**Core Values**	**Under-stand-ings**	**Practices**	**Identities**	**NM-PED Entry-Level Competencies**	**NM Level 1 Teacher Compe-tencies**	**InTASC**	**NM TEACH Domains**
1. Through a 30-hour field experience in an educational setting, students will identify and respond to issues related to social, political, cultural, ethical, and	2, 3, 6, 8	1, 2, 4, 5, 6	1, 2, 4, 5	1-7	A (1-8), B (6-8), C (1-11), D (9-14), E (1-3), F(1-7,10)	6-9	1-5, 9, 10	1A-F 2A-E 3A-E 4A-E

technological dimensions in schools					G (1-8) H (2,7-11), J (1-5) K (1-6, 9-12, 14)			
2. Students will be able to identify and describe positive interdependent relationships between families, educational settings, and community, resulting in effective learning experiences.	1-6, 8	1, 2,6	1, 2, 4, 5	1-7	A (1-8), B (6), C (8), D (9-14), E (2, 3), F (1, 3,6,7,10), G (1-8), H (2,7,9-11), K (2,4, 6, 9-11)	6-9	1, 2, 9, 10	1B,D,E 2A,C,D,E 3B 4A-F

EDUC 1140. Math for Paraprofessionals

Course Description

Applied math skills for paraprofessionals working with children.

Student Learning Outcomes

1. Students will plan developmentally appropriate math activities for young children.
2. Students will plan adaptations to math activities for children with diverse abilities.
3. Students will demonstrate understanding of recent research in methods of teaching mathematics.
4. Students will demonstrate understanding of early childhood theories as they relate to the teaching of mathematics.
5. Students will demonstrate understanding of unique needs of children from diverse economic or cultural backgrounds.

EDUC 1150. Math for Paraprofessionals II

Course Description

Applied math skills for paraprofessionals working under the direction of a teacher.

Student Learning Outcomes

1. Students will plan developmentally appropriate math activities for young children.
2. Students will plan adaptations to math activities for children with diverse abilities.
3. Students will demonstrate understanding of recent research in methods of teaching mathematics.
4. Students will demonstrate an understanding of early childhood theories as they relate to the teaching of mathematics.
5. Students will demonstrate understanding of unique needs of children from diverse economic or cultural backgrounds.

EDUC 1185. Introduction to Secondary Education and Youth

Course Description
Introductory course for students considering a career in secondary education. Includes historical, philosophical, and sociological foundations, program organization, critical dispositions, and understanding the context of schools and youth. Practicum required.

Student Learning Outcomes

1. Articulate the attributes of an education professional entering the field.
2. Differentiate and summarize the major educational philosophies and historical events that have influenced the progression of educational practice.
3. Describe the role of law in education with emphasis on the rights and responsibilities of teachers and learners.
4. Develop a preliminary personal philosophy of teaching and learning.
5. Discuss the characteristics and roles of the teacher, the student, and the school in today's education.
6. Identify effective teaching methods, instructional strategies and learning styles.
7. Evaluate the Lesson Planning Process using various lesson planning templates, formats, and rubrics.
8. Explain classroom management techniques.
9. Identify different types of diversity in the classroom environment.
10. Describe how learning differences are manifested in schools.
11. Describe how teachers use multiple methods of assessment to engage learners in their own growth, to monitor learner progress
12. Describe how teachers use multiple methods of assessment to modify instruction and inform decision making.
13. Identify the role of Standards and High Stakes Testing in the life of an educational professional
14. Complete 24 hours internship in a classroom, preferably a bilingual classroom.
15. Document and reflect on your observations throughout your internship.
16. Construct an individualized map to teacher licensure in the State of New Mexico.

EDUC 1190. Introduction to Education Practicum

Course Description
Applies understanding of the field of teacher education in a field-based 45-hour practicum in a K-12 school-based setting in general or special education. Students will observe and apply understanding of educational theory to classroom practice. Students must successfully pass a background check to complete the course requirements.

Student Learning Outcomes

1. Observe teaching and learning to identify the skills and dispositions of effective teachers.
2. Demonstrate an understanding of personal attitudes and motivations for entering the field of education.
3. Students will explore the development of curriculum as it relates to student understanding and develop an original lesson that emphasizes transfer.
4. Identify effective teaching strategies that enhance Student Learning Outcomes.
5. Identify classroom management techniques and learning styles.

EDUC 1198. Internship in Bilingual Education

Course Description
Supervised experience in bilingual education/ESL elementary or secondary classroom settings for prospective bilingual education/ESL teachers.

Student Learning Outcomes

1. Demonstrate an understanding of personal attitudes and motivations for entering the field of education.
2. Identify effective teaching strategies that enhance Student Learning Outcomes.
3. Identify classroom management techniques and learning styles.
4. Develop observational skills and reflective thinking skills.
5. Evaluate instructional methods that enhance upper level thinking skills in children.

EDUC 1210.Reading Literacy

Course Description

This course will focus on the learners working with both children and parents. The learners will attend a scheduled class for the academic theoretical base of knowledge and will work at a public school with children and parents for the application phase.

Student Learning Outcomes

1. Recognize the importance of literacy as a mechanism for personal and social growth.
2. Recognize and is sensitive to the needs and rights of individual learners.
3. Understands and accepts the importance of reading as a means to learn, to access information, and to enhance the quality of life.
4. Understands and is sensitive to differences among learners and how these differences influence reading.
5. Understands the importance of making reading relevant to the learners' lives.
6. Recognizes the importance of using reading in positive ways in the classroom.
7. Understands that language is a symbolic system.
8. Recognizes dialect variations and respects linguistic differences.
9. Has knowledge of developmentally appropriate practices that support emergent literacy, particularly of diverse learners.
10. Is able to explain and model the various word recognition, vocabulary, and comprehension strategies used by fluent readers.
11. Understands the relationship of phonemic, morphemic and semantic, syntactic systems of language to the reading process.
12. Promotes the development of a literate environment that fosters interest and growth in all aspects of literacy.
13. Models and discusses reading as a valuable activity.
14. Engages students in activities that develop their image of themselves as literate.
15. Promotes feelings of pride and ownership for the process and content of reading.

EDUC 1995. Field Experience I

Course Description

Introduction to public school teaching, school visits, classroom observations and discussion seminar.

Student Learning Outcomes

1. Demonstrate an understanding of personal attitudes and motivations for entering the field of education.
2. Identify effective teaching strategies that enhance Student Learning Outcomes.
3. Identify classroom management techniques and learning styles.
4. Develop observational skills and reflective thinking skills.
5. Evaluate instructional methods that enhance upper level thinking skills in children.

EDUC 1996. Special Topics in Education

Course Description

Varies

Student Learning Outcomes

Varies

EDUC 1998. Internship in Education

Course Description

Supervised experience in elementary or secondary education settings.

Student Learning Outcomes

Varies

EDUC 2105. Orientation to the Teaching Profession

Course Description

An orientation to the teaching profession and to the conceptual framework for the Teacher Academy Teacher Certification Program. Students reflect on their individual dispositions and on their experiences as learners in order to examine perceptions and assumptions they hold about teaching and learning. In addition, students examine the ways in which teacher beliefs influence learning. Additional topics include Teacher Academy conceptual framework, core values, teacher candidate competencies and proficiencies, demands of the profession, leadership, teacher reflection, and aspects of education. This course includes a structured 5 hour field component.

Student Learning Outcomes

1. Identify and examine Teacher Academy core values, perceptions, and assumptions about teaching and learning through various frameworks. (Professionalism 1 Sc)
2. Practice teacher reflection and its significance to effective teaching. (Professionalism 1Sc)
3. Examine and reflect on teacher candidate proficiencies and dispositions as outlined in the Teacher Academy Conceptual Framework. (Professionalism 1Ka)
4. Describe literacy, historical foundations and contemporary frameworks of understanding. (Professionalism 1Sf)
5. Discuss the concept of teachers as leaders. (Professionalism 1 Sd)

EDUC 2110. Foundations of Education

Course Description

This course is designed to assist future teachers in gaining an understanding of the purposes and framework of schools. Topics covered in this course include, but are not limited to ethics, legal issues, and leadership relative to education. The dynamic role of teachers is also explored.

Student Learning Outcomes

This course should provide students with an overview of the teaching profession. Students should be able to discuss and analyze various aspects of education and the teaching field, from historical and theoretical points of view to up-to-date policies and standards. Students should also understand some classroom management strategies and various philosophies of education.

The student should be able to:

1. Identify and describe the reasons and realities of teaching.
2. Analyze essential knowledge needed to teach.
3. Describe how reforms in teacher education affect teachers.
4. Define educational philosophy, discuss various philosophies and create their own initial educational philosophy.
5. Identify factors that affect schools and place students at risk.
6. Identify, describe, and discuss the various parties who are involved in the struggle for control of schools.
7. List and discuss the states' power and influence in governing schools.
8. Explain the role of the federal government in education.
9. Explain why a professional code of ethics is needed.
10. Describe the legal rights and responsibilities of teachers, students, parents and school districts.
11. Identify how diversity is embedded in the American way of life.
12. Define equal educational opportunity.
13. Describe how students vary in intelligence.
14. Define special education, mainstreaming, and inclusion.
15. Describe how to teach all learners in an inclusive classroom.
16. Describe how to create a positive learning environment.
    Llist keys to successful classroom management.

17. Identify and discuss effective teaching methods used by teachers.
18. List characteristics of effective teaching.
19. Describe what role standards play in the classroom.
20. Identify methods that can be used to assess student learning.
21. Describe how educational technologies influence schools.
22. Define and discuss professionalism in teaching list and describe professional organizations that teachers belong to.
23. Summarize how teachers contribute to educational research.
24. Enumerate how teachers are providing leadership for school restructuring and curriculum reform.
25. Discuss how to become certified or licensed to teach.

EDUC 2115. Foundations of Early Childhood

Course Description

Focuses on historical, philosophical and social foundations of the early childhood education profession and how these foundations influence current thought and practices. A particular emphasis will be placed on developmental issues for children, birth through the age of eight. Topics include a survey of the history of early childhood education and professionalism, ethical codes of conduct, and issues of advocacy in the field. Upon completion of the course, students will articulate a well-designed personal early childhood education philosophy that supports practices of inclusion and cultural and linguistic diversity in early education. This course requires 10 hours of fieldwork in an early childhood program approved by the instructor.

Student Learning Outcomes

1. Describe the historical, philosophical, and social foundations of the early childhood education profession and how these foundations influence current thought and practices. (Professionalism 1Sf; Diversity 6Ka; Family & Community 9Ka, 9Kb, 9Kc)
2. Define "developmentally appropriate practices". (Instructional Planning & Implementation 2Ka;
3. Diversity 6Ka, 6Kb; Development of the Student BKa, BKb; Family & Community 9Kb, 9Sd)
4. Define "critical reflection" and "teacher expectations" and reflect on their significance to effective teaching. (Professionalism 1Sc, 1Sd, 1Se, 1Sf

EDUC 2116. Structured Observations of Teaching and Learning

Course Description

Introduction to the study and practice of teaching and learning. For students interested in pursuing a career in teaching and learning. Required for advancement in the teacher education program.

Student Learning Outcomes

Class discussions, assignments, and observation exercises are designed to provide students with the opportunities to meet the following objectives, which are aligned with the Interstate Teacher Assessment and Support Consortium (InTASC) standards as indicated in parentheses at the end of each objective.

1. Identify, analyze, and discuss educational issues, theories, and research (InTASC 1-8)
2. Enhance oral and written communication skills (lnTASC 9),
3. Examine and evaluate effective teaching strategies and techniques, effective planning approaches, assessment, motivation strategies, and classroom management (lnTASC 1-8),
4. Observe, create, and execute a lesson using current research strategies (InTASC 7 & 8),
5. Discuss students' diversities and individual learning differences by participating in large and small group discussions (InTASC 2),
6. Determine how the proper integration of technology facilitates student learning by experiencing firsthand how technology is used in the classroom and planning for future learning experiences (InTASC 8),
7. Identify the demands and rewards of teaching a diverse student population (InTASC 1 & 9), and
8. Reflect and analyze ones' own qualifications and commitment to becoming a teacher (InTASC 9 &10).

EDUC 2116L. Structured Observations of Teaching and Learning

Course Description

Introduction to the study and practice of teaching and learning. For students interested in pursuing a career in teaching and learning. Required for advancement in the teacher education program.

Student Learning Outcomes

Class discussions, assignments, and observation exercises are designed to provide students with the opportunities to meet the following objectives, which are aligned with the Interstate Teacher Assessment and Support Consortium (InTASC) standards as indicated in parentheses at the end of each objective.

1. Identify, analyze, and discuss educational issues, theories, and research (InTASC 1-8)
2. Enhance oral and written communication skills (lnTASC 9),
3. Examine and evaluate effective teaching strategies and techniques, effective planning approaches, assessment, motivation strategies, and classroom management (lnTASC 1-8),
4. Observe, create, and execute a lesson using current research strategies (InTASC 7 & 8),
5. Discuss students' diversities and individual learning differences by participating in large and small group discussions (InTASC 2),
6. Determine how the proper integration of technology facilitates student learning by experiencing firsthand how technology is used in the classroom and planning for future learning experiences (InTASC 8),
7. Identify the demands and rewards of teaching a diverse student population (InTASC 1 & 9), and
8. Reflect and analyze ones' own qualifications and commitment to becoming a teacher (InTASC 9 &10).

EDUC 2116C. Structured Observations of Teaching and Learning

Course Description

Introduction to the study and practice of teaching. For students interested in pursuing a career in teaching. Required for advancement in the teacher education program. Concurrent enrollment: EDF 222L.

Student Learning Outcomes

Class discussions, assignments, and observation exercises are designed to provide students with the opportunities to meet the following objectives, which are aligned with the Interstate Teacher Assessment and Support Consortium (InTASC) standards as indicated in parentheses at the end of each objective.

1. Discover, analyze and discuss educational issues, theories, and research (In T ASC 1-8)
2. Enhance their oral and written communication skills (InTASC 9),
3. Examine and evaluate effective teaching strategies and techniques, effective planning approaches, assessment, motivation strategies, and classroom management (InTASC 1-8),
4. Observe, create, and execute a lesson using current research strategies (InTASC 7 & 8),
5. Discuss students' diversities and individual learning differences (InTASC 2),
6. Discover how the proper integration of technology facilitates student learning (InTASC 8),
7. Appreciate the demands and rewards of teaching a diverse student population (InTASC 1 & 9), and
8. Reflect and analyze ones' own qualifications and commitment to becoming a teacher (InTASC 9 &10).

EDUC 2220. Families, Schools & Community Cultures

Course Description

Required for Elementary and Secondary. Focuses on the relationship of schools, families, and community and on how schools are structured at the local, state, and national level. Covers legal, ethical, and professional responsibilities of teachers, diversity in the classroom, and strategies for encouraging parental involvement. Assists students in identifying community resources to enrich curricula and in developing the agency to work with various public entities that interact with schools.

Student Learning Outcomes

1. Identify primary legal requirements and ethical conduct for teachers and schools.
2. Explain how local schools are affected by state and national educational systems and regulations.
3. Recognize community diversity, occasions of cultural significance, stakeholder biases, and local political issues that a responsive school culture would address.
4. Appreciate the value of collaboration with community members and parents.
5. Connect classroom activities to real-world learning opportunities within the local community and beyond.

EDUC 2221. Educational Psychology

Course Description

Introduces you to psychological principles as they apply to teaching and learning. You will examine the relationships between theory, research, and practice in learning, memory, child development, motivation, and educational assessment for the school setting. You will address cognitive, linguistic, affective, and social development, with particular attention to the K-8 learner. Emphasis is on the integration of theory and practice, with numerous classroom applications of psychological theories and principles.

Student Learning Outcomes

1. Define learning and compare and contrast the factors that cognitive, behavioral, and humanistic theories believe influence the learning process, giving specific examples of how these principles could be used in the classroom.
2. Apply psychological principles and theories within actual or simulated educational contexts.
3. Use major concepts of child and adolescent development, human learning, and social and cultural influences in planning and implementing classroom instruction, strategies, and management.
4. Identify and analyze the implications of the various developmental and learning theories for models of instruction, decisions about teaching strategies and the selection of materials, and the role of the teacher in the learning process.

EDUC 2222. Literacy/Language Instruction for ESL Learners

Course Description

Provides an understanding of second language acquisition and develops a strong basis for instruction of literacy/language to English as Second Language learners in K-12 classrooms.

Student Learning Outcomes

By the end of this course, students will be able to:

1. Evaluate current theories, research and pedagogical practices for teaching linguistic skills related to oral and written language development for second language learners.
2. Demonstrate a strong understanding of foundational literacy skills and language acquisition in first and second language students.
3. Practice how to modify teaching strategies and materials for students for whom English is a second language in lesson planning and instruction.
4. Develop Common Core instructional plans that demonstrate effective literacy instruction for English Language Learners (ELLs).
5. Access and use multiple formative and summative assessment tools to enrich and extend an individual student's oral, reading and writing needs.
6. Examine specific linguistic and cultural issues as they relate to second language students in the southwest.

EDUC 2224. ESL Across Content Areas

Course Description

Provides an understanding of the goals, strategies and teaching techniques for effectively teaching content to ESL students in K-12 classrooms.

Student Learning Outcomes

By the end of this course, students will be able to:

1. Use current theories on second language acquisition to modify and support instruction for diverse of learners.
2. Implement strategies and teaching techniques for distinct learning styles and developmental levels across all content areas to support content knowledge acquisition.
3. Incorporate instructional technologies to support language acquisition in the content areas for culturally and linguistically diverse students.
4. Develop content area unit and lesson plans based on the Common Core with specific modifications for English Language Learners.
5. Describe how culture and background impact individual learning and teaching.
6. Develop a resource plan for communicating with families for whom English is a Second Language.

EDUC 2243. Children's Literature

Course Description

This course focuses on the building familiarity with high quality, culturally responsive, and authentic children's literature with the purpose of supporting literacy instruction in K-8 classrooms. Students will be introduced to a range of literature and strategies for incorporating this literature into their instruction.

Student Learning Outcomes

1. Students will evaluate children's literature.
2. Students will identify ways in which children's literature leads to effective literacy instruction.
3. Students will participate in a collaborative learning community to discuss literature and connect to instruction that is anchored by children's literature as mentor texts across subjects.

EDUC 2260. Emergent Literacy for Diverse Learners

Course Description

Examines the fundamentals of literacy development for emergent readers and writers. Course competencies are built upon national and state standards for literacy and focus on the development and assessment of oral language, print awareness, letter knowledge, phonological and phonemic awareness, phonics, sight words, fluency, spelling, vocabulary, comprehension, and writing. The course utilizes theoretical frameworks aligned with Structured Literacy principles and practices. Students will learn evidence-based methods focusing on diverse learners, including students with disabilities and multilingual learners, and develop skills in assessment, differentiation, and intervention strategies.

Student Learning Outcomes

(Core Values: Critically Reflective Practice & Professionalism)

1. Engage in critical reflection as a means to developing a personal theory of literacy instruction.
2. Participate in an on-going process of researching current educational issues and practices (NMPED Entry Level Teacher Competencies: A-3, F-6, J-a).
3. Identify and evaluate the major research-based approaches to reading instruction.
4. Reflect upon individual teaching strategies and their effects on student literacy development and use findings to improve upon overall instruction (NMPED Entry Level Teacher Competencies: D-5, J) (Core Values: Diversity & Multicultural Perspectives).
5. Develop an understanding of the fundamentals of literacy development and instruction to better support the diversity of student needs in literacy development and instruction (NMPED Entry Level Teaching Competencies: F-6, J-a, J-c,).
6. Identify the phonemic, morphemic, semantic, syntactic, and pragmatic systems of language and their relation to the reading process characterize the role of metacognition in reading and writing.
7. Describe the patterns of child growth and development and their relation to the teaching of reading.

8. Define emergent literacy and identify research-based methods for supporting early literacy development.
9. Identify the role of oral language in the development of literacy.
10. Identify the stages of second language acquisition and the theories that underscore ESL methodology.
11. Identify the competencies and benchmarks necessary for appropriate language and reading development.
12. Identify integrated language/reading activities that support student achievement and interest in all phases of language development.
13. Develop an understanding of the principles of effective reading instruction to support the literacy learning of diverse students (NMPED Teacher Competencies: H-4, H-5, H-6, F-6, F-7).
14. Identify effective methods, strategies and materials that support the literacy development of all students.
15. Address literacy differences among students through a literature-based approach to instruction, which focuses on the cognitive, social, emotional and cultural factors that underlie these literacy differences.
16. Identify the unique cultural aspects of New Mexico students as they relate to literacy development and instruction.
17. Identify the major approaches to literacy instruction as it pertains to Second Language Learners (a.k.a. ESL/TESOL) describe modification of methodologies, techniques, and materials for teaching reading to children with special needs.
18. Implement developmental, corrective and remedial instructional strategies in the teaching of reading.
19. Identify the state standards and benchmarks that guide reading instruction in New Mexico.
20. Develop an understanding of the continuous assessment process in reading instruction (NMPED Entry Level Teaching Competencies: B-5, B-9).
21. Identify assessments that are appropriate to the developmental levels and unique cultural aspects of students.
22. Assess students reading abilities using formal and informal reading assessments.

(Core Values: Collaboration).

23. Recognize that family and community can be used as teaching resources to enhance learning and children's self-value (NMPED Entry Level Teaching Competency: G-5).

EDUC 2262. Intermediate Literacy for Diverse Learners

Course Description

Examines the essential components of intermediate literacy instruction for students. Course competencies are built upon national and state standards for elementary and middle school reading and writing and focus on the development and assessment of student vocabulary, academic language, background knowledge, reading comprehension, fluency, student analysis of narrative and expository texts, and writing. Demonstrates evidence-based methods, materials, and strategies for diverse learners, including differentiation and interventions for struggling readers, students with disabilities, and multilingual learners.

Student Learning Outcomes

1. Teacher candidates will evaluate assessment data and develop/implement universally designed, differentiated, standards-aligned, and age-appropriate reading instruction based upon the needs and abilities of diverse students.

EDUC 2264. Reading and Writing in Secondary Education for Diverse Learners

Course Description
Examines the essential components of content area literacy instruction for students in grades 6-12. Course competencies are built upon national and state standards for secondary literacy instruction and content area and focus on the design and integration of explicit reading and writing instruction using differentiated materials and evidence-based strategies. Students will learn about evidence-based methods, materials, and strategies for a diverse student population, including struggling readers, students with disabilities, and multilingual learners.

Student Learning Outcomes

1. Teacher candidates will teach content area literacy lessons that accommodate and support the diverse needs and abilities of all* adolescent learners using differentiated materials and evidence-based strategies.
2. Teacher candidates will facilitate and apply professional learning about literacy instruction using reflection and peer collaboration.

*Note: Reference to all learners includes culturally and linguistically diverse, English learners, and students with learning disabilities.

EDUC 2296. Education Seminar

Course Description
Covers selected topics, theories, methods and strategies for the professional development of educators. Students will engage in self-assessment activities related to the selected topic. Topics vary from semester to semester.

Student Learning Outcomes

1. Identify and explain the major components of the professional development topic
2. Identify effective and practical classroom techniques related to the professional development topic.
3. Summarize the recent research findings and/or literature on the topic covered.
4. Summarize the recent research findings and/or literature on the topic covered.

EDUC 2315. Educating Linguistically and Culturally Diverse Students

Course Description
Course familiarizes students with history, theory, practice, culture and politics of second language pedagogy and culturally relevant teaching. Examines theoretical and practical issues related to diversity of culture, race, gender, language, socioeconomic, and ability level in the classroom. Students will be introduced to effective teaching methods for linguistically and culturally diverse learners, including critical teaching behaviors and essential best practices for diverse students.

Student Learning Outcomes

1. Describe the needs, abilities, and strengths of linguistically and culturally diverse students, including factors that affect student access to learning
2. Describe key concepts and models of bilingual education, including theories of first and second language acquisition
3. Design a K-12 curriculum unit using culturally relevant materials and practices for anti-bias education
4. Develop critical dispositions for becoming a culturally inclusive educator, including self-reflection

EDUC 2320. Educational Community

Course Description
This course is designed to prepare future teachers with the necessary classroom management skills needed for student success by providing instruction on classroom processes, techniques, and procedures. Systematic motivational strategies for a diverse student body are covered. The impact on student learning due to emotional, social, physical, and cognitive development from birth through adolescence is explored. Also covered are educational strategies to assist students with exceptional needs.

Student Learning Outcomes

1. The student will identify and describe the characteristics of an effective teacher as demonstrated by scoring 70% or higher on a faculty administered exam.
2. The student will describe the importance of the first days of school as demonstrated by scoring 70% or higher on a faculty administered exam.
3. The student will outline the role of student self-evaluation as demonstrated by scoring 70% or higher on a faculty assigned class project.

EDUC 2325. Student Outcomes Assessment

Course Description

This course is designed to help future teachers plan and prepare effective instruction based on measurable and useful assessments. The assessments will fulfill district and state standards while meeting the needs of students. Instruction on the use of assessment data to assist teachers in designing curriculum and improving teaching methodologies is also covered. This course also provides instruction on teaching reading and diagnosing reading skills at the elementary and secondary levels.

Student Learning Outcomes

1. The student will learn to plan assessment strategies as demonstrated by scoring 70% or higher on a faculty administered exam.
2. The student will develop an assessment project through a faculty assigned class exercise and score 70% or higher by faculty evaluation

EDUC 2327. Student Growth and Development

Course Description

With primary emphasis on K-12 learners, the Student Growth and Development course explains the cognitive, linguistic, personal, social, and moral development of individuals as well as individual and group differences for students studying to be teachers and educational leaders. This course describes behaviorist and social cognitive view of learning, intrinsic and extrinsic motivation, and informal and formal assessments that prepare teachers and educational leaders for the classrooms and schools.

Student Learning Outcomes

1. Describe the key principles and theories that guide teachers in their efforts to adapt instruction to students' cognitive abilities and promote their further cognitive development.
2. Explain how students differ from one another in their cognitive and linguistic development, and how teachers can accommodate such differences.
3. Explain how self-concept and self-esteem affect the classroom performance of students
4. Identify the strategies most likely to promote good relationships among diverse students
5. Explain how students' moral reasoning and behavior change over time, and what teachers can do to promote moral and pro-social development
6. Compare and contrast the ways in which students from various cultural and ethnic groups are apt to be alike and different from one another and identify the implications of these differences for classroom practice.
7. Compare and contrast the ways in which males and females are alike and different and identify what can be done to provide equitable educational opportunities for both genders.
8. Define learning and identify the general theoretical perspectives that can be used to describe and explain it.
9. Summarize the basic assumptions of social cognitive theory
10. Describe the role played by self-efficacy in learning and identify how teachers can enhance self-efficacy in students.
11. Identify the components of self-regulation and explain how teachers can promote this behavior in their students.
12. Identify the components of metacognition and explain how teachers can promote this behavior in their students.
13. Define motivation and explain its role in learning.
14. Compare and contrast intrinsic and extrinsic motivation.

15. Compare and contrast the main types of expository instruction, including lectures, mastery learning, and direct instruction.
16. Understand how to include cooperative and collaborative learning strategies into daily instruction.
17. Explain discovery learning and identify instructional situations for which it is best suited.
18. Define authentic activity and provide several examples.
19. Compare and contrast cooperative learning with other forms of learning and identify the situations for which cooperative learning is best suited.
20. Compare and contrast the different forms assessment can take in classroom settings.
21. Demonstrate an understanding of formal and informal assessment techniques.
22. Define the four characteristics of "good" assessment.
23. Explain the importance of knowledge of mental models, domain content, and problem construction in the design of quality assessment.

EDUC 2330. The Effective Classroom

Course Description

This course is designed to prepare future teachers with the necessary classroom management skills needed for student success by providing instruction on classroom processes, techniques, and procedures. Systematic motivational strategies for a diverse student body are covered. The impact on student learning due to emotional, social, physical, and cognitive development from birth through adolescence is explored. Also covered are educational strategies to assist students with exceptional needs.

Student Learning Outcomes

1. The student will identify and describe the characteristics of an effective teacher as demonstrated by scoring 70% or higher on a faculty administered exam.
2. The student will describe the importance of the first days of school as demonstrated by scoring 70% or higher on a faculty administered exam.
3. The student will outline the role of student self-evaluation as demonstrated by scoring 70% or higher on a faculty assigned class project.

EDUC 2335. Reading Assessment

Course Description

This course is designed to address the requirements of Public Schools Act, 2001 N.M. Laws Ch. 261, amending §22-2-8.7 N.M.S.A. 1978 and 2001 N.M. Laws Ch. 299, amending §22-2-2 N.M.S.A. 1978. The intent of this course is to prepare future teachers to recognize and assess reading difficulties across content areas. Topics covered in this course include word identification skills and strategies, reading comprehension skills, and vocabulary skills.

Student Learning Outcomes

1. The student will learn to plan lessons for reading and writing as demonstrated by scoring 70% or higher on a faculty developed project.
2. The student will develop an understanding of content area literacy planning as demonstrated by scoring 70% or higher on a faculty developed project.

EDUC 2340. Multicultural Education

Course Description

This course offers a study of educational trends, issues, and teaching methods and strategies necessary to teach respect and tolerance in diverse settings.

Student Learning Outcomes

Course Objective: This course is an approved elective in the program of study in New Mexico for an Associates of Arts degree in Teacher Education. The following objectives are taken from the New Mexico State department of Education's Common core Competencies for early childhood professionals. Upon completion of this course, students will:

1. Demonstrate a clear understanding of the goals of multicultural education.
2. Describe strategies and teaching techniques for use in a multicultural classroom.
3. Describe how culture and background impact individual learning and teaching.
4. Develop activities that are responsive to diverse populations through planned activities and apply differing approaches to learning opportunities. (OBJ 3)

EDUC 2344. Strategies for Successful Classroom Practicum

Course Description

This course is designed to supplement EDUC 2345. As assigned by the instructor, you will be engaged in specific responsibilities for 37.5 hours in the field and/or lab experiences. You must have a favorable background check on file with the College of Education.

Student Learning Outcomes

1. Understand models of classroom management and observe these in the classroom.
2. Be able to provide a safe classroom environment for optimal learning and students' success.
3. Seek student understanding and input for classroom procedures, rules, and consequences.
4. Be able to manage time and materials effectively to minimize distractions and disruptions in the classroom.
5. Be able to develop behavioral management and discipline systems that are respectful of the students.

EDUC 2345. Strategies for Successful Classrooms

Course Description

In this class you will learn basic classroom processes, techniques and procedures to help you manage your classroom for high levels of student success. You will learn practical strategies for increasing student motivation and learning in a diverse classroom. You will also learn practical strategies for managing student behavior and discipline in your future classroom. This class consists of a Practicum connected with the lecture class. You will spend 37.5 hours in a classroom observing classroom procedures, routines, discipline of students, etc. You will be expected to write a reflective journal of your observations, interview your mentor teacher and keep a log of all the hours you spent observing in the classroom. For this class you should focus on Standard C of the NM entry level teacher competencies: Classroom Management.

Student Learning Outcomes

1. Understand models of classroom management and observe these in the classroom.
2. Develop and implement a classroom management plan.
3. Be able to provide a safe classroom environment for optimal learning and students' success.
4. Seek student understanding and input for classroom procedures, rules, and consequences.
5. Be able to manage time and materials effectively to minimize distractions and disruptions in the classroom.
6. Be able to develop behavioral management and discipline systems that are respectful of the students.

EDUC 2350. The Critically Reflective Teacher

Course Description

Exploration of the role of critically reflective teachers in diverse educational settings. Students demonstrate a commitment to the development and practice of self-directed reflection as applied to teaching and learning. Students explore how reflection-in-action and reflection-on-action guide instructional decision-making. This course includes a 10 hour field component.

Student Learning Outcomes

1. Identify personal experiences, biases, and beliefs and identify how these impact teaching practices. (Diversity 6Kb; Development of the Student 8Sd; Family & Community 9Ka)

2. Articulate the importance of critical reflection as pedagogical practice. (Professionalism 1 Sc)
3. Assess their own development as related to Teacher Academy core values and teacher candidate dispositions. (Professionalism 1Sc)
4. Describe a range of methodologies that support an ongoing practice of reflection (Communication 10Ka, 10Sd, 10Se, 10Sf)
5. Document and analyze learning opportunities that support multiple ways of constructing meaning (Development of the Student 8Sd)

EDUC 2355. Theories of Teaching and Learning

Course Description

Examine the teaching and learning process in relation to historical, theoretical, philosophical, and social foundations of education. Students develop an awareness of expected developmental progressions and ranges of individual variation within the physical, social, emotional, moral, and cognitive domains. Students learn how to apply instructional strategies that promote learning. This course includes a structured 10-hour field component.

Student Learning Outcomes

1. Identify learning theories and their applications (Development of the Student BKa, SSe; Professionalism 1Sd)
2. Identify differences in approaches to learning and performance including different learning styles, multiple intelligence and the importance of individualizing instruction to meet the needs of a diverse group of students. (Instructional Planning & Implementation 2Ka; Diversity 6Kb, 6Sd)
3. Determine the influences on the teaching and learning process (Development of the Student 8Ka)
4. Define diversity and apply instructional strategies that incorporate cultures and community resources to instruction (Diversity 6Kb; Instructional Planning & Implementation 2Se)
5. Demonstrate an understanding of the reciprocal relationship between school, cultures and community (Family & Community 9Kb, 9Kc)

Other proficiencies addressed in this course: Family & Community 9Sd

EDUC 2360. Curriculum and Assessment

Course Description

Planning effective instruction, designing and analyzing meaningful assessment based on students' needs and. on district and state standards. Specific strategies focus on differentiating instruction, designing a conceptually based curriculum, and analyzing standards for alignment with curriculum content and outcomes. Students learn how to use assessment data to direct their teaching practices and curriculum development. This course includes a structured 10-hour field component.

Student Learning Outcomes

1. Align the development of curriculum and instruction with state and district standards. (Instructional Planning & Implementation 2Kc; Inclusion 7Ka, 7Kb)
2. Develop and analyze assessments based on both students' needs and state and district standards. (Assessment 4Ka; Instructional Planning & Implementation 2Kb)
3. Apply awareness of learning styles and differentiation to curriculum. (Instructional Planning & Implementation 2Ka, 2Sd; Diversity 6Sd)
4. Develop a conceptual framework for curriculum scope and sequence. (Instructional Planning & Implementation 2Se, 2Sf; Diversity 6Kb)
5. Sequence effective instructional strategies. (Instructional Planning & Implementation 2Sd; Inclusion 7Sf)
   Other proficiencies addressed: Assessment 4Sb, 4Sd, 4Se

EDUC 2365. Effective Teaching

Course Description

Effective instructional processes, techniques and procedures to help teachers lead their classrooms toward high levels of student success. Students learn practical keys and strategies for increased student motivation and learning in a diverse classroom. The processes of social, emotional, physical and cognitive development from birth through adolescence and their implications for student learning are reviewed. Students examine a variety of classroom management models for understanding classroom behaviors and educational strategies that are effective in helping all students succeed. This course includes a structured 10 hour field component.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Develop several strategies and techniques to manage classroom context in order to create an effective learning environment for all students. (Classroom Management 3Ka)
2. Identify and implement teaching strategies that increase student motivation and learning. (Instructional Planning & Implementation 2Sd; Professionalism 1Sd; Development of the Student BKa)
3. Design and evaluate effective classroom procedures, routines and management plans aligned to social, emotional, physical and cognitive development level of the students. (Classroom Management 3Ka, 3Sb; Development of the Student SSe, BSd)
4. Demonstrate understanding of theory translated into practice in the context of effective teaching. (Professionalism 1Ka, 1Sc, 1Sd; Classroom Management 3Se) Other proficiencies addressed: Classroom Management 3Sd

EDUC 2370. Reading in the Content Area

Course Description

An exploration of developmentally, culturally and linguistically appropriate, formal and informal research- based assessments and teaching strategies in the teaching of reading at the secondary level. Students learn teaching strategies that emphasize the construction of meaning in texts, reading and study skills, and reading and writing and information literacy across the curriculum. This course includes a structured 10-hour field component.

Student Learning Outcomes

1. Research and implement reading strategies to support reading comprehension across the curriculum. (Communication 10Kb; Instructional Planning & Implementation 2Sd, 2Se)
2. Implement research-based techniques and strategies for teaching reading at the secondary level. (Communication 10Kb; Development of the Student BSc; Professionalism 1Sc, 1Sd)
3. Incorporate writing and reading and information literacy into all content areas. (Communication 1 OKa, 10Sd, 10Sf; Development of the Student BSd; Technology 5Sc)
4. Include formal and informal assessments in lesson plans using New Mexico content standards and curriculum development. (Instructional Planning & Implementation 2Kc, Assessment 4Sb, 4Sc)

EDUC 2375. Technology Integration in the Classroom

Course Description

Students apply knowledge of learning theory to explore how to incorporate educational technology as a classroom tool in the K-12 learning environment. Students will use classroom technology to enhance curriculum development and application to the classroom. Examines the impact of technology on the changing role of the teacher.

Student Learning Outcomes

Students will:

1. Use technology tools and information resources to facilitate academic learning for the 21st century classroom.
2. Use content area standards that reflect best practices in teaching and learning with technology in the K-12 classroom.
3. Use technology to support learner-centered strategies that increase access and address the diverse needs of all students, including second language learners and student receiving special education services.

EDUC 2380. Introduction to Online Course Design

Course Description

Introduction to learning management systems, course design, and online teaching and learning. Includes structure and organization of online courses, design and implementation of online activities and assessments, and creation and moderation of effective online discussion.

Student Learning Outcomes

Upon successful completion students will be able to:

1. Identify and discuss best practices in the design and development of an online course.
2. Discuss the importance of facilitator presence and creating a sense of community in an online learning environment.
3. Discuss the importance of timely, ongoing communication and constructive feedback to support student learning.
4. Demonstrate the ability to adopt and develop course content, learning activities, and assessments suitable for the online environment.
5. Develop course materials that meet Quality Matters Standards.
6. Apply the Quality Matters Rubric to self-assess and peer review online course content and learning activities.

EDUC 2410. Early Literacy & Young Children

Course Description

This course is designed to help students gain knowledge and skills needed to assist children in the areas of reading and writing development in the early elementary grades. Emphasis will be placed on phonemic awareness, phonics, fluency, vocabulary development, and comprehension. Informal assessment tools will be introduced to students as the basis for designing curriculum to meet children's individual needs.

Student Learning Outcomes

1. Describe methods to promote a child's development of effective reading strategies related to phonemic awareness, phonics, fluency, vocabulary, and comprehension J2(c);
2. Discuss the foundations of reading and language arts development, including but not limited to:
    a. Research on reading;
    b. Characteristics of proficient and non-proficient readers;
    c. Children's developmental processes;
    d. Cultural, linguistic, environmental, and physiological factors in reading and language arts development;
    e. How children learn to speak, read, write, and listen;
    f. Language structure including graphophonics, semantics, syntax, and pragmatics systems J2a;
    g. Relationship between oral and written language;
3. Describe the use of classroom reading assessment to diagnose students' instructional needs and modify instruction appropriately J2b(I);
4. Link assessment and instruction to New Mexico language arts content standards, benchmarks and performance standards J2b (ii);
5. Differentiate methods of instruction based on needs of students and design instruction based on reading and language arts components J2(c);
6. Use observation skills for informal assessment D7;
7. Adjust lessons and strategies for students with exceptionalities with regard to academic levels, physical environment, and emotional needs H8;
8. Explain communications theories, language development, and the role of language in student learning K3;
9. Apply a variety of strategies to facilitate language acquisition and development K4;
10. Plan experiences that demonstrate recognition that the conventions and skills of language need to be taught in meaningful and authentic contexts rather than in isolation K5;
11. Explain how writing is critical to other areas of language acquisition, cognitive growth, and expression K6;

12. Recognize that the focus of reading is communication of meaning through interaction between the reader and the text K7;
13. Use a variety of reading materials, including children's literature, non-fiction, technological media, stories, poems, biographies, texts from various subject areas J2-D (v); and,
14. Apply a variety of verbal and non-verbal sign systems in order to expose students to multiple expressive modes across the curriculum K8;
15. Select materials and tools for measuring and evaluating student progress, and uses the information to plan appropriate instruction D2, 3, 4, 5;
16. Critically review, select, and adapt materials, resources, and technologies and analyze them for (A)
    a. age appropriateness;
    b. biases and stereotypes;
    c. content appropriateness in regard to curriculum;
    d. cultural and linguistic background;
    e. developmental level;
    f. exceptionalities:
    g. reading level;
    h. relevance to students.
17. Use learning theory, knowledge of the subject matter, and curriculum development in planning instruction to meet curriculum goals. (B.1)
18. Support the physical, social, emotional, cognitive, and linguistic development of students when planning instruction. (B.2)
19. Plan learning opportunities, recognizing the various learning styles of individuals/groups, according to the nature of the content being taught. (B.3)
20. Create short- and long-term plans that are linked to student needs, performance, learning styles, family, culture, and community (B.4, 5)
21. Develop lessons that provide for the success of students with exceptionalities, including learning disabilities, visual and perceptual difficulties, and physical or mental challenges. (B.6)
22. Use assessment strategies and instruments appropriate to the Student Learning Outcomes being evaluated. (B.9)
23. Develop sequential lessons that include knowledge of the discipline, student diversity, the local community, and the district/state curriculum goals. (B.11)
24. Construct activities and transitions that guide students to be focused and reflect positive classroom management. (C.11)
25. Recognize developmental levels of student knowledge and skills including typical and atypical
26. Recognize developmental levels of student knowledge and skills including typical and atypical patterns (D.9)
27. Articulate effective communication methods when discussing assessment results with students, parents, lay audiences, and other educators (D.14)
28. Create instructional opportunities that show sensitivity to differing approaches to learning and may be adapted to diverse learners (F.1)

EDUC 2415. Elementary Curriculum & Teaching Methods

Course Description

This course will emphasize effective teaching methods and lesson design for the elementary level (Kindergarten – 8th grade) that promotes hands on learning and encompasses state standards. Strategies for leading a class in small and large group settings as well as maintaining a classroom environment that is conducive to learning will be emphasized. Practicum assignments allow students the opportunities to evaluate the effectiveness of their curriculum activities and teaching methods.

Student Learning Outcomes

1. Critically review, select, and adapt materials, resources, and technologies and analyze them for (A.8)
    a. age appropriateness;
    b. developmental level;
    c. cultural and linguistic background;
    d. exceptionalities;
    e. biases and stereotypes;
    f. content appropriateness in regard to curriculum;
    g. reading level;
    h. relevance to students.
2. Use learning theory, knowledge of the subject matter, and curriculum development in planning instruction to meet curriculum goals. (B.1)
3. Support the physical, social, emotional, cognitive, and linguistic development of students when planning instruction. (B.2)
4. Plan learning opportunities, recognizing the various learning styles of individuals/groups, according to the nature of the content being taught. (B.3)
5. Create short and long term plans that are linked to student needs, performance, learning styles, family, culture, and community (B.4, 5)
6. Develop lessons that provide for the success of students with exceptionalities, including learning disabilities, visual and perceptual difficulties, and physical or mental challenges. (B.6)
7. Use assessment strategies and instruments appropriate to the Student Learning Outcomes being evaluated. (B.9)
8. Develop sequential lessons that include knowledge of the discipline, student diversity, the local community, and the district/state curriculum goals. (B.11)
9. Construct activities and transitions that guide students to be focused and reflect positive classroom management. (C.11)
10. Select materials and tools for measuring and evaluating student progress, and uses the information to plan appropriate instruction. (D.2, 3, 4, 5)
11. Interpret and use results of standardized instruments, including and understanding of percentiles, means, stanines, grade equivalence, and item analysis (D.6)
12. Recognize developmental levels of student knowledge and skills including typical and atypical patterns (D.9)
13. Articulate effective communication methods when discussing assessment results with students, parents, lay audiences, and other educators (D.14)
14. Create instructional opportunities that show sensitivity to differing approaches to learning and may be adapted to diverse learners (F.1)
15. Compare the various cultures, history, and values of the community in which he or she plans to teach (G.1)
16. Explain how special education regulations affect education and students with differing levels of abilities (H.1, 2, 3, 4)
17. Demonstrate how lessons and strategies may be adjusted to meet the needs of students with exceptionalities, with regard to academic levels, the physical environment, and emotional needs (H.8)
18. Compare the various theories of cognitive, social, aesthetic, emotional, and physical development (I.1)
19. Demonstrate knowledge of mathematical concepts through a variety of teaching techniques, and can link assessment and instruction to the New Mexico standards and benchmarks for mathematics (J.1:a, b, c, d, g, h)
20. Construct opportunities for elementary aged students to develop a variety of mathematical skills and concepts, including reasoning, logic, and tools such as technology and manipulatives in problem solving (J.1:e, f)
21. Use open ended problems and activities to allow elementary students to expand creatively on the material learned in classrooms (J.1:i)
22. Demonstrate strategies to increase elementary students' language arts abilities in phonemic awareness, phonics, word recognition, vocabulary development, fluency, comprehension, and writing (J.2:c, d)

23. Use the scientific method to help develop young students' abilities to identify and communicate a problem, and to design, implement, and evaluate a solution (J.3:b)
24. Create activities and describe instructional methods that would promote full participation in an elementary science program, in a way that responds to student diversity (J.3:c, d, e)
25. Demonstrate understanding of the principles of teaching and learning process that underlie social studies concepts and can translate into meaningful learning activities focusing on inquiry, authenticity, and collaboration (J.4:a)
26. Communicate the concept that social studies encompass history, geography, anthropology, archeology, economics, political science, psychology, and sociology and the interconnected relationship with other disciplines (J.4:b, d)
27. Demonstrate strategies for helping students use multiple resources including documents, artifacts/regalia, direct observation, human resources, and personal background as part of the inquiry/research process. (J.4:f)
28. Construct experiences that provide opportunities for students to appreciate the historical development of democratic values, institutions, nations, and cultures. (J.4:g)
29. Describe ways to engage elementary students in activities that require them to formulate, analyze, synthesize, and critique issues by using well-reasoned, clearly supported arguments, policies, and positions. (J.4:h)
30. Construct activities that encourage elementary students to present social studies knowledge using a variety of sign systems including writing, charts, graphs, maps, art, music, drama, dance, and technology. (J.4:i)
31. Implement components of art such as history, art making, appreciation, and criticism through dance, music, theater, and the visual arts, appropriate to students' developmental levels. (J.5:a)
32. Uses the arts as interdisciplinary units and themes. (J.5:b)
33. Explains distinctions and connections between arts disciplines and arts experiences, and encourages study and active participation that leads to skill development and appreciation. (J.5:c)
34. Provides opportunities for elementary students to communicate at a basic level in the four art disciplines of dance, music, theater, and visual arts, including knowledge and skills in the use of basic vocabularies, materials, tools, techniques, and thinking processes of each discipline. (J.5:d)
35. Explain how to enable elementary students to develop and present basic analyses of works of art from structural, historical, and cultural perspectives. (J.5:e)
36. Expose children to exemplary works of art from a variety of cultures and historical periods and provides opportunities for students to discuss and respond to them. (J.5:f)
37. Relate basic types of arts knowledge and skills within and across the arts disciplines and makes connections with other disciplines. (J.5:g)

EDUC 2420. Teaching Reading for the Elementary Classroom

Course Description

An exploration of developmentally, culturally and linguistically appropriate, formal and informal research- based assessments and teaching strategies in the teaching of reading in grades K-8. This course includes a structured 10-hour field component.

Student Learning Outcomes

1. Implement developmentally, culturally and linguistically appropriate research-based assessments to guide reading instruction for all students. (Diversity 6Sd; Instructional Planning & Implementation 2Ka, 2Sd, 2Se, 2Sf)
2. Implement research-based techniques and strategies for teaching reading at the elementary level phonics, phonemic awareness, fluency, vocabulary and comprehension. (Professionalism 1Sd, Instructional Planning & Implementation 2Se)
3. Demonstrate an understanding of the role of phonological awareness, letter learning and phonics in learning to read. (Instructional Planning & Implementation 2Ka, 2Se)
4. Analyze texts for challenges and opportunities to learn. (Diversity 6Ka, 6Kb, 6Sc)
5. Identify the connections between reading, writing, and oral language in all instructional contexts. (Professionalism 1Sc; Communication 10Ka, 10Kb, 10Kc)

EDUC 2430. Fundamentals of Reading Instruction

Course Description

Prepares students to apply research-based techniques in the development and implementation of a literacy program including phonics, phonemic awareness, fluency, vocabulary and comprehension. Students are introduced to a literature-based curriculum and explore developmentally appropriate reading techniques as applied to the reading process. Students explore and understand theory and research on the effective teaching of reading and writing, the components of language and the cognitive characteristics of readers. This course includes a structured 10 hour field component.

Student Learning Outcomes

1. Discuss theory and research on the teaching of reading- phonics, phonemic awareness, fluency, vocabulary and comprehension. (Communication 10Kb)
2. Apply the science of reading instruction in the development and implementation of a literacy program (Diversity 6Sd, Communication 10Kb, 10Kc)
3. Define and categorize the reading process (how students learn to read, write and spell). (Communication 10Ka)
4. Develop tools to create a supportive reading classroom environment. (Communication 10Kb; Assessment 4Ka)
5. Identify the linguistic, environmental, physiological and cultural factors of reading and writing development. (Instructional Planning & Implementation 2Ka)
6. Utilize the New Mexico content standards and benchmarks to design lesson plans. (Instructional
7. Planning & Implementation 2Kb; Professionalism 1Sc, 1Sd)
8. Identify the functions oral language serves in the cognitive, social, and emotional domains of development. (Communication 10Sd, 10Se)

EDUC 2435. The Teaching of Reading

Course Description

Exploration of specialized techniques and materials for the teaching of reading in the elementary school provides an understanding of the nature of the developmental reading process; has a field experience.

Student Learning Outcomes

Upon completion of this course, student will:

1. Describe the nature of the developmental reading process. R. Ch. 1, Ch. 11
2. Articulate the importance of teaching reading to every child. R. Ch. 1, Ch. 11
3. Develop projects and lesson plans that will reflect content standards and benchmarks and appropriate processes for teaching of reading. Field Placement Visits 1-7
4. Apply critical analyses to readings. R. Ch. 7
5. Evaluate methods for teaching reading Cunningham Ch. 1-4, R. Ch 11
6. Participate in weekly discussions that relate to the teaching of reading. Wk. 1-16 discussions

Standard #1: Learner Development

The teacher understands how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.

Standard #2: Learning Differences

The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.

Standard #3: Learning Environments

The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation.

Standard #6: Assessment

The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making.

Standard #7: Planning for Instruction

The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.

Standard #8: Instructional Strategies

The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

Standard #9: Professional Learning and Ethical Practice

The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.

Standard #10: Leadership and Collaboration

The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.

EDUC 2440. Teaching Elementary School Math

Course Description

This course offers methods, materials, and curriculum of modern mathematics in the elementary school. Observation and laboratory periods are required.

Student Learning Outcomes

1. Identify and apply a sound problem solving process to a variety of mathematical problems involving elementary arithmetic operations.
2. Describe and apply a variety of problem-solving strategies to individual problems.
3. Identify and apply instructional algorithms to basic arithmetic operations.
4. Demonstrate elementary arithmetic algorithms using manipulative that include: mats, strips, units, sets, blocks, and bars.
5. Demonstrate an understanding of elementary number theory.
6. Demonstrate the ability to work with integers.
7. Demonstrate the ability to work with rational numbers.
8. Demonstrate the ability to work with real numbers.

EDUC 2445. Science and Math

Course Description

This is part of a two-semester series (EDU 313 and EDU 423) that prepares teacher credential candidates to use best practices in science and math teaching for K-8 students.

Student Learning Outcomes

All Education classes at NNM College are competency-based, meaning that students complete assignments that align to the New Mexico State Competencies for Entry-Level Teachers. With this in mind, upon completion of the course we expect that you will:

1. Understand the nature and purpose of teaching constructivist, inquiry-based science and math in the elementary school curriculum; especially FOSS and STC lessons used in northern NM school districts.
2. Be able to understand the importance of visual literacy and how they relate to process thinking skills in science.
3. Make connections between the teaching of science and math in the classroom and why science and math should matter to people in northern New Mexico.

4. Explore best methods in teaching science and math to children of diverse ethnic, cultural and linguistic backgrounds.
5. Become knowledgeable of the current National Science Education Standards and Benchmarks (Next Generation Science Standards).
6. Become knowledgeable of the current Math Standards for New Mexico.
7. Increase your confidence as a teacher and learner of math and science.

EDUC 2460. Secondary Teaching Methods

Course Description

Required for Secondary/option for Special Education. Emphasizes methods and materials for teaching at the secondary level. Examines issues specific to the secondary teacher including adolescent motivation, communication, and appropriate classroom management. Provides analysis of secondary content standards in relation to instructional approaches, integration of technology, and alternative assessments. Students develop lesson plans using a variety of media and internet technology.

Student Learning Outcomes

1. Identify multiple learning styles and apply a variety of multi-modal and differentiation strategies at the secondary level.
2. Analyze how technology influences curricula, instructional design, assessment, and educational standards at the secondary level.
3. Use a variety of media and technologies to prepare secondary teaching materials and to deliver instruction.
4. Construct lesson plans for secondary content that address different learning styles and align to pacing
5. Guides/curricula/ standards, etc.
6. Analyze issues at the secondary level, including classroom management and strategies for addressing at-risk behaviors and school safety issues.
7. Demonstrate successful strategies for teaching secondary content, having conducted observations of effective teachers at local sites and reflected upon the effectiveness of various practices.

EDUC 2510. Introduction to Gifted Education

Course Description

Explores issues encountered in developing the abilities of gifted and talented students. Topics include the nature of exceptional abilities, student characteristics, the history of special provisions in gifted and talented education; strategies for curriculum compacting; study guide development; the use of cooperative learning groups, and lesson plan development. Effective teacher dispositions for working with the GATE student will be addressed.

Student Learning Outcomes

1. Describe the characteristics of gifted students including those who are twice exceptional.
2. Describe compacting and differentiating curriculum in skill areas and in content areas for gifted students.
3. Demonstrate the ability to assist with screening and child find in relation to gifted students.
4. Develop curriculum options for gifted students that are challenging and meaningful to the students individual learning capabilities.
5. Identify some of the most common social emotional concerns found among gifted populations.

EDUC 2515. Curriculum Models in Gifted Education

Course Description

Focuses on the development of exemplary curricula frameworks and units of study applicable to various populations of gifted/ exceptional students in the classroom. Topics studied include curriculum models; issues of acceleration; program enrichment; academic opportunities for exceptional students; characteristics of the gifted student; interdisciplinary concepts; and issues and themes of team teaching.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to….

1. Recognize and assess the effectiveness of gifted education models in the public-school setting.
2. Communicate the merits, benefits of, and rationales for the use of particular curriculum models with particular gifted students.
3. Identify students who could benefit from curriculum acceleration and enrichment.
4. Implement appropriate academic enrichment opportunities based on individual student needs and documented goals.
5. Explore and investigate opportunities for academic enrichment at various levels including service learning.
6. Develop a repertoire of resources for meeting the needs of various gifted learners based on characteristics.
7. Design hypothetical settings that balance team taught, inclusion and small group models of gifted service delivery for all learners.
8. Understand the philosophy of gifted education (Renzulli &Rice) to interpret modern research, data and
9. Understand contemporary issues in Gifted education.

EDUC 2520. Social Emotional Needs of Gifted Students

Course Description

Provides an overview of the social, affective and personal characteristics experienced by gifted and talented children. Topics include perfectionism, over-excitability, gender issues, underachievement, and special populations. Support and guidance of the gifted student and the implications for developing classroom, school, district, family and community support systems will be addressed.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to….

1. Describe theoretical and empirical foundations of social-emotional characteristics of gifted learners
2. Describe social-emotional characteristics of gifted learners
3. Describe implications of counseling and support of gifted learners
4. Describe characteristics of supportive environments with respect to the social-emotional characteristics of gifted learners in various settings (school; family/home; community)
5. Identify relevant professional resources with respect to the social-emotional characteristics of gifted learners
6. Understand the interactive relationship of cognitive, affective and social influences on gifted learners
7. Understand the need to engage school and family/community support for the social-emotional needs of gifted learners
8. Understand the potential influences of culture on the social-emotional well-being of gifted learners. SKILLS: Upon successful completion of the course, the student will be able to….
9. Apply theoretical and empirical findings about social-emotional characteristics of gifted learners with
10. Respect to counseling and other support activities
11. Apply theoretical and empirical findings about social-emotional characteristics of gifted learners to develop and maintain classroom, school and district supports of gifted learners
12. Apply theoretical and empirical findings about social-emotional characteristics of gifted learners to
13. Develop and maintain family/community support of gifted learners.

EDUC 2525. Identification & Assessment of Gifted & Twice-Exceptional Students

Course Description

Addresses the processes and procedures for the identification and assessment of gifted and twice exceptional learners including screening, referral evaluation and eligibility. Topics include considerations of specific criteria, screening and screening tools, working with students from diverse backgrounds, eligibility determination teams, IEP teams, and IEP implementation.

Student Learning Outcomes

1. Understand the issues in definitions, theories and identification of gifted and talented students, including students from diverse backgrounds
2. Recognize the learning differences, developmental milestones, and cognitive/affective characteristics of gifted and talented students, including those from diverse backgrounds and identify their related academic and social-emotional needs.
3. Understand plan and implement a range of evidenced-based strategies to assess gifted and talented students, to differentiate instruction, content, and assignments for them (including the use of higher order critical and creative thinking skills), and to nominate them for advanced programs or acceleration as needed.
4. Describe processes and procedures for the identification of gifted learners including screening, referral, evaluation, and eligibility procedures.
5. Identify appropriate instructional strategies to differentiate needs for twice exceptional and other special populations of gifted students.
6. Identify disciplinary procedures consistent with State and Federal rules and regulations to develop functional behavior assessments and appropriate behavioral intervention plans, twice exceptional, and special populations of gifted students.

EDUC 2530. IEP Implementation & Service Options for Gifted Students

Course Description

Through the lens of the Least Restrictive Environment, will assist teachers in the development of annual goals, timelines and the procedural steps in IEP implementation. An overview of services and programs that operate efficiently will provide a model to plan, write and implement an Individualized Education Plan for gifted students based on the unique needs of each student, not solely on the student's classification. The course will also cover acceleration or enrichment program options most appropriate for the student's intellectual and academic abilities and needs. Course participants will also benefit from a field experience component by working with professionals in the field throughout the semester.

Student Learning Outcomes

1. Write an IEP with respect to the identified needs of diverse gifted learners, using an individual, collective and site-based paradigm
2. Collaborate and comply with the curricular needs of the IEP team, state mandates, and with the families of gifted students. Understand limitations, interpret multiple assessments, and develop strategies for success with gifted learners across curriculum and multiple service levels.
3. Integrate academic and career guidance experiences, transition steps, resources, and the promotion of character education. Involve IEP team in cross-curricular decisions, placement and environments conducive to the needs of gifted students
4. Observe, journal and explore field-based opportunities with diverse gifted learners. Consult with professionals in various capacities in the field of gifted instruction and case management.
5. Develop a functional and supportive understanding of the placement of gifted learners within strengths-based paradigms. Document gifted learners' needs and goals with respect to their unique differences and circumstances. Integrate stakeholder views in decision-making and collaborate effectively with professionals in a public school.

EDUC 2535. Paradigms, Systems & Models of Gifted Education

Course Description

Course participants will examine and apply research-based educational models and instructional strategies currently advocated for use with gifted learners. Course participants should develop an understanding of both theoretical and practical implications of the methods and strategies and learn how appropriate instructional approaches can contribute to developing learning environments that promote academic challenge and learner independence. This course will provide

foundational information on proven models and strategies to course participants equipping them to structure and refine gifted programs based on solid, proven instructional models and procedures.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

KNOW:

1. Models of historical significance to the field of gifted education and the key contributors associated with them.
2. Factors to look for in a quality model for the gifted.

UNDERSTAND:

3. The theoretical and practical implications of a wide variety of models for gifted learners.
4. No one program or curricular model is sufficient to meet the needs of every gifted student.
5. The effectiveness of a particular model depends on a number of factors, such as the specific population of the school, available resources, identification procedures, etc.

BE ABLE TO:

6. Identify key models commonly associated with gifted education.
7. Apply principles from a variety of models in a classroom environment.
8. Modify models to create challenging and engaging learning experiences for gifted learners.
9. Identify criteria by which to evaluate the appropriateness of models for gifted learners.
10. Analyze and evaluate models according to criteria that reflect an understanding of appropriate instruction for gifted learners.

EDUC 2540. Instructional Methods in Gifted Education

Course Description

Focuses on various models and strategies for academic enrichment options; delivery models proven effective through research and data to service higher and more advanced learning needs, System wide decision-making regarding academic services will be addressed. Designed as an overview of program options and school or district wide instructional strategies. Includes a minimum 20 clock hour field experience to provide the student with opportunities to engage with the school system administrative staff responsible for gifted education programs.

Student Learning Outcomes

1. Articulate and defend various instructional models for use with a student or a group of students who benefit from enrichment.
2. Articulate and defend various classroom-applicable models to use with a student or group of students who benefit from acceleration and how that effects education programmatically and students socially.
3. Recognize and assess the effectiveness of curriculum with particular populations of gifted learners.
4. Explore opportunities for academic enrichment at various levels including service-learning.
5. Develop a repertoire of resources for the inclusion, instruction and assessment and progression of students with gifted/exceptional learning styles and needs.
6. Understand and articulate the philosophy of gifted education and its application in the context of students, families, school programs and the greater community.

EDUC 2545. Exceptionalities and Placement

Course Description

Focuses on the meanings and concepts of disabilities that affect learning. Students gain an understanding of each of the exceptionalities and the developmental stages involved in motor, language, social-emotional, sensory and cognitive domains. Students learn components of identification, assessment, educational planning and implementation of instruction for students with disabilities within the context of public schools. This course includes a structured 10-hour field component.

Student Learning Outcomes

1. Identify each of the exceptionalities and the associated developmental stages. {Instructional Planning & Implementation 2Kc; Diversity 6Kb; Inclusion 7Ka, 7Kc, 7Ke)
2. Recognize the various perspective and roles of parents, family, students and other educators in serving students with disabilities. (Professionalism 1Se, 1Sf; Instructional Planning & Implementation 2Kc; Diversity 6Kb, 6Sd; Inclusion 7Ka, 7Kc)
3. Reflect on, analyze and evaluate the least restrictive environment as it relates to Individual students with disabilities. (Professionalism 1 Kb; Diversity 6Kb; Inclusion 7Ka, 7Kb, 7Ke)
4. Investigate the media portrayal of citizens with disabilities and relate findings with current research and professional literature. (Diversity 6Kb; Inclusion 7Kb)

EDUC 2550. Evaluation and IEP

Course Description

The screening evaluation, eligibility and re-evaluation process for students with special needs. There is special emphasis on the Process of Special Education in the public schools, including referral, assessment, determining eligibility, instructional interventions and evaluation of student progress. Students learn about developing Individual Education Plans, writing goals and objectives, and the legal mandates for serving students with disabilities. A primary focus of the course is considering special education in the context of inclusive schooling. This course includes a structured 10-hour field component.

Student Learning Outcomes

1. Identify screening, referral, evaluation, re-evaluation, and eligibility procedures and apply this knowledge to enhance learning for all students. (Assessment 4Sb; Diversity 6Kb; Inclusion 7Ka, 7Kb, 7Kc, 7Kd, 7Ke)
2. Develop and utilize various types of student assessments including informal and non-standardized tests, norm referenced tests, and criterion-referenced tests. (Assessment 4Ka, 4Sb, 4Sc; Diversity 6Kb)
3. Design and evaluate successful timelines and procedures for IEP implementation. (Professionalism 1Sd; Diversity 6Kb; Inclusion 7Ka, 7Kb, 7Sf, 7Sg)
4. Articulate the importance of collaboration between the special education teacher and the classroom teacher. (Inclusion 7Kc)

EDUC 2560. Children with Special Needs

Course Description

Not Available

Student Learning Outcomes

Not Available

EDUC 2565. Reading for Special Learners

Course Description

This course provides an understanding of concepts and procedures for teaching reading to students with special needs. Emphasis is placed on formal and informal reading assessments; effective reading practices, research-based reading programs, direct instruction, and differentiated teaching applications. Components of the class include oral language, decoding strategies, phonemic awareness, vocabulary acquisition, fluency, comprehension skills, and writing/literacy skills. The inclusion of students with special needs into general education reading curriculum will also be addressed with a focus on instruction and various forms of assessment.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Diagnosing and analyzing reading difficulties.
2. Thorough understanding of the reading (literacy) process.
3. Implement and evaluate research-based reading programs.

4. Understand the components of a balanced literacy approach, including multiple strategies to teach writing across the curriculum.
5. Incorporate inclusion strategies for reading instruction.
6. Understand formal and informal reading assessments.

EDUC 2610. Intercultural Communication for Educators

Course Description

In this course, participants explore the role culture plays in shaping one's worldview and in dictating how one interacts with others. By examining different cultures, participants develop an articulate understanding of the four facets of culture (Knowledge, Attitude, Skills and Awareness) and how they may support or disrupt one's learning experience. Participants also identify how diversity and multiculturalism have shaped the evolution of the state of New Mexico. Through the exploration of cultural traits, participants develop greater cultural sensitivity and strong intercultural skills. Participants learn how to create a classroom environment that supports intercultural communication, celebrates diversity, and teaches cultural sensitivity.

Student Learning Outcomes

1. Understand how culture influences language, learning, and one's world view.
2. Understand one's own culture and one's own intercultural biases.
3. Compare and contrast different cultures based on the K.A.S.A. of each culture.
4. Identify factors that help/hinder intercultural communication.
5. Articulate the cultural influences that have affected New Mexico from past to present.
6. Summarize the legal and historical evolution (past- present) of the education of culturally and linguistically diverse students in New Mexico and in the United States.
7. Recognize the value in diversity in the classroom and community.
8. Develop strategies and techniques to teach intercultural communication skills.
9. Create a classroom environment that is accepting and celebratory of cultural differences.
10. Demonstrate knowledge of how to use students, their families, and the community to promote intercultural understanding in and outside of school

EDUC 2615. Introduction to Bilingual Education

Course Description

A historical overview of bilingual education with a focus on current trends and practices. Special attention is given to programs in New Mexico. Designed for teachers and other education professionals.

Student Learning Outcomes

1. Understand the competencies for bilingual teachers as required by the New Mexico State Board of Education.
2. Understand and appreciate "cultural diversity" and its ramifications.
3. Have the instructional strategies to incorporate multi-cultural educational approaches.
4. Have knowledge of the monumental (art, literature, architecture, history, civilization, and literary history) and fundamental (food, folklore, customs, and traditions) aspects of Hispanic culture.
5. Demonstrate knowledge of the basic nature of language, language acquisition, language variation, and language change.

EDUC 2620. Language Learning and Teaching

Course Description

In this course, participants explore how first and second languages are learned. Through a linguistic lens, participants compare first and second language acquisition traits. In doing so, participants uncover the fundamental principles of language learning, the factors that influence language acquisition, and practical classroom applications of this knowledge. Participants study the evolution of language teaching methodologies, identify effective language teaching strategies and

techniques, and determine how to use them in their specific contexts. Additionally, participants direct this knowledge to understand the population of students served in the state of New Mexico and to create a classroom that supports the success of the English Language Learner (ELL).

Student Learning Outcomes

1. Comprehend general language policy and the politics of language teaching and learning,
2. Summarize the stages of first and second language literacy and their attributes,
3. Articulate the similarities and differences in first and second language acquisition,
4. Summarize the evolution of second language acquisition theories and methods,
5. Demonstrate the knowledge of current trends in second language acquisition,
6. Distinguish characteristics of current models of instruction including bilingual, dual language, and immersion programs,
7. Communicate the characteristics New Mexico bilingual models and their ESL components,
8. Employ practical, communicative-based strategies and techniques in the K-12 classroom to augment language acquisition,
9. Identify cognitive, affective, linguistic and socio-factors that help and hinder language acquisition,
10. Apply this knowledge base to understand and support all students in New Mexico Public Schools,
11. Create a classroom environment that supports all language learners

EDUC 2625. Teaching English to Speakers of Other Languages

Course Description

In this course, participants focus on the practical classroom applications of second language acquisition theories. Participants explore how each of the four skills (speaking, listening, reading, and writing) develops within second language learners. In addition to examining how receptive and productive skills should be taught, participants acquire a variety of effective teaching strategies they can use in their classrooms. Emphasis is placed on strategies and techniques teachers can use to support every English Language Learner (ELL) in building fluency and accuracy 204 in each of the four skills. Furthermore, participants study English language syntax and acquire strategies to teach the form, meaning, and use of English language grammar. One common thread throughout the course is an attention to strategies that help promote literacy in all of the skills

Student Learning Outcomes

1. Understand how culture influences language, learning, and one's world view.
2. Understand one's own culture and one's own intercultural biases.
3. Compare and contrast different cultures based on the K.A.S.A. of each culture.
4. Identify factors that help/hinder intercultural communication.
5. Articulate the cultural influences that have affected New Mexico from past to present.
6. Summarize the legal and historical evolution (past- present) of the education of culturally and linguistically diverse students in New Mexico and in the United States.
7. Recognize the value in diversity in the classroom and community.
8. Develop strategies and techniques to teach intercultural communication skills.
9. Create a classroom environment that is accepting and celebratory of cultural differences.
10. Demonstrate knowledge of how to use students, their families, and the community to promote intercultural understanding in and outside of school.

EDUC 2630. Bilingual Methods

Course Description

This course covers the applicability of numerous theories of first and second language acquisition, including the various methods, approaches, techniques, and strategies for teaching. Emphasis is given to utilizing teaching methods that are

appropriate to diverse populations of students in diverse classroom settings, sheltered instruction techniques and differentiated instructional practices, and current vocabulary acquisition theories and their practical classroom applications.

Student Learning Outcomes

1. Compare, analyze, and apply methods appropriate to various language groups, distinct learning styles, and different developmental levels for teaching English as a second language
2. Define theories of first and second language acquisition
3. Identify and apply a variety of approaches, methods, and techniques for teaching listening, speaking, reading, and writing in two or more languages in the development of literacy and all other content areas
4. Involve families in teaching, curriculum development, classroom management and materials development and discuss how school environment is impacted by family and community cultures
5. Develop strategies for helping students acquire appropriate academic language as well as connections between language and content
6. Compare, analyze, and apply methods appropriate to various language groups, distinct learning styles, and different developmental levels for teaching English as a second language.

EDUC 2650. Connecting Content and Language

Course Description

In this course, participants focus on the theories and practical strategies used to encourage second language development in the inclusive, content-area classroom. Special attention is paid to sheltered instructional techniques and differentiating instructional practices. Participants learn how to modify content, context, and procedures to meet the individual needs of non-native English speakers in the English-speaking classroom. Participants explore current vocabulary acquisition theories along with their practical classroom applications. Participants acquire a variety of vocabulary teaching strategies and techniques.

Student Learning Outcomes

1. Articulate the factors involved in creating a safe, inclusive environment for all students
2. Understand how sheltered instructional techniques can set all English language learners up for success
3. Identify appropriate strategies to help students connect with the language and content of the inclusive classroom
4. Acquire effective strategies to support the learning and literacy of second language learners in the classroom.
5. Adapt content, context, and procedures to meet all levels of learners
6. Explain factors that help/hinder vocabulary acquisition
7. Develop strategies for helping students acquire academic vocabulary.

EDUC 2710. Pre-Teacher Preparation

Course Description

Assists students in developing the necessary competencies needed for acceptance to the Teacher Education Program. Course content includes basic skill development, test taking skills, and completion of teacher preparation packet.

Student Learning Outcomes

1. Investigate the process and requirements of the Teacher Education Program
2. Read critically about teacher's experiences and write brief reactions
3. Discuss philosophies of education and draft a written personal philosophy of education
4. Discuss the nature of education for students with diverse languages, cultures and abilities
5. Draft personal position statements concerning education for students with disabilities and diverse cultures

EDUC 2993. Workshop in Education

Varies

Student Learning Outcomes

Varies

EDUC 2994. Professional Development Dossier

Course Description

This course is designed to provide guidelines and direction for local elementary and secondary teachers in the creation of their professional development dossier. The dossier process is required for teachers to advance in licensure levels as part of the NM Public Education Department (PED) three-tier licensure system. This course provides the guidelines and background information necessary for the successful completion of the Professional Development Dossier PDD for the Strands A-E.

Student Learning Outcomes

1. Define the Professional Development Dossier (PDD).
2. Determine similarities and differences between prior and new evaluation/licensure systems.
3. Determine guidelines for licensure advancement.
4. Determine the Public Education Department's requirements for a PDD.
5. Determine individual components for the PDD.
6. Have access to the required forms for the PDD.
7. Determine resources that a teacher can access for direction related to PDD.
8. Effectively use PDD criteria for success.
9. Effectively use peer reviewers and mentors to evaluate the final product.
10. Acquire skills and strategies to lead a teacher/administrator conference related to the teacher's PDD and self-evaluation.
11. Know the procedures to submit the PDD for evaluation.

EDUC 2988. Education Problems

Course Description

Varies

Student Learning Outcomes

Varies

EDUC 2996. Education Topics

Course Description

Varies

Student Learning Outcomes

Varies

EDUC 2998. Field Observation/Field Experience/Internship II

Course Description

Varies

Student Learning Outcomes

Varies

EDUC 2999. Capstone

Course Description

Varies

Student Learning Outcomes

Varies

Educational Foundations (EDUF)

EDUF 2993. Workshop in Education Foundations

Course Description
Varies
Student Learning Outcomes
Varies

EDUF 2996. Topics in Education Foundations
Course Description
Varies
Student Learning Outcomes
Varies

EDUF 2998. Internship in Education Foundations
Course Description
Varies
Student Learning Outcomes
Varies

EDUF 2999. Programmatic Capstone - Education Foundations
Course Description
Varies
Student Learning Outcomes
Varies

Educational Leadership (ELAD)

ELAD 2210. Leadership and Change in Education
Course Description
This course will introduce students to the challenges and key strategies in initiating, implementing, and sustaining educational change and reform. In the first part of the course, participants will learn about the challenges of educational change in the United States and the role that they as school leaders play in facilitating change and reform. The course continues with an examination of how culture, micro-politics, and power structures support or impede national and global change initiatives. The last part of the course offers suggestions for change agents including community organizing, culture building, and embracing sustainable leadership practices. Participants will learn how to apply the change theories and concepts introduced in the course to practice through course readings, online discussions with the instructor and colleagues, group work, active examination of daily practice in schools, and personal reflection.
Student Learning Outcomes
1. Students will be able to communicate in clear manners that articulate, convey and deepen the understandings others have of issues affecting their communities.
2. Students will be able to collaborate on democratic processes.
3. Students will be able to communicate engage in critical social analysis and how the status quo fits into a larger movement for social change.

ELAD 2340. Multicultural Leadership in Education
Course Description
Introduction to the social and cultural constructions of gender, class, and race. Students will critically apply theoretical constructs to everyday life and discuss the intersection of gender and race with class inequality in national and global contexts. Using a social justice framework, readings, and assignments integrate a variety of racial/ethnic groups while

considering the effects of historically uneven resource distribution, unearned privilege, forms of domination and subordination, immigration status, and cultural representation and ideologies. Participants will learn how to apply the change theories and concepts introduced in the course to practice through course readings, online discussions with the instructor and colleagues, group work, active examination of daily practice in schools, and personal reflection.

Student Learning Outcomes

1. Develop awareness of their own social identities.
2. Students will recognize differences among various communities, perspectives, and world-views.
3. Describe how privilege and biases impact our communities and systems.
4. Create meaningful peer-to-peer relationships.
5. Understand the impact of their actions on community members.
6. Identify their leadership skills to shape social change on and off campus.
7. Act on opportunities to promote social change.
8. Students will use academic resources including advising, computers, printing, library, and space.

ELAD 2996. Special Topics in Educational Leadership

Change in **Course Number** to **2996**

Course Description:

Special topics course in education for undergraduate students. Course will be identified by a subtitle.

Student Learning Outcomes

1. Students will be able to engage in systems thinking which aids in seeing how individual situations are shaped by a broader contexts
2. Students will be able to understand how to apply theoretical frameworks for understanding social problems.
3. Students will be able to help develop leadership capacity in others.
4. Students will be able to gain an understanding of cultural competence, which recognizes that diverse perspectives strengthen the dialogue and approaches to solving social problems.

Educational Technology (EDLT)

EDLT 2110. Integrating Technology with Teaching

Course Description

Considers impact of technology on communication and knowledge development; engages students in the design of technology-integrated lessons with a constructivist approach.

Student Learning Outcomes

1. Demonstrate a sound understanding of technology operations and concepts.
2. Plan and design effective learning environments and experiences supported by technology.
3. Implement curriculum plans that include methods and strategies for applying technology to maximize learning.
4. Apply technology to facilitate a variety of effective assessment and evaluation strategies.
5. Use technology to enhance their productivity and professional practice.
6. Better understand the social, ethical, legal, and human issues surrounding the use of technology in PreK-12 schools and apply that knowledge into future practice.

Electrical (ELTR)

ELTR 1015. Electrical Math I

Course Description

Applies basic arithmetic functions, electrical formulas, calculations of material and circuit load requirements, rules for series, parallel and combination circuits and mechanical work and power.

Student Learning Outcomes

1. Demonstrate the ability to calculate complex mathematical formulas such as algebraic formulas and units of measure, whole numbers, common and decimal fraction operations, Ohm's Law for series and parallel circuits, and mathematics involving Kirchoff's Law.
2. Select and solve complex mathematical formulas commonly used in the electrical industry such as mathematics involving power formulas, calculations for solving combination series-parallel circuits, Pythagorean Theorem geometry, and trigonometry.
3. Select and solve complex mathematical formulas commonly used in the electrical industry such as calculations of phase angles, calculations of period, frequency, and wavelength, calculation of RMS, peak, and instantaneous voltage, and calculations electrical values such as impedance, voltage, current in series-parallel resistive, capacitive, and inductive circuits.
4. Apply basic arithmetic functions, electrical formulas, calculaions of material and circuit load requirements, rules for series, parallel and cominarion circuits and mehancical work and power.

ELTR 1110. Basic Electricity and Controls

Course Description

The course presents the basic principles of electricity, measurements, safety, wiring procedures, schematics, components of basic circuits, and principles and practices in electricity.

Student Learning Outcomes

1. Use Ohn's Law to solve circuit problems and calculate circuit loads.
2. Identify types of electrical loads (capacitive, inductive and resistive).
3. Explain environmental safety practices as applied to electricity.
4. Demonstrate the use of lockout/tagout equipment.
5. Define amps, volts, ohms and watts and demonstrate safe use of tools for the basic types of electrical measurement.
6. Follow electrical schematics to determine sequence of operation and troubleshooting.

ELTR 1113. Electrical Repairs

Course Description

This course outlines for students the types of problems that occur in electrical machinery and systems. The course covers trouble-shooting and diagnosis, preventative maintenance, and how to make necessary repairs.

Student Learning Outcomes

1. Demonstrate how to make an electrical repair.
2. xplain how to diagnose a typical electrical occurrence in need of repair.
3. Describe some of the most common breakdowns in electrical equipment.

ELTR 1115. National Electric Code

Course Description

Provides students with a basic understanding of the National Electrical Codes and how they apply to residential, commercial, and renewable energy systems such as photovoltaic electrical generating systems. How the NEC Codes apply to a Industrial Setting

Student Learning Outcomes

1. Be able to navigate and interpret the various Sections and Articles found within the National Electric Code.
2. Demonstrate the NEC in the system design of the code.
3. Demostrate how to apply the NEC Code to Solar Installations.

4. Demonstrate how to load wiring calculations to comply with NEC regulations for both Commercial and Residential.
5. Apply knowledge of the NEC Codes to commercial and industruial applications

ELTR 1120. Electrical Theory I

Course Description

Covers the basic concepts of DC and AC theory with emphasis on electron theory, units of electrical measurement, NEC terminology, and selection of branch circuit conductors.

Upon successful completion of this course the student will define the following concepts and demonstrate her/his ability to apply them to the electrical trade by means of written examinations and assignments, with a minimum accuracy of 71%.

Student Learning Outcomes

1. Describe the components of an electrical circuit, electron theory, structure of an atom, properties of conductors, semiconductors, and insulators, sources of electricity, and the conversion of electrical energy.
2. Demonstrate and identify the characteristics of DC circuits, units of electrical measurement, characteristics of current, resistance, and voltage in a circuit, characteristics of a combination circuit, electrical components.
3. Apply the National Electrical Code, definitions and division of articles in the NEC.
4. Interpret NEC applications to residential wiring and the NEC enforcement on electrical codes, selection and calculation of conductor maximum ampacity including correction for ambient temperature of Branch circuit conductors, production of a sinusoidal wave.
5. Know key differences between AC and DC current, applications and theory of electrical components such as inductors, capacitors and transformers.

ELTR 1125. Electrical AC/DC Laboratory

Course Description

Emphasis is placed on safety. Covers electrical circuitry, meters, power sources, conductors, insulators, reactive circuits and application of the National Electrical Code.

Student Learning Outcomes

1. Demonstrate and describe the functions of safety as it applies to the lab procedures and occupational safety, electrical symbols, series-parallel circuits and testing for electrical units of measure such as voltage, current,resistance using analog and digital voltmeters, ohmmeters and ammeters, conductors and insulators, magnetism and electromagnetism, trades tools and electrical materials used in the electrical industry.
2. Design and wire series resistive, parallel resistive, and series-parallel combination circuits on the laboratory circuit boards using correct materials.
3. Demonstrate on the laboratory analog or digital multimeters the ability to measure resistance, current, and voltage on selected DC resistive circuits.
4. Demonstrate on their personally owned digital multimeter the ability to measure resistance, current, and voltage on selected DC resistive circuits.

ELTR 1130. Introduction to Electrical Power Systems

Course Description

An overview of electrical power systems, equipment, safety practices, first aid and CPR. Students must be accepted into the electrical lineworker program before enrolling in this course. Restricted to: OEET majors.

Student Learning Outcomes

1. List and discuss the major components of the electrical power grid and their operating functions.
2. Work as a team member with strong work ethics and a commitment to quality.

3. Adhere to OSHA & ANSI working safety standards.

ELTR 1140. Basic Motor Controls

Course Description

Developing schematics and wiring simple manual and electromechanical control devices.

Student Learning Outcomes

1. Describe the results of problems solving either orally or in writing. (DMP 3)
2. Memorize and recall facts, procedures, and vocabulary pertaining to a motor and its characteristics. (CLO 1)
3. Solve application problems using the appropriate design approach as a tool.
4. Express symbols and schematics designs as quantities in meaningful circuit analysis.
5. Evaluate current flow from a variety of electrical systems, utilizing rules for ladder diagrams.
6. Estimate the circuit response; compare estimated and actual responses for consistency.
7. Simplify, solve, evaluate and design various circuits and utilize needed learned interpretations.
8. Describe the results of problems solving either orally or in writing.
9. Explain sequential logic processes.
10. Simplify, solve, evaluate and graph various types of AC/DC electrical motor design circuits.
11. Simplify, solve, evaluate and programs various electrical installations.
12. Describe the results of problems solving either orally or in writing.
13. Explain sequential analysis processes as they relate to electrical systems and installation of motors.
14. Integrate various strategies and techniques from different areas of motor controls to application problems.
15. Express ladder diagrams in meaningful design interpretation.

ELTR 1145 AC Circ Motors Gen

Course Description

Covers combination circuit analysis, RLC circuitry, DC/AC motors, generators, solid-state components, wiring methods for single pole and three-way switches and application of the National Electrical Code. Stresses safety.

Student Learning Outcomes

1. Demonstrate and describe the functions of magnetism and electromagnetism, sinusoidal waveforms as it relates to AC voltage, generation of AC waveforms, conductors and insulators, series and parallel circuits, transformers and transformer ratios, Inductance and inductive reactance in electrical circuits, capacitance and capacitive reactance in electrical circuits, RLC electrical circuits, Trade tools and electrical materials used in the electrical industry.
2. Demonstrate the ability to construct and measure AC series and parallel resisitve circuits, combination series-parallel AC circuits, and AC inductive-resisitive circuits using the standard lab kits and digital or analog multimeters.
3. Design and construct electrical circuits such as single-pole switch control of lighting, single-pole control of receptacles, single-pole control of split-wired receptacles, single-pole control of receptacle/lighting combinations, three-way switch control of lighting and receptacles, and four-way switch control for lighting,in the residential laboratory using correct trade materials.

ELTR 1146. Electrical Sys & Motor Ctrls

Course Description

Basic Controls: basic principles or motor control – lockout/tagout procedure – control devices – manual starters – contactors and control relays – circuit layout and specifications – basic control circuits – Jogging control circuits – reduced ac voltage starters – time relay circuits – hands on control trainer

Student Learning Outcomes

1. Read and understand electrical control diagrams.

2. Understand and design common types of motor controls.
3. Install motor control circuits.

ELTR 1147. Electrical System Fundamentals

Course Description

AC and DC Electrical Systems: a/c circuits – a/c capacitors – d/c and a/c inductors – transformers – ac relays and contactors – electrical distribution – troubleshooting methods – hands on a/c d/c trainer – Enclosures and Conduit Systems : installing metal struts – installing enclosures and boxes – installing flex metal and liquidtight nonmetallic conduit – conduit bending – installing electrical metallic tubing – cutting reaming – threading and installing ridge metal conduit – feed conductor into conduit and using a pulling point – hands on industrial trainer.

Student Learning Outcomes

1. Basic characteristics of electricity and electric circuits.
2. How various generation types are used to serve load curves.
3. Components of the transmission system and the way in which the system is designed and operated.
4. Components of the distribution system and the way in which the system is designed and delivers power.
5. Components that link the distribution system to the member, as well as various options for configuring services.
6. Types of meters and how each is used to collect data.

ELTR 1148. Motors and Controls

Course Description

This course introduces common types of electric motors and includes motor theory, magnetism and motor rotation, motor starting components, and protective devices. Heat dissipation, motor slippage, wiring, speeds, and capacitors in motor circuits are included.

Student Learning Outcomes

1. Demonstrate safe practices and procedures.
2. Identify motors used in commercial and residential applications.
3. Identify and describe methods for controlling motor speeds.
4. Appropriately select and install motors.
5. Demonstrate methods of starting motors utilized in industrial applications.
6. Identify various types of motor protective devices used in industry.
7. Analyze ladder diagrams for motor circuits.
8. Diagnose and troubleshoot motors.
9 Identify various types of three-phase motor designs and applications.
10. Demonstrate methods for reversing AC and DC motors.
11. Explain the methods for accelerating and braking motors.
12. Demonstrate ability to read and interpret technical documents.
13. Demonstrate ability to use various types of software applicable to course.

ELTR 1150. Applied Industrial Electricity I

Course Description

Electrical safety, AC and DC circuits, use and care of common measuring instrumentation, schematic and wiring diagrams, electromagnetism, National Electric Code branch circuits.

Student Learning Outcomes

1. Describe applications of preventive and corrective maintenance on automated industrial production machines.

2. Explain troubleshooting procedures using systems block.
3. Define the various types of electromechanical systems and equipment and how they operate.

ELTR 1155. Applied Industrial Electricity II

Course Description

Relationship between motor power, speed, and torque, basic application of relay circuits, motor control circuits, inductance and capacitance factors, transformers, solid state devices circuits and applications.

Student Learning Outcomes

1. Demonstrate the use of labeling and color coding.
2. Explain the need and purpose of interpreting electrical prints.
3. Define the purpose of wiring control for motor control circuits.

ELTR 1160. Electrical LIneworker Lab I

Course Description

Climbing and work on utility poles using ropes and rigging, pole setting and an introduction to transmission and distribution line construction. Maintenance and troubleshooting to include the use of hot sticks. May be repeated up to 6 credits. Corequisite(s): OEET 110,OEET 130. Students must be accepted into the electrical lineworker program before enrolling in this course. Restricted to: OEET majors. Restricted to Community Colleges campuses only.

Student Learning Outcomes

1. List and discuss the major components of the electrical power grid and their operating functions.
2. Work as a team member with strong work ethics and a commitment to quality.
3. Adhere to OSHA & ANSI working safety standards.

ELTR 1165. Electrical Lineworker II

Course Description

Practice in the installation of electrical power lines including transformers, voltage regulators, and surge arrestors. Also advanced hot sticking procedures, troubleshooting, underground systems procedures, and pole-top rescue. May be repeated up to 6 credits. Corequisite(s): OEET 140. Students must be accepted into the electrical lineworker program before enrolling in this course. Restricted to: OEET majors. Restricted to Community Colleges campuses only.

Student Learning Outcomes

1. Professionally communicate in oral and written forms. Work effectively in a team-based environment.
2. Accurately perform electrical related calculations and interpret results for the purpose of repair or installation of electrical power systems.
3. Demonstrate the use of current industry techniques and equipment to diagnose electrical power systems and perform appropriate repairs.
4 Demonstrate the use of current industry techniques and equipment to perform the service and maintenance of electrical power and systems.
5. Demonstrate the use of current industry techniques and equipment in the installation of electrical power lines and associated equipment.
6. Demonstrate understanding of basic electrical principals as they relate to the installation and maintenance of electrical power systems.
7. Determine the appropriate ethical action that should occur in a given circumstance.
8. Demonstrate the ability to perform lineworker duties in a safe manner.

ELTR 1210. Electrical Theory II

Course Description

Covers the application of the National Electrical Code, local codes and regulations for installation of branch circuits, services, feeders, temporary services and associated materials and equipment for residential and light commercial applications.

Student Learning Outcomes

1. Demonstrate knowledge of safety and lockout procedures.
2. Define trade terms and conductor identification and identify electrical equipment, tools and conductors.
3. Determine and calculate branch circuits, standard calculations, baseboard heaters for a single-family dwellings, boxfill, conduit fill, range conductor sizes, and ampacity adjustments.
4. Determine 100A overhead service requirements, find motor sizes and protection using the NEC, find code articles using code searches, calculate conduit bending problems.
5. Interpret state and national electrical codes.
6. Determine overhead and underground service requirements as required by state and national electrical codes.
7. Design and illustrate electrical drawings and diagrams.

ELTR 1215. Blueprint Reading I

Course Description

Provides instruction in reading and interpreting blueprints and specifications. Emphasizes terminology, symbols, notations, scaling, dimensioning and basic blueprint drawing techniques.

Student Learning Outcomes

1. Describe and explain how electrical wiring is conveyed to the electrician through the use of electrical symbols and notations on electrical drawings.
2 Draw electrical circuits on a residential floor plan.
3. Evaluate and complete an electrical material take-off for a residence.
4. dentify and illustrate electrical symbols used in residential and commercial construction.
5. Calculate square footage and locate position of electrical devices using a tape measure and an architect's scale.

ELTR 1220. Introduction to Wiring Lab

Course Description

Covers safety, tools, materials, single pole switches, receptacles, overcurrent protection, three- and four-way switches, pilot switches, door chimes, dryer and range receptacles and swamp coolers. Analyze Blueprint applications as it applies to electrical installations. NEC requirements for light commercial applications.

Student Learning Outcomes

1 Demonstrate and describe jobsite safety procedures.
2. Demonstrate the ability to install electrical circuits such as single-pole, three and four way lighting circuits, heating and cooling system circuits, door chime circuits, and residential and light commercial branch-circuits.
3. Demonstrate and/or describe the function of Overcurrent Protection in an electrical system.
4. Demonstrate the ability to analyze blueprint applications as it applies to electrical installations.
5. Demonstrate the ability to analyze the National Electrical Code as it applies to electrical installations.

ELTR 1230. Residential Wiring II

Course Description

Introduction to electrical raceways and fittings; electrical conductors and cables; basic electrical construction drawings, residential electrical services, and electrical test equipment.

Student Learning Outcomes

1. Demonstrate Hand Bending.
2. Demonstrate Raceway and fittings.
3. Identifiy Conductors and Cables.
4. Interpret Basic Electrical Construction Drawings.
5. Define Residential Electrical Services.
6. Demonstrate Electrical Test Equipment.

ELTR 1240. Industrial Wiring

Course Descrption

This course provides a systematic and realistic means of learning how to install and wire industrial electrical equipment in accordance with National Electric Code (NEC).

Student Learning Outcomes

1. Identify and describe various cable routing methods.
2. Identify and describe various conduit and enclosure types/ratings/classifications per National Electric Code (NEC).
3. Identify control and power wiring for motor controls.

ELTR 1510. Electrical Level I

Course Description

Introduces fundamentals electrical concepts including safety practices, electrical theory, Ohm's and Joule's Law, and circuit analysis. Covers basic electrical construction, conduit bending, residential wiring methods, blueprint reading, and introduction to the National Electrical Code (NEC).

Student Learning Outcomes

1. Apply electrical safety practices and identify workplace hazards.
2. Explain fundamental electrical theory and perform basic circuit calculations.
3. Apply Ohm's Law and Joule's Law to DC circuits.
4. Interpret basic electrical schematics and residential blueprints.
5. Use electrical test equipment to measure voltage, current, and resistance.
6. Navigate and apply basic NEC requirements.
7. Perform basic conduit bending and raceway installation.
8. Install conductors, boxes, and basic residential wiring systems

ELTR 1511. Electrical Level II

Course Descripition

Expands on electrical theory with alternating current (AC), transformers, motors, and lighting systems. Emphasizes intermediate installation skills including conduit bending, conductor installation, grounding and bonding, overcurrent protection, and introduction to control systems in residential and light commercial applications.

Student Learning Outcomes

1. Analyze AC circuits and perform power calculations
2. Explain transformer operation and applications
3. Identify and apply motor theory and motor installations
4. Select and install lighting systems for various applications
5. Perform advanced conduit bending and raceway installation
6. Install and size conductors and cable systems

7. Apply grounding and bonding requirements
8. Select and apply overcurrent protection devices
9. Install and troubleshoot basic electrical control systems

ELTR 1891. Electrical Apprenticeship I

Course Description

Apprenticeship responsibilities and benefits as well as first aid and CPR will be covered. Hand tools, electrical theory, and the regulations imposed by national codes and OSHA. Students will apply theory taught in their jobs. Prerequisite: consent of instructor.

Student Learning Outcomes

Varies

ELTR 1892. Electrical Apprenticeship II

Course Description

OHM s law circuit sizing and service panel sizing will be covered in detail. Other topics include low voltage systems, heating and air conditioning circuits, alarm systems and smoke detectors.

Student Learning Outcomes

Varies

ELTR 1893. Electrical Apprenticeship III

Course Description

Various electrical measuring devices will be covered in detail. Inductance, transformers, capacitance, and simple motors will be studied.

Student Learning Outcomes

Varies

ELTR 1894. Electrical Apprenticeship IV

Course Description

Theory and application of three-phase transformers and autotransformers. Electrical distribution using switchboards, panelboards, and circuit breakers.

Student Learning Outcomes

Varies

ELTR 1996. Topics in Electricity

Course Description

Varies

Student Learning Outcomes

Varies

ELTR 2020. Industial Motor Control Laboratory

Course Description

Covers safety, electromechanical relay-type motor control, momentary push button switches, limit switches, proximity switches, pneumatic timers, forward/reverse starters, three-phase motors and National Electrical Code requirements.

Student Learning Outcomes

1. Demonstrate proper safety procedures while working in the lab including operating proper lockout/tagout procedures.
2. Design and install various electro-mechanical motor controls circuits including basic two wire control circuits, basic three wire control circuit, jog circuits, sequential control circuits, forward and reversing circuits, braking and plugging circuit, time delay control circuits, and phase protection circuits.
3. Demonstrate the ability to correctly make the proper wiring connections for 230V/460V, three-phase wye motors, and 230V/460V, three-phase delta motors.
4. Demonstrate the ability to design and troubleshoot a motor control circuit using motor control software on the computer.

ELTR 2110. Electrical Theory III

Course Description

Introduces commercial/industrial aspects of electrical safety, tools, materials, power distribution systems, services, hazardous locations and blueprint reading in accordance with the National Electrical Code.

Student Learning Outcomes

1. Demonstrate the basic safety rules and locout/tagout when working on electrical systems.
2. Demonstrate the ability to use various formulas used in conduit bending and select proper raceway size dependent up on the conductor sizes and number.
3. Demonstrate the ability to read and interpret electrical drawings.
4. Demonstrate the ability to calculate branch and feeder circuits conductor sizes and over current protection and boxfill on junction boxes, according to the National Electrical Code and State of New Mexico electrical code.
5. Demonstrate the ability to correctly size and draw connections for single phase and three phase transformers.
6. Identify various types of hazardous or classified locations.
7. Explain grounding requirements for electrical systems.

ELTR 2111C. Programmable Logic Controllers and Applications with Laboratory

Course Description

This course introduces the principles of programmable logic controllers (PLCs), logical operations, and applications. Students develop an understanding of data types, logical operations, and the application of industrial process control through a combination of theoretical concepts, problem-solving exercises, and hands-on laboratory activities. Emphasis is placed on applying fundamental control logic principles to practical and industrially relevant examples. Laboratory exercises using Festo training systems reinforce safe work practices, control techniques, and troubleshooting skills commonly used in industrial and technical environments.

1. Demonstrate knowledge of integrated I/O and basic logic operations
2. Demonstrate knowledge of timers, counters, and comparison instructions
3. Demonstrate knowledge of logical operations applied to modern industrial process control

ELTR 2115. Electrical Motor Control Theory

Course Description

Introduces students to the symbology and method of interpreting and drawing electromechanical motor control circuitry. NEMA standards are studied in detail.

Student Learning Outcomes

1. List safety precautions used when working on an electrical circuit.
2. Identify and describe applications for devices and equipment used in motor control circuits.

3 Explain the principles of operation of manual motor starters.
4. Read, draw, and interpret line diagrams for motor control circuits such as basic two wire control circuits, basic three wire control circuits, jog circuits, sequential control circuits, timing circuits, forward and reversing circuits, braking and plugging circuits.
5. Select proper protection for motors and motor control circuits in accordance with the National Electrical Code.
6. Identify connections for various single and three phase motors.

ELTR 2120. Electrical Power Systems II

Course Description

Theory of power generation and distribution with emphasis on three phase systems to include transformers, voltage regulators, surge arrestors. Includes troubleshooting. May be repeated up to 3 credits. Corequisite(s): OEET 141. Students must be accepted into the electrical lineworker program before enrolling in this course. Restricted to: OEET majors. Restricted to Community Colleges campuses only.

Student Learning Outcomes

1. Professionally communicate in oral and written forms.
2. Work effectively in a team-based environment.
3. Accurately perform electrical related calculations and interpret results for the purpose of repair or installation of electrical power systems.
4. Demonstrate the use of current industry techniques and equipment to diagnose electrical power systems and perform appropriate repairs.
5. Demonstrate the use of current industry techniques and equipment to perform the service and maintenance of electrical power and systems.
6. Demonstrate the use of current industry techniques and equipment in the installation of electrical power lines and associated equipment.
7. Demonstrate understanding of basic electrical principals as they relate to the installation and maintenance of electrical power systems.
8. Determine the appropriate ethical action that should occur in a given circumstance.
9. Demonstrate the ability to perform lineworker duties in a safe manner.

ELTR 2130. Industtial Power Distribution

Course Description

Covers safety, use of mechanical and hydraulic benders, use of power threaders, knock-out punches, hammer drills and power actuated fasteners, cable installation, wire pulling and the application of the NEC.

Student Learning Outcomes

1. Demonstrate the ability to perform typical operations with hand tools and power tools when performing electrical installations such as cutting and threading conduit using power tools, using hand, ratchet, and hydraulic knockout punches when installing electrical conduit, using power actuated tool and fastening devices, bending conduit using hand, mechanical, and hydraulic bending methods.
2. Demonstrate the ability to pull wire through electrical conduit by hand using a fish tape and vacuum systems and mechanical pullers.
3. Demonstrate the ability to interpret and layout electrical installations as per blueprint drawings.
4. Demonstrate the ability to correctly wire a transformer and three phase panel boards based on the given and needed voltage and connect them in an electrical system.
5. Demonstrate the ability to correctly install various splicing devices on electrical conductors.

ELTR 2147. Programmable Controllers I

Course Description

This course introduces the basic theory, operation, and programming of programmable logic controllers (PLC). Students will demonstrate programming examples, set-up examples and troubleshoot, as well as study PLC timing, counting, arithmetic, logic, and sequences. (UNM Valencia Prerequisite: CNST 120.)

Student Learning Outcomes

1. Review basic computer operations.
2. Program from relay logic to ladder logic diagrams.
3. Design timer circuits and logic circuits.
4. Describe logic circuits.
5. Describe the common parts of programmable controllers.
6. Program a start/stop circuit using a PLC.
7. Program counters and timers using a programmable controller.
8. Install and troubleshoot a simple programmable controller system.
9. Discuss input and output analog signals to/ from the PLC.
10. Discuss sequencers.
11. Demonstrate ability to read and interpret technical documents.
12. Demonstrate ability to use various types of software applicable to course.

ELTR 2210. Programmable Logic Control

Course Description

Introduces the principles of operation of a programmable controller, the numbering systems used by controllers, logic fundamentals and basics of programming.

Student Learning Outcomes

1. List the safety requirements as per OSHA and the electrical lab safety policies for electrical work performed in the work place.
2. List and define the purpose of the components for setting up a master control, emergency stop safety circuit for PLC installation.
3. Diagram and label the correct wiring and components for PLC operation according to NEC, OSHA, and NEMA standards.
4. Design programs and program programmable controllers which implement safety measures for equipment and personnel.
5. roubleshoot and correct problems with control wiring and program errors.
6. Design PLC programs that perform given criteria for industrial processes such as timer instructions for PLCs, PLC installation and troubleshooting, developing PLC diagrams and programs, PLC sequencer Instructions, MCR and SCL instructions, and Data manipulation instructions.

ELTR 2211C. Programmable Logic Control with Laboratory

Course Description

This course introduces the principles of programmable logic controllers (PLCs), logical operations, and applications. Students develop an understanding of data types, logical operations, and the application of industrial process control through a combination of theoretical concepts, problem-solving exercises, and hands-on laboratory activities. Emphasis is placed on applying fundamental control logic principles to practical and industrially relevant examples. Laboratory exercises using

Festo training systems reinforce safe work practices, control techniques, and troubleshooting skills commonly used in industrial and technical environments.

Student Learning Outcomes

1. Demonstrate knowledge of integrated I/O and basic logic operations.
2. Demonstrate knowledge of timers, counters, and comparison instructions.
3. Demonstrate knowledge of logical operations applied to modern industrial process control.

ELTR 2220. Install & Operation of Logic Controls

Course Description

Covers installation and programming of programmable logic controllers in accordance with manufacturer's specifications and NEC requirements. Covers stimulating fundamental industrial control processes with various input and output devices.

Student Learning Outcomes

1. List and apply safety requirements as per OSHA guielines for all electrical work including lockout/tagout procedures and MSDS sheets.
2. Demonstrate the ability to set up and hard wiremotor controls circuits such as stop/start motor control relays with indicator lights, stop/start/jog motor control relays with indicator lights, and a master safety circuit for PLC's.
3. Demonstrate the ability to set up, define, and wire input and output device for PLC modules.
4. Identify the main components of a PLC, common operating modes, and describe their functions.
5. Evaluate, troubleshoot, and correct problems with control wiring and programming errors.

ELTR 2230. PLC System Operation/Troubleshooting

Course Description

Covers intricate industrial wiring, motor controls and motor troubleshooting, programmable controller timer, counter and sequence program operations and the troubleshooting techniques involved.

Student Learning Outcomes

1. Identify, wire, and describe the functions and components of a PLC system.
2. Describe the functions of I/O modules and demonstrate the ablilty to explain I/O addressing on advance systems.
3. Define and apply numbering systems such as binary, decimal, hexadecimal, and convert them from one system to another.
4. Develop gate logic and convert relay ladder to a relay logic program.
5. Develop timer instructions, counter instructions and compare their functions.
6. Identify data tables, memory tables, and develop sequencing.
7. List and apply safety requirements as per OSHA guidelines and Lab Safety policies for all electrical work including lockout/tagout procedures and MSDS sheets.

ELTR 2240C. Advanced Programmable Logix Controllers and HMIS w/Lab

Course Description

This course builds on the principles of programmable logic controllers (PLCs), progressing to more advanced logical operations and applications, while also introducing the basics of human-machine interfaces (HMIs). Students develop an understanding of advanced control operations by applying modern industrial process control through a combination of theoretical concepts, problem-solvingexercises, and hands-on laboratory activities. Emphasis is placed on applying advanced control logic principles to practical and industrially relevant examples. Additionally, students will apply industrial communication protocols to scenario-based examples of PLC-PLC and PLC-HMI communication. Laboratory exercises using

Festo training systems reinforce safe work practices, control techniques, and troubleshooting skills commonly used in industrial and technical environments.

Student Learning Outcomes

1. Demonstrate knowledge of advanced logic operations.
2. Demonstrate knowledge of alarming and shutdown instructions.
3. Demonstrate knowledge of advanced logical operations applied to modern industrial process control.
4. Demonstrate application of industrial communications protocols between PLCs and HMIs.

ELTR 2510. Electrical III

Course Description

Focuses on commercial electrical applications including load calculations, conductor sizing, voltage drop, and advanced NEC navigation. Covers commercial blueprint reading, electrical distribution systems, lighting design, and motor calculations for commercial and multifamily installations.

Student Learning Outcomes

1. Navigate and apply advanced NEC requirements and tables.
2. Perform commercial and multifamily load calculations.
3. Size conductors using ampacity, derating, and voltage drop calculations.
4. Interpret commercial electrical blueprint and specifications.
5. Analyze electrical distribution systems and components.
6. Apply overcurrent protection and short circuit calculations.
7. Perform motor calculations and apply NEC motor requirements.
8. Evaluate and select commercial lighting systems and controls.

ELTR. 2511. Electrical Level IV

Course Description

Advanced course coving motor controls, programmable logic controllers (PLCs), electronic control systems, fire alarm systems, and specialty power systems. Emphasizes troubleshooting, system integration, power quality, and harmonics in commercial and industrial applications.

Student Learning Outcomes

1. Perform advanced electrical and system-level calculations.
2. .Diagnose and troubleshoot complex electrical systems.
3. Analyze and apply advance motor control systems.
4. Program and troubleshoot basic PLC systems.
5. Apply sensors, replays, and timers in control circuits.
6. Analyze and apply fire alarm system components and requirements.
7. Evaluate and apply specialty systems (generators, UPS, backup power).
8. Analyze power quality issues and apply mitigation strategies.

ELTR 2605. Photovoltaic Fund/Applications

Course Description

Photovoltaic (PV) is electrical energy from the sun. This course is an introduction to the fundamentals associated with Photovoltaic systems. Topics cover PV market analysis, the solar resource, electrical PV principles, solar module fundamentals, system components, types of systems, site assessment, system applications, energy production analysis, and best practice code compliant practices including mounting, wiring, and interconnecting systems to the utility. Anyone

interested in knowing more about the solar industry or anyone working in fields associated with solar energy will benefit from this course.

Student Learning Outcomes

1. Compare the advantages and disadvantages of installing a PV system.
2. Identify the principal components in PV systems and their uses.
3. Demonstrate knowledge of principal types and configurations of PV systems and their uses.
4. Describe the relationship of energy efficiency to PV installations and identify opportunities for conservation and energy efficiency.
5. Identify the factors affecting the quantity and composition of solar energy received on Earth's surfaceand the apparent position and path through the sky.
7. Evaluate how array orientation affects solar energy received by modulesand identify methods for determining and diagramming shading patterns.
9. Demonstrate knowledge of the process for determining potential array locations and how solar radiation data is used in sizing and estimating PV system performance.
11. Identify considerations in determining the suitability and condition of existing roofing, structural systems, and electrical systems and equipment.
12. Evaluate the design priorities for PV systems in different types of applications.
13. Identify factors to consider in preliminary assessment such as solar resource, environmental conditions, building code and utility requirements.
14. Practice sizing grid direct systems.
15. Identify common procedures used to sell PV systems.
16. Describe customer motivations, policies, and economics that influence systems sales.
17. Demonstrate knowledge of code compliant, safe, best industry practices for installations.
18. Demonstrate knowledge of procedures required for ongoing operation and maintenance of PV systems.

ELTR 2615. Photovoltaic Code Compliant Systems

Course Description

PV Code Compliant Systems is a comprehensive course on the electrical and structural code requirements for photovoltaic system installations with and without battery systems. Topics include the major sections of the National Electric Code (NEC) that relate to PV installations including General Requirements, Wiring and Protection, Wiring Methods and Equipment Use, PV Equipment Special Conditions, and Utility Interconnection Special Conditions. Integrity and compliance of structural mounting for roof top and ground mount systems are also discussed.

Student Learning Outcomes

1. Demonstrate knowledge of navigating, finding, and understanding sections of the NEC that are critical to installing and inspecting photovoltaic systems.
2. Recognize and identify code-compliant, safe selection of components and code-compliant, safe installation layouts, and documentation required for photovoltaic systems that are utility interactive with and without energy storage.
3. Identify and verify code-compliant, safe sizing of conductors and overcurrent protection for DC and AC circuits.
4. Identify and verify code-compliant, safe use of wiring methods and selecting the appropriate materials for specific sites and installations.
5. Identify and verify code-compliant, safe use of general electrical equipment used in PV systems.
6. Demonstrate knowledge of special conditions applicable to PV Systems.
7. Verify code-compliant utility interconnections of PV systems
8. Demonstrate knowledge of compliance and structural integrity for mounting rooftop and ground-mounted systems

ELTR 2630. Advanced Photovoltaics

Course Description

Photovoltaic installation topics and aspects of: Safety, electrical lock out tag out, maximum system voltage, disconnects, series fusing, service panel connections, inverters, layout and mounting, grounding and ground fault/surge protection, system sizing, NEC considerations, commissioning and production analysis, maintenance and troubleshooting are covered in this course.

Student Learning Outcomes

1. Identify electrical codes, regulations, and practices applicable to PV systems.
2. Evaluate the design priorities for PV systems in different applications and calculate the size and configurations of necessary PV components.
3. Describe the steps involved with commissioning a PV system.
4. Identify the mainteneance tasks involved with maximizing arrary output, battery health, and other equipment operation.

ELTR 2692. Photovoltaic Installation Lab

Course Description

Photovoltaic installation practices and safety are emphasized covering lockout tag out, testing high voltage, hazards, safety equipment, site safety, first aid, PV panel layout, pitch roof mounting systems, flat roof mounting systems, pole mount systems, disconnect installation, wiring sizing and installation, inverter installation, commissioning checklist.

Student Learning Outcomes

1. Demonstrate proper PV jobsite safety considerations including proper use of PPE, tools and electrica meters, fall protection, ladders, and other equipment.
2. Assemble various PV array and electrical system lab projects.
3. Demonstrate proper application of local building codes and practices when installing a PV system.

ELTR 2891. Electrical Apprenticeship V

Course Description

Commercial/industrial applications for electricians. Blueprint interpretation, commercial construction types and processes, wiring methods, wiring materials, and motor controls.

Student Learning Outcomes

Varies

ELTR 2892. Electrical Apprenticeship VI

Course Description

In-depth commercial applications to include commercial/industrial service calculations, mobile home parks, multi-family dwellings, and commercial fire/security systems.

Student Learning Outcomes

Varies

ELTR 2893. Electrical Apprenticeship VII

Course Description

Control devices in commercial/industrial applications; emphasis on logic in-line diagrams, time delay starters, reversing starters, and manual/magnetic solenoids.

Student Learning Outcomes
Varies

ELTR 2894. Electrical Apprentiiceship VIII
Course Description
Miscellaneous topics for the journeyperson electrician to include power distribution/transmission, solid state controls and relays, photoelectric and proximity controls and programmable controllers.
Student Learning Outcomes
Varies

ELTR 2995. Electrical Co-Op Experience
Course Description
Varies
Student Learning Outcomes
Varies

ELTR 2996. Topics in Electricity
Course Description
Varies
Student Learning Outcomes
Varies

Electroneuodiagnostic Technology (ENDT)

ENDT 1010. Introduction to Neurodiagnostic Technology
Course Description
Provides an introduction and overview of the basic concepts and foundational theory of Neurodiagnostic Technology. Topics include scope of practice, standards of care, testing procedures, recording techniques, and an introduction to medical and EEG terminology. Information on career fields in ENDT is also covered, including duties and responsibilities, possible work settings and available certifications.
Student Learning Outcomes

1. Define and use common terminology neurology, Neurodiagnostic, EEG, and seizures.
2. Recall Standard Precautions and Transmission-Based Precautions.
3. Execute a patient history.
4. Identify the basic seizure types.
5. Identify common components of medical terminology, including roots and suffixes.
6. Compose a Basic patient history & physical.

ENDT 1020. EEG I
Course Description
This course provides instruction on the process of accurately measuring and applying electrodes according to the International 10-20 System. Topics include the history and development of the EEG field, electrode composition and care and the proper steps for the best practice in EEG methodology. An emphasis is placed on professional competence in patient interactions, patient care, patient safety, privacy standards and taking history.

Student Learning Outcomes

1. Explain the process of electrode measurement and application according to the 10-20 system.
2. Identify the basic EEG Montages (LB, TB and referential).
3. Recognize patient privacy regulations, safety standards, and ethical responsibilities.

ENDT 1040. Neuroanatomy and Neurophysiology

Course Description

This course provides instruction on the basic anatomical structures and functional correlates of the human nervous system. Emphasis will be placed on neuronal function, action potentials, cranial nerves, major cerebral blood supply, and an introduction to neurobiological disorders. Localization of EEG electrodes over specific neuroanatomical structures will be addressed.

Student Learning Outcomes

1. Recognize and implement correct anatomical terminology.
2. Recognize essential neural anatomical and physiological structures and functions.
3. Interpret location of EEG electrodes over neural structures and the correlated functional measurements.

ENDT 1090. Neurodiagnostic Clinical I

Course Description

This clinical course provides practical EEG experience in the outpatient setting. With supervision, students will assist and, skills-permitting, perform routine electroencephalographic recordings with all appropriate modifications, activations, and recording notations. Emphasis will be placed on active application of theoretical knowledge, exceptional patient care, collaborative interaction with other healthcare professionals, and EEG pattern recognition. Attendance and participation in weekly Neurology Department Grand Rounds and departmental EEG Seminars will be required.

Student Learning Outcomes

1. Implement collodion electrode application for long-term monitoring.
2. Perform competent long-term EEG disconnections, disinfection, and documentation.
3. Obtaining a standard EEG that includes EO/EC, mental stimulation, photic, hyperventilation, drowsiness, electrode impedance, settings and observed behavior.
4. Differentiating artifacts from cerebral waveforms.
5. Accurately recognizing normal/normal variant awake and asleep patterns for each age range.

ENDT 1092L. Neurodiagnostic Technology Skills Laboratory I

Course Description

This laboratory provides practical hands-on experience in the process of accurately measuring, applying, and removing electrodes according to the International 10-20 System. The focus of this laboratory will be on symmetrical and accurate measurement, routine electrode application, and the fundamentals of patient care in EEG. Practice will include mannequin or volunteer heads with an introduction of basic application modifications, as well as electrode removal and disinfection. Students will receive a departmental orientation to the clinical site with emphasis on hospital guidelines, policies, and procedures. All practical opportunities will be supervised and graded by laboratory-approved preceptors.

Student Learning Outcomes

1. Perform a complete head measurement on mannequin or volunteer head within 1 cm accuracy.
2. Demonstrate familiarity with electrode names and scalp locations.
3. Demonstrate familiarity with electrode application methods and best practice techniques.

ENDT 1510. EEG IT-Essentials

Course Description

This course provides a comprehensive overview of software and hardware components of the EEG System. The course will cover PC hardware, networking and troubleshooting hardware and network connectivity issues. The basics of EEG software technologies are introduced with common features and functionality of known operating systems, system management and file management.

Student Learning Outcomes

1. Providing a safe recording environment by maintaining instrument/equipment in good working order.
2. Maintaining instrument/equipment in good working order.
3. Evaluating each testing situation.
4. Taking appropriate precautions to ensure electrical safety.
5. Correcting or reporting deviations as appropriate.

ENDT 1520. EEG II

Course Description

This course provides a comprehensive overview of the normal routine adult EEG recording in wake and sleep. Instruction will cover the entire routine EEG recording from start to finish, including all appropriate technologist notations, activation procedures, and normal waveform variants. Emphasis will be on accurate EEG description using proper terminology, normal pattern recognition, and the integration of patient history in EEG analysis. Basic electrocardiogram (EKG) will be addressed.

Student Learning Outcomes

1. Classify the patient's physical, mental, and emotional condition.
2. Organize and prepare basic patient history for EEG.
3. Implement a standard EEG that includes at least 20 minutes recording, eye opening and closing, activations, mental assessment, electrode impedance, drowsiness and/or sleep, noting montage, filters, sensitivity and documentation of behavior, clinical seizure, etc.
4. Differentiating artifacts from cerebral waveforms.
5. Recognizing normal/normal variant awake and asleep patterns for each age range.

ENDT 1530. Electrical Concepts in Neurodiagnostic Technology I

Course Description

This course provides the foundation of electrical concepts related to Neurodiagnostic Technology and instrumentation. These concepts include electrical safety, grounding, analog to digital conversion, and physiological data collection and analysis. Digital measurement and modifications to the EEG recording will be addressed in depth, with particular attention to impedance, calibration, filters, sensitivity, montage, and differential amplifiers.

Student Learning Outcomes

1. Summarize the necessity of electrical safety and recall the steps to achieve it in the clinical setting.
2. Explain and execute digital EEG instrumentation settings and terminology.
3. Explain the mechanism of differential signal amplifiers.
4. Recognize potential modifications to recordings to ensure best quality EEGs in different settings.

ENDT 1540. Neurological Disorders

Course Description

This course provides a comprehensive overview of abnormal adult EEGs associated with neurological disorders. Emphasis will be placed on the etiology, evolution, and electroencephalographic correlates of cerebral disorders. The relationship

between the underlying nature of disorders and their clinical manifestations will be addressed, with particular emphasis on the recognition of resultant EEG patterns. Diagnosis, prevention, and treatment options will be included.

Student Learning Outcomes

1. Demonstrating knowledge of EEG clinical correlations by defining signs and symptoms for adult neurological disorders.
2. Demonstrating knowledge of EEG clinical correlations by explaining functional neuroanatomy and neurophysiology.
3. Demonstrating knowledge of EEG clinical correlations by recognizing and using medical terminology and accepted abbreviations.

ENDT 1550. Introduction to Long Term Monitoring

Course Description

This course provides an overview of theories, concepts, and practice of long-term EEG monitoring. Emphasis will be placed on conditions requiring long-term monitoring, technical aspects of applying and maintaining long-term studies, and the basics of trending and qualitative monitoring. Topics in Persyst software will be addressed with an introduction to record review.

Student Learning Outcomes

1. Explain indications for Long-term monitoring for epilepsy and basic LTM procedures, including ambulatory, monitoring with surface leads and intracerebral leads using video/EEG and continuous EEG intensive care monitoring.
2. Recognizing and explaining instrumentation for long-term monitoring.
3. Explaining treatment options for epilepsy.
4. Identifying common seizure patterns.

ENDT 1592L. Neurodiagnostic Technology Skills Laboratory II

Course Description

This laboratory provides a continuation of practical hands-on experience in skills required for higher-complexity EEGs. Skill work will continue in EEG application with emphasis on the use of collodion glue and EC2 adherent paste for long-term video EEG recordings. Instruction will also be provided in electrode removal with acetone or collodion remover in EEG long-term recording discontinuation. All practical opportunities will be supervised and graded by laboratory-approved preceptors.

Student Learning Outcomes

1. Implement collodion electrode application for long-term monitoring.
2. Perform competent long-term EEG disconnections, disinfection, and documentation.
3. Obtaining a standard EEG that includes EO/EC, mental stimulation, photic, hyperventilation, drowsiness, electrode impedance, settings and observed behavior.
4. Differentiating artifacts from cerebral waveforms.
5. Accurately recognizing normal/normal variant awake and asleep patterns for each age range.

ENDT 2010. Advanced Topics in Neurodiagnostic Technology

Course Description

This course provides an introduction to additional procedures within the Neurodiagnostic profession including Visual Evoked Potentials (VEP), Somatosensory Evoked Potentials (SSEP), Nerve Conduction Studies (NCS), Magnetoencephalography (MEG), Polysomnography (PSG), and Intraoperative Monitoring (IONM). An overview will be provided of varying modalities and a range of instrumentation. Diagnosis, treatment, and the role of the technologist will be addressed.

Student Learning Outcomes

1. Demonstrate a basic understanding of varying expanded NDT procedures and their application.
2. Identify conditions and diagnoses indicating the use of expanded NDT procedures.
3. Indicate basic understanding of normal and abnormal results in expanded NDT procedures.

ENDT 2020. EEG III

Course Description

This course provides a comprehensive overview of abnormal adult EEG recordings associated with seizures and epilepsy. Emphasis will be placed on the etiology, evolution, and electroencephalographic correlates of seizure disorders. The relationship between the underlying nature of disorders and their clinical manifestations will be addressed, with particular emphasis on the recognition of resultant EEG patterns. Diagnosis, prevention, and treatment options will be discussed.

Student Learning Outcomes

1. Accurately recognize clinical seizure patterns.
2. Identify common seizure patterns in long term monitoring.
3. Accurately recognizing EEG patterns for levels of consciousness.
4. Summarizing EEG clinical correlations by characterizing seizure manifestations and classifications.

ENDT 2030. Electrical Concepts in Neurodiagnostic Technology II

Course Description

This course further explores topics of instrumentation, waveform analysis, parameter adjustment for optimal recording quality, and activation procedures. Particular emphasis is placed on electrical polarity and localization of waveforms. Electrocerebral inactivity (ECI) recordings are addressed.

Student Learning Outcomes

1. Identify waveform polarity in routine EEG recordings and additional monitors such as EOG.
2. Demonstrate proficiency in the frequency response curve and all mathematical calculations.
3. Identify special recording parameters in ECI recordings.
4. Providing a safe environment complying with hazardous material handling procedures.

ENDT 2040. Evoked Potentials

Course Description

Introduction to evoked potential recording techniques. Emphasis on equipment, principles of operation, associated waves related to normal and abnormal waveforms, placement and calibration, obtaining clearly resolved and replicated obligated waveforms of brainstem auditory, visual, and somatosensory evoked potentials in adults and pediatric subjects.

Student Learning Outcomes

1. Describe the clinical correlations of evoked potential abnormalities.
2. Describe common indications for auditory, visual, and somatosensory evoked potential.
3. Describe the generators and principles of measuring waveforms and distance used in evoked potential studies.

ENDT 2080. Pediatric and Neonatal Neurodiagnostic Technology

Course Description

This course provides an overview of the application and recording of routine and long-term EEGs in pediatric and neonatal patient populations. Particular focus will be placed on development and associated EEG waveforms, pediatric-specific neurological conditions and EEG correlates, and both normal and abnormal pattern recognition. Modified neonate electrode application, specific terminology, and additional monitors will be addressed in greater depth.

Student Learning Outcomes

1. Identify normal and abnormal waveforms at each stage of development for EEG in neonate patients.
2. Identify normal and abnormal waveforms at each stage of development for EEG in pediatric patients.
3. Describe conditions necessary for modified neonate hookup and/or additional monitors.

ENDT 2090. Neurodiagnostic Clinical II

Course Description

This clinical course provides practical EEG experience in the inpatient and intensive care setting. With supervision, students will assist and, skills-permitting, perform intermediate EEG recordings with all appropriate modifications, activations, and recording notations. Emphasis will be placed on active application of theoretical knowledge, exceptional patient care, infection control procedures, and collaborative interaction with other healthcare professionals. Students will assist in record review with preceptors and attendings for ongoing pattern recognition experience. Attendance and participation in weekly Neurology Department Grand Rounds and departmental EEG Seminars will be required.

Student Learning Outcomes

1. Customizing the recording procedure by: utilizing techniques to bring out or enhance clinical symptoms, applying additional electrodes to localize abnormal activity, Monitoring respiration if appropriate, Monitoring ECG rhythms for abnormality.
2. Following appropriate technical criteria when recording in intensive care or cardiac units.
3. Demonstrating knowledge of EEG clinical correlations by defining signs and symptoms for adult neurological disorders; characterizing seizure manifestations and classifications; and, identifying psychiatric and psychological disorders.

ENDT 2092L. Neurodiagnostic Technology Skills Laboratory III

Course Description

This laboratory provides an overview of practical hands-on experience in skills required for EEGs in pediatric and neonate populations. Emphasis will be placed on special issues in patient care, strong interpersonal and communication skills with family members, and age-appropriate language. Additionally, students will learn the process of video file clipping and archiving. All practical opportunities will be supervised and graded by laboratory-approved preceptors.

Student Learning Outcomes

1. Describing clinically significant behavior witnessed.
2. Documenting sedation used, dosage, and effects (if applicable).
3. Reviewing EEG for appropriate documentation of amplifier settings and montage changes.

ENDT 2120. EEG IV

Course Description

This course provides instruction in the nature of chemical operations in the brain and the role of pharmaceutical interventions in the prevention and treatment of neurological and seizure disorders. Emphasis will be on the mechanism of action of anti-seizure and anti-epileptic medications, contraindications to medications and treatments, and medication effects on EEG waveforms and analysis. A comprehensive overview of EEG artifact and troubleshooting methods will also be provided.

Student Learning Outcomes

1. Identify major anti-epileptic medications by name and mechanism.
2. Identify medications that impact EEG recording quality.
3. Understand the contraindications

ENDT 2150. Introduction to Advanced Modalities

Course Description

Introduction to nerve conduction studies and polysomnography. Emphasis on equipment, placement of stimulation sites, troubleshooting, electronics, pathology and waveform identification.

Student Learning Outcomes

1. Describe the anatomy and physiology of selected muscles and nerves.
2. Have knowledge of neuromuscular disorders.
3. Explain the principles of stimulation and accurate placement of recording electrodes.
4. Explain the principles of measuring waveforms and distances used in routine nerve conduction studies.
5. Recognize sleep stages.
6. Understand the montages used in polysomnography.
7. Initiate a technically adequate PSG by
   a. preparing the patient,
   b. calibrating the patient and instrumentation,
   c. obtaining a ten minute baseline recording,
8. Obtain a basic understanding of common sleep disorders and treatment options.
9. Perform the multiple sleep latency test (MSLT) and the maintenance of wakefulness test (MWT).

ENDT 2190. Neurodiagnostic Clinical III

Course Description

This clinical course provides advanced practical EEG experience in outpatient and inpatient settings. With minimal supervision, students will perform routine and long-term electroencephalographic recordings on all patient populations. Students will participate in a rotation schedule to observe and assist in available NDT testing modalities (as scheduling permits), including Ambulatory, MEG, IONM, PCS, EP, NCS, Moberg combined studies, and EEG during WADA and before PET scans. Students will assist in record review with preceptors and attendings for ongoing pattern recognition experience. Attendance and participation in weekly Neurology Department Grand Rounds and departmental EEG Seminars is required.

Student Learning Outcomes

1. Document sedation used, dosage, and effects (if applicable).
2. Identify medications that impact EEG recording quality.
3. Identify normal and abnormal waveforms at each stage of development for EEG in pediatric patients.
4. Identify normal and abnormal waveforms at each stage of development for EEG in neonate patients.
5. Describe conditions necessary for modified neonate hookup and/or additional monitors.

ENDT 2250. Intraoperative Neuromonitoring (IONM)

Course Description

Introduction to intraoperative monitoring of CNS (brain, brainstem, spinal cord) function during surgical procedures. Types of recordings, the technologist's role, recording parameters, reason for surgical monitoring, variables affecting monitoring, and outcome of surgery.

Student Learning Outcomes

1. Identify the effects of common anesthetic agents and physiological variables on monitoring results.
2. Identify the common indicators for intraoperative neurophysiological EEG, evoked potential and neuromuscular monitoring.
3. Describe the criteria for significant changes during intraoperative monitoring.

ENDT 2999. Neurodiagnostic Technology Capstone
Course Description
Varies
Student Learning Outcomes
Varies

Electronic Health Record (ELHR)

ELHR 1010. Introduction to Electronic Health Record
Course Description:

Emergency Medical Services (EMSS)

EMSS 1110. Emergency Medical Responder
Course Description
An entry level course which prepares students to respond to and provide care for ill or injured patients. It includes an overview of the human body, specified basic life support, airway management, trauma, medical and environmental emergencies, medical/legal, emergency operations and other related topics.
Student Learning Outcomes

1. Successfully pass the National Registry EMR certification exam and obtain New Mexico First Responder licensure.
2. Demonstrate competence as an entry-level EMR in the cognitive and affective domains.
3. Demonstrate competence as an entry-level EMR in airway management.
4. Demonstrate competence as an entry-level EMR in medical emergencies.
5. Demonstrate competence as an entry-level EMR in cardiac emergencies.
6. Demonstrate competence as an entry-level EMR in trauma emergencies.
7. Demonstrate competence as an entry level EMR in EMS operations.

EMSS 1110L. Emergency Medical Responder Laboratory
Course Description
An entry level course which focuses on EMR and NM First Responder skills development through simulations and scenarios with an emphasis on assessment, hands-on skills and team work in the patient care environment.
Corequisite: EMR Lecture
Student Learning Outcomes

1. Successfully pass a NM JOE approved psychomotor exam.
2. Demonstrate competence as an entry-level EMR in the psychomotor and affective domains.
3. Demonstrate competence as an entry-level EMR in airway management.
4. Demonstrate competence as an entry-level EMR in medical emergencies.
5. Demonstrate competence as an entry-level EMR in cardiac emergencies.
6. Demonstrate competence as an entry-level EMR in trauma emergencies.
7. Demonstrate competence as an entry-level EMR in EMS operations.

EMSS 1113. CPR for the Health Care Provider
Course Description

Provides instruction of Basic Cardiac Life Support/ Cardiopulmonary Resuscitation for the Healthcare Provider which includes: one- and two-person rescuer for CPR and management of foreign body obstruction of the airway in adults, children and infants. Instruction also provides for recognition of signs and symptoms requiring AED intervention, safe administration of AED, and common actions that can be utilized for survival, and prevention of risk factors for heart attack and stroke. Certification according to the standards of the American Heart Association (AHA) is issued upon successful completion of course which requires passing of a written examination and practical demonstration. The course satisfies the CPR requirement for EMS students and for most other Health Care programs. Students will be issued an American Heart Association BLS for the HealthCare Provider card.

Students Learning Outcomes

1. Understand and apply critical concepts of high-quality CPR
2. Demonstrate knowledge of the American Heart Association Chain of Survival
3. Demonstrate and perform proper 1-Rescuer CPR and AED for adult, child and infant
4. Demonstrate and perform 2-Rescuer CPR and AED for adult, child and infant
5. Demonstrate knowledge of the differences between adult, child and infant rescue techniques
6. Demonstrate proper bag-mask techniques for adult, child and infant
7. Demonstrate proper rescue breathing for adult, child and infant
8. Demonstrate proper techniques and knowledge to relieve choking for adult, child and infant
9. Demonstrate knowledge and proper technique of CPR with an advanced airway*
10. Demonstrate cognitive mastery through written exam
11. Demonstrate psychomotor mastery through skills exam

EMSS 1114. Introduction to Emergency Medical Services

Course Description

Introduction to EMS. Three credit hours. A course that introduces students to the philosophies and practice of prehospital medicine, research, medical/legal issues, and well-being of the provider. Introduces foundational EMS knowledge and the NM EMT Scope of Practice. Emphasizes EMT operations within the healthcare system.

Student Learning Outcomes

1. Recognizing the seriousness of a patient's condition and assessing the need for emergency medical intervention.
2. Performing basic life support procedures and other emergency medical care based on patient assessment.
3. Safe patient handling including lifting, moving, and positioning to minimize discomfort and prevent further injury.
4. Demonstrating professional behavior within the healthcare setting, including cultural sensitivity and effective communication.
5. Understand the EMS System to include all levels of care, medical direction, scope of practice, radio communication and its functionalities (repeaters, types of radios and etc.).
6. Know and understand the different types of ambulances and the required equipment.
7. Know and understand USDOT and NMDOT required training and equipment and its functions and uses.
8. Documentation: understand and demonstrate how to properly document patient care reports.

EMSS 1115L. EMT Basic Supplemental Skills Laboratory

Course Description

Provides EMT-Basic students the opportunity for additional supervised learning and practice of EMS skills and patient assessment strategies in the campus laboratory. Reinforces topics in preparation for state licensure and national certification EMS exams.

Student Learning Outcomes

1. Demonstrate the ability to identify areas of weakness in either their laboratory or theory courses.
2. Formulate a plan of study to address the identified areas of weakness.

EMSS 1116. BLS Clinical Preparations

Course Description

Prepares students in health science programs for their clinical and field rotations. This course will provide training in CPR (AHA BLS Healthcare Provider), blood borne pathogens, HIPAA, and fire safety.

Student Learning Outcomes

1. CPR Techniques: You will learn principles and techniques of basic cardiac life support (BLS), including CPR.
2. Airway and Breathing Management: Training includes the use of adjuncts for airway management and breathing support.
3. Defibrillator Use: You will be trained to use an automatic external defibrillator (AED), essential for cardiac emergencies.
4. Initial Trauma Response: The course prepares students to handle life-threatening situations at a basic level, equipping them with the skills needed for initial patient management.
5. NIMS (National Incident Management System) classes 100,200,700,800 are included in this class. The student will understand Incident Management for emergency scenes and be able to effectively manage a scene as a first responder until higher trained personnel arrive. This will include recognizing hazards, mitigating some hazardous situations, managing other personnel, requesting additional and specialized resources and more.
6. Fire Extinguisher Safety: Students will learn how to safely operate a fire extinguisher in the case of a fire.
7. HIPPA Training (Health Insurance Portability and Accountability Act): Students will understand the importance of this act to include: patient privacy and confidentiality, penalties and other federal regulations that protect health information.
8. Blood Borne Pathogens: Students will learn and demonstrate how to safely handle all situations involving blood and contaminated items.

EMSS 1120. Emergency Medical Technician Lecture

Course Description

An entry level course which prepares students to respond to and provide care for ill or injured patients. It includes an overview of the human body, basic life support, airway management, trauma, medical and environmental emergencies, medical/legal, emergency operations and other related topics.

Student Learning Outcomes

1. Successfully pass the National Registry EMT certification exam and obtain New Mexico EMT licensure.
2. Demonstrate competence as an entry-level EMT in the cognitive and affective domains.
3. Demonstrate competence as an entry-level EMT in airway management.
4. Demonstrate competence as an entry-level EMT in medical emergencies.
5. Demonstrate competence as an entry-level EMT in cardiac emergencies.
6. Demonstrate competence as an entry-level EMT in trauma emergencies.
7. Demonstrate competence as an entry-level EMT in EMS operations.

EMSS 1120L. Emergency Medical Technician Laboratory

Course Description

An entry level course which focuses on EMT and NM EMT-Basic skills development through simulations and scenarios with an emphasis on assessment, hands-on skills and team work in the patient care environment.

Student Learning Outcomes

1. Successfully pass a NM JOE approved EMT psychomotor exam.
2. Demonstrate competence as an entry-level EMT in the psychomotor and affective domains.
3. Demonstrate competence as an entry-level EMT in airway management.
4. Demonstrate competence as an entry-level EMT in medical emergencies.
5. Demonstrate competence as an entry-level EMT in cardiac emergencies.
6. Demonstrate competence as an entry-level EMT in trauma emergencies.
7. Demonstrate competence as an entry-level EMT in EMS operations.

EMSS 1121. Emergency Medical Technician Clinical

Course Description

A course for EMT students to complete patient contact and clinical care requirements. Students rotate through various healthcare settings, refining clinical competencies required as an entry-level EMT.

Student Learning Outcomes

1. Function as an entry-level EMT as part of a healthcare team.
2. Demonstrate professionalism and cultural sensitivity healthcare settings.
3. Demonstrate appropriate documentation and record keeping.
4. Function as an entry-level EMT, providing emergency care to the sick and injured.
5. Perform an appropriate patient assessment.

EMSS 1125. Introduction to EMS Systems

Course Description

This course covers the history of emergency medical services and the development of EMS systems as well as current trends and issues in EMS. It is Ideal for students considering a career in EMS or those interested in learning system infrastructure and origin whom already work in EMS. Introduction to EMS Systems is an overview course of EMS and EMS systems. We will cover the role of EMS in healthcare, EMS management, and the clinical, educational and administrative responsibilities of the EMS provider.

Student Learning Outcomes

1. Define EMS Systems.
2. List the 15 components of EMS systems and the 14 attributes.
3. Recall important milestones in the evolution of EMS.
4. Describe the levels of pre-hospital care providers.
5. Describe medical oversight.
6. Identify various configurations of EMS delivery systems.
7. Summarize the recommendations and findings in “EMS Education Agenda for the Future”.
8. State the role of public education and prevention in EMS.
9. Describe the role of EMS in disasters.
10. State role of communications and communications technology in EMS.
11. Identify the fundamentals of emergency medical dispatching.
12. Describe the role of information systems and evaluation in EMS.

EMSS 1153. Introduction to Anatomy and Physiology for the EMS Provider

Course Description

To properly assess and manage a patient, a prehospital provider must have a solid foundation in human anatomy and physiology. This course provides a systematic approach to building this foundation.

Student Learning Outcomes

1. Apply anatomical and medical terms and abbreviations in written and oral communication.
2. Use simple knowledge of the anatomy and function of the upper airway, heart, vessels, blood, lungs, skin, muscles, and bones as the foundation of emergency care.
3. Apply fundamental knowledge of the anatomy and function of all human systems to the practice of EMS.
4. Integrate complex knowledge of the anatomy and physiology of the airway, respiratory and circulatory systems to the practice of EMS.
5. Integrate a complex depth and comprehensive breadth of knowledge of the anatomy and physiology of all human systems.

EMSS 1996. Emergency Medical Services Topics

Course Description

Varies

Student Learning Outcomes

Varies

EMSS 2015. EMS Combo BLS/ILS/ALS Refresher

Course Description

This is a combination refresher course for licensed EMT Basic, EMT Intermediate /AEMT and EMT-Paramedic Providers. This includes online work, quizzes as well as in class homework. This is on online course with 2 days of in class laboratory instruction. Total contact time is 60 hours. This refresher meets the NREMT and NM EMS Bureau requirements.

Student Learning Outcomes

1. Demonstrate competence in the National and NM state scopes of practice by obtaining a score of 70% or higher on an online written exam.
2. Demonstrate competence in all EMS skills within the scope of practice for a providers licensure level.
3. Demonstrate the ability to be both an effective team leader and team member during simulated patient care evolutions.
4. Demonstrate professional conduct at all time during online and in person class activities.
5. Demonstrate appropriate etiquette in all written and verbal communications with faculty and fellow students.
6. Demonstrate the ability to receive constructive criticism and implement feedback into future evolutions.

EMSS 2092L. EMS Advanced Supplemental Skills Laboratory

Course Description

Provides EMT-Intermediate and Paramedic students opportunity for additional learning and practice of advanced EMS skills and patient assessment strategies in the campus laboratory before going into the clinical setting. Additional IV skills practice may be required. Reinforces topics in preparation for state licensure and national certification EMS exams. Current EMT-B (or higher) New Mexico State License or NREMT certification required.

Student Learning Outcomes

1. Demonstrate the ability to identify weakness in core content or skills.
2. Demonstrate the ability to formulate a study plan to address either identified weaknesses in core content or skills.

EMSS 2120. Advanced EMT Lecture

Course Description

A course which prepares students to respond to and provide specified advanced emergency care for ill or injured patients. It includes an overview of the human body, advanced life support, airway management, trauma, medical and environmental emergencies, medical legal issues, emergency operations, intravenous therapy, vascular access, advanced pharmacology and other related topics.

Student Learning Outcomes

1. Successfully pass the National Registry AEMT certification exam and obtain New Mexico AEMT licensure.
2. Demonstrate competence as an entry-level AEMT in the cognitive and affective domains.
3. Demonstrate competence as an entry-level AEMT in airway management.
4. Demonstrate competence as an entry-level AEMT in medical emergencies.
5. Demonstrate competence as an entry-level AEMT in cardiac emergencies.
6. Demonstrate competence as an entry-level AEMT in trauma emergencies.
7. Demonstrate competence as an entry-level AEMT in EMS operations.

EMSS 2120L. Advanced EMT Laboratory

Course Description

An advanced laboratory course which focuses on AEMT and NM EMT-Intermediate skills development through simulations and scenarios with an emphasis on assessment, hands-on skills and team work in the patient care environment.

Student Learning Outcomes

1. Successfully pass a National Registry AEMT psychomotor exam.
2. Demonstrate competence as an entry-level AEMT in the psychomotor and affective domains.
3 Demonstrate competence as an entry-level AEMT in airway management.
4 Demonstrate competence as an entry-level AEMT in medical emergencies.
5 Demonstrate competence as an entry-level AEMT in cardiac emergencies.
6 Demonstrate competence as an entry-level AEMT in trauma emergencies.
7 Demonstrate competence as an entry-level AEMT in EMS operations.

EMSS 2121. Advanced EMT Clinical

Course Description

A course for AEMT students to complete patient contact and clinical care requirements. Students rotate through various healthcare settings, refining clinical competencies required as an entry-level AEMT.

Student Learning Outcomes

1. Function as an entry-level AEMT as part of a healthcare team.
2. Demonstrate team leadership on an emergency call.
3. Demonstrate professionalism and cultural sensitivity healthcare settings.
4. Demonstrate appropriate documentation and record keeping.
5. Function as an entry-level AEMT, providing emergency care to the sick and injured.
6. Perform an appropriate patient assessment.

EMSS 2202. Intro to Paramedic Practice

Course Description

Introduction to Paramedic. A course, which introduces students to the advanced practice of prehospital medicine, research, medical/legal issues, and the well-being of the provider. Reviews foundational EMS knowledge and the NM Paramedic Scope of Practice. Emphasizes paramedic operations within the healthcare system.

Student Learning Outcomes

1. Exhibit Professional Behavior: Demonstrate exemplary conduct in a professional setting, reflecting the standards expected in emergency medical services.
2. Perform Patient Assessments: Conduct comprehensive patient assessments that are appropriate for all age groups and demographics.
3. Develop Treatment Plans: Analyze assessment findings to create suitable treatment plans tailored to various patient needs.
4. Integrate Decision-Making and Leadership: Apply paramedic-level decision-making and leadership skills in managing general medical and trauma care, as well as EMS operations.
5. Demonstrate Clinical Proficiency: Execute paramedic skills and procedures effectively across a range of emergency medical situations.

EMSS 2203. Introduction to Human Systems/Pathophysiology

Course Description

Intro to Human Systems/Pathophysiology

Student Learning Outcomes

1. Understand Human Anatomy and Physiology: Grasp the basic structure and function of human organ systems.
2. Analyze Pathophysiological Conditions: Identify and describe various pathological processes affecting human systems.
3. Assess Homeostasis: Understand how different diseases or injuries affect the balance of bodily functions.
4. Develop Critical Thinking Skills: Apply knowledge of human systems and pathophysiology to make informed decisions in emergency medical situations.

EMSS 2240. Introduction to Paramedic Practice

Course Description

A course which introduces students to the advanced practice of prehospital medicine, research, medical legal issues, the wellbeing of the provider. Reviews foundational EMS knowledge and the NM Paramedic Scope of Practice. Emphasizes paramedic operations within the healthcare system.

Student Learning Outcomes

1. Understand paramedic roles and responsibilities within an EMS system.
2. Understand and interpret research and how to integrate findings into evidence based practice.
3. Demonstrate understanding of health and safety principles to maintain provider, crew and situational awareness, safety, and wellbeing.
4. Uses appropriate written or electronic tools to effectively document the essential elements of patient care and transport.
5. Understand the components of the EMS communications systems and the importance of Quality Assurance/Quality Improvement.
6. Understand the appropriate techniques of theraputic communication with patients, families and other healthcare team members.
7. Understand relevant laws and ethical issues which impact decisions made in healthcare settings.

EMSS 2242. Anatomy and Physiology for EMS

Course Description

The study of structure and function of the human body in a pre-hospital setting along with exploration of pathology are emphasized. Admission to paramedic program required.

Student Learning Outcomes

1. Identify the structures of the human body.
2. Explain the functions of each organ and system in the human body.
3. Apply the knowledge of human anatomy and physiology in a pre-hospital setting.
4. Be able to corrolate disease to chronic vs. acute presentation.

EMSS 2245. Human Systems, Pathophysiology and Development

Course Description

A course which provides a survey of human anatomy and physiology, pathological processes, and life span development. Emphasis is placed on interrelationships among organ systems and deviation from homeostasis.

Student Learning Outcomes

1. Understand the general terminology, anatomy, and physiology of the human body.
2. Apply principles of normal anatomy and physiology of the human body to the pathophysiologic processes of common health problems.
3. Associate pathophysiology to patient assessment and treatment.
4. Describe key physiologic and psychosocial changes that occur in different age groups.

EMSS 2246. Cardiac Rhythm Interpretation

Course Description

Cardiac conduction system: electrophysiology, electrocardiogram, monitor, atrial, sinus, ventricular and junctional dysrhythmias, multiple lead EKG and 12 lead EKG interpretation. Requires a "C" or better to pass.

Student Learning Outcomes

1 Demonstrate the ability to assess the common rhythms of the heart on an EKG.
2. Demonstrate the ability to identify the distinct emergency rhythms of the 12-lead EKG.
3. Demonstrate the ability to develop a treatment plan for patients needing management of cardiovascular emergencies.
4. Demonstrate the ability to explain the pharmacological actions of cardiac medications.
5. Demonstrate the ability to show a substantial understanding of cardiac pathophysiology.

EMSS 2250. Introduction to Advanced Patient Assessment and Clinical Decision Making

Course Description

A course which introduces the concepts of advanced patient assessment and clinical decision making, including history taking, physical exam techniques, and therapeutic communication with patients.

Student Learning Outcomes

1. Integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression.
2. Develo a list of differential diagnoses through clinical reasoning to modify the assessment and formulate a treatment or referral plan.

EMSS 2255 Emergency Pharmacology

Course Description

A course which integrates comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient. Discusses physiologic actions, pharmacodynamics, pharmacokinetics, therapeutic effects, medication administration, dosages and interactions.

Student Learning Outcomes

1. Demonstrate an understanding of relevant terms, processes and definitions relating to pharmacology.
2. Demonstrate an understanding of safety, storage and security, legislation, naming, classification and scheduling of medications.
3. Demonstrate appropriate decision making regarding medication administration to mitigate emergencies and improve overall health of the patient.
4. Demonstrate an understanding of the dosages, routes, indications, contraindications, mechanism of actions, side effects of medications in the National and NM Paramedic Scope of Practice.
5. Demonstrate an understanding of ethical, legal, communication and documentation aspects of emergency pharmacology.

EMSS 2255L. Emergency Pharmacology Laboratory

Course Description

A course which integrates comprehensive knowledge of pharmacology to formulate a treatment plan intended to mitigate emergencies and improve the overall health of the patient. Students will practice medication administration, calculate medication dosages, vascular access, fluid administration and other related skills.

Student Learning Outcomes

1. Demonstrate an ability to safely administer medications in the national and NM Paramedic Scope of Practice.
2. Calculate the correct volume, flow rate and amount of medication to be administered in a given situation.
3. Demonstrate an ability to administer medications as appropriate based on patient presentations.

EMSS 2270. Teaching in EMS

Course Description

Teaching in EMS course at Eastern New Mexico University - Roswell focuses on developing the skills and knowledge necessary for effective instruction within emergency medical services. EMS 270 compliments and integrates the NAEMT (National Association of Emergency Medical Technicians) Instructor course and focuses on enhancing the teaching skills of EMS professionals.

Student Learning Outcomes

1. Professional Behavior: Exhibiting exemplary professional behavior in educational settings.
2. Patient Assessment Skills: Performing comprehensive patient assessments and developing appropriate treatment plans.
3. Decision Making and Leadership: Integrating decision-making skills and leadership in emergency medical scenarios.
4. Proficiency in Procedures: Demonstrating proficiency in paramedic-level skills and procedures across various demographics.
5. Understanding Adult Learning Principles: Participants will be able to apply adult learning principles to develop effective teaching strategies for various learner types.
6. Curriculum Development: Participants will demonstrate the ability to develop and evaluate EMS course curricula, ensuring alignment with educational standards and objectives.
7. Instructional Techniques: Learners will be able to utilize various instructional techniques, including lectures, discussions, and practical skills demonstrations, to engage students effectively.

8. Assessment and Evaluation: Participants will understand how to design, administer, and evaluate assessments that measure student learning outcomes.
9. Feedback and Improvement: Learners will be able to provide constructive feedback to students and use evaluation results to improve instructional methods and course delivery.
10. Facilitation of Learning Environments: Participants will demonstrate skills in managing classroom dynamics and creating inclusive learning environments that promote active participation.
11. Application of Evidence-Based Practices: Learners will be able to integrate evidence-based practices into their teaching and training to enhance the quality of EMS education.
12. Legal and Ethical Considerations: Participants will understand the legal and ethical responsibilities of an EMS instructor and how they impact teaching practices.
13. Emergency Medical Services Trends: Learners will be able to discuss current trends in EMS and their implications for teaching and learning in the field.
14. Professional Development: Participants will identify opportunities for ongoing professional development and continuing education as an EMS instructor.

EMSS 2281. Pediatric Advanced Life Support

Course Description

This course instructs health care providers in the management and care of pediatric emergencies. Current health care provider and CPR certifications required.

Student Learning Outcomes

1. Assess pediatric cardiac and respiratory emergencie.s
2. Utilize algorhythms appropriately.
3. Deliver effective and appropriate treatment modalities.

EMSS 2284. Advanced Cardiac Life Support

Course Description

This course is for the currently certified health care provider who has mastered Advanced Cardiac Life Support (ACLS). Knowledge and skills required to evaluate and manage the first ten minutes of an adult ventricular fibrillation and tachycardia (VF/VT) arrest are introduced and practiced. The management of the ten core ACLS cases is incorporated and tested.

Student Learning Outcomes

1. Accurately identify and assess cardiac emergencies.
2. Demonstrate appropriate use of algorhythms.
3. Identify effective delivery of appropriate treatment modalities.

EMSS 2288. Critical Care Paramedic

Course Description

Prepares currently licensed paramedics for advancement into critical care roles. The curriculum covers the current best practices in out-of-hospital critical care and retrieval medicine. Students participate in high fidelity simulations and lecture sessions preparing them to take the International Board of Specialty Certifications Critical Care Paramedic Certification (IBSC CCP-C) or Flight Paramedic Certification (IBSC FP-C) examination. Current licensure and employment as a New Mexico Paramedic or equivalent required (licensed and employed in another state).

Student Learning Outcomes

1. Demonstrate the ability to perform safely during flight and ground patient transport.

2. Demonstrate an understanding of patient care considerations during flight.
3. Perform the assessment, diagnostics and management of medical emergencies.
4. Perform the assessment, diagnostics and management of traumatic and burn-related emergencies.
5. Demonstrate an understanding of airway management and mechanical ventilation strategies
6. Demonstrate the ability to safely perform advanced surgical procedures within the scope of practice of a critical care paramedic.

EMSS 2310. Airway and Respiratory Emergencies

Course Description

A course which focuses on the anatomy, physiology, and pathophysiology of the respiratory system. Integrates the knowledge to develop and implement a comprehensive treatment plan, with the goal of assuring a patent airway, adequate mechanical ventilation and respiration for patients of all ages.

Student Learning Outcomes

1. Demonstrate an understanding of the mechanics, neurological control and diseases impacting respiration and ventilation.
2. Demonstratesan understanding of various methods, tools and techniques to assure a patent airway, ventilation and respiration.
3. Integrate assessment findings with emergency pharmacology and relevant tools to create and implement treatment plans for patients with medical or trauma related respiratory complaints.

EMSS 2310L. Airway and Respiratory Emergencies Laboratory

Course Description

A course which focuses on diseases impacting the respiratory system. Students will demonstrate the knowledge to develop and implement a comprehensive treatment plan, with the goal of assuring a patent airway, adequate mechanical ventilation and respiration for patients of all ages. Students will utilize basic and advanced airway management and ventilation tools and techniques.

Student Learning Outcomes

1. Appropriately utilizes various methods, tools and techniques to assure a patent airway, ventilation and respiration.
2. Integrate assessment findings with emergency pharmacology and relevant tools to implement treatment plans for patients with medical or trauma related respiratory complaints.
3. Act as an entry-level Paramedic team leader in an airway management, ventilation or respiratory simulation.

EMSS 2410. Cardiac Emergencies

Course Description

Focuses on advanced patient assessment, management, and development of a treatment plan, with extensive discussion of cardiac anatomy, physiology, pathophysiology, pharmacology and pathology. Discusses EKG and 12 lead EKG acquisition and interpretation, and cardiac rhythms. There is an emphasis on advanced prehospital assessment and management of cardiac patients.

Student Learning Outcomes

1. Demonstrate knowledge of anatomy and physiology, assessment findings, principles of epidemiology and pathophysiology to formulate a field impression and choose a comprehensive treatment/disposition plan for a patient with a cardiac complaint.
2. Integrate comprehensive knowledge of causes, pathophysiology, and management of the following cardiovascular conditions.

a. Acute coronary syndrome
b. Heart failure
c Nontraumatic cardiac tamponade
d. Cardiogenic shock
e. Vascular disorders
f. Cardiac rhythm disturbances
g. Infectious diseases of the heart
h. Congenital abnormalities

3. Demonstrate an understanding of the acquisition, interpretation and integration of EKG findings into patient assessment, management and disposition.

EMSS 2410L. Cardiac Emergencies Laboratory

Course Description

Focuses on the performance of advanced patient assessment, management, and development of a treatment plan, with extensive integration of an understanding of cardiac pathophysiology and pharmacology. Integrates EKG and 12 lead EKG acquisition and interpretation with patient management. There is an emphasis on the application of advanced assessment and management of cardiac patients.

Student Learning Outcomes

1. Applies knowledge of anatomy and physiology, assessment findings, principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a cardiac complaint.
2. Demonstrates safe, appropriate and effective management of the following cardiovascular conditions:
    a. Acute coronary syndrome
    b. Heart failure
    c. Nontraumatic cardiac tamponade
    d. Cardiogenic shock
    e. Vascular disorders
    f. Cardiac rhythm disturbances
    g. Infectious diseases of the heart
    h. Congenital abnormalities
3. Demonstrates the appropriate application and interpretation of EKG findings into patient assessment, management and disposition.
4. Safely and effectively perform all psychomotor skills within the National EMS Scope of Practice Model and NM Paramedic Scope of Practice.

EMSS 2510. Medical Emergencies

Course Description

A course which covers patient assessment, Anatomy & Physiology, pathology of non-cardiac, non-OB/Peds, special populations medical emergencies. Includes environmental, chemical, poisoning, infectious diseases, endocrine/digestive, renal system and psychiatric illnesses.

Student Learning Outcomes

1. Integrate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.
2. Understand epidemiology, disease pathologies and how they impact transport and destination decisions.

3. Construct assessment and treatment plans for vulnerable patient populations including the cognitively impaired, pregnant, pediatrics, technology dependant, congenital diseases and geriatrics.
4. Understand the pathophysiology, assessment, management and treatment of the medical patient with multiple comorbidities.
5. Understand how to safely and effectively communicate with, assess, and manage patients with psychiatric illnesses.

EMSS 2510L. Medical Emergencies Laboratory

Course Description

Performs advanced assessments, formulates diagnoses, implements treatment plans and manages common medical and behavioral emergencies.

Student Learning Outcomes

1. Demonstrate the integration of assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment/disposition plan for a patient with a medical complaint.
2. Integrate knowledge of epidemiology and disease pathologies into transport and destination decisions.
3. Implement assessment and treatment plans for vulnerable patient populations including the cognitively impaired, pregnant, pediatrics, technology dependant, congenital diseases and geriatrics.
4. Appropriately assess, manages and treats patients with multiple comorbidities.
5. Demonstrate how to safely and effectively communicate with, assess, and manage patients with psychiatric illnesses.

EMSS 2515. Medical Emergencies I

Course Description

The course covers pathophysiology, assessment, and management of common medical emergencies in the areas of pulmonology, neurology, and cardiology.

Student Learning Outcomes

1. Demonstrate an understanding of respiratory, neurological, and cardiac emergencies based on patient history, and physical examination.
2. Demonstrate appropriate prehospital management for respiratory, neurological, and cardiac emergencies with practices.
3. Application of evidence-based medicine and practices to respiratory, neurological and cardiac emergencies.
4. Demonstrate professional communication and documentation when managing patients with accurate patient reports and handoff to receiving facilities.
5. Integrate assessment findings with emergency pharmacology and relevant tools to create and implement treatment plans for patients with medical complaints.

EMSS 2520. Emergency Medicine II

Course Description

Theory course covering the pathophysiology, assessment, and management of common medical emergencies in the areas of allergies and anaphylaxis, gastroenterology, urology, toxicology, hematology, environmental exposures, infectious and communicable diseases, behavioral medicine, gynecology, obstetrics, orthopedics, and HEENT.

Student Learning Outcomes

1. Demonstrate an understanding of medical emergencies based on patient history, and physical examination.
2. Demonstrate appropriate prehospital management for medical patients with current practices.

3. Application of evidence-based medicine and various medical conditions.
4. Demonstrate professional communication and documentation when managing patients with accurate patient reports and handoff to receiving facilities.
5. Integrate assessment findings with emergency pharmacology and relevant tools to create and implement treatment plans for patients with medical complaints.

EMSS 2610. Paramedic Trauma Care

Course Description

A course which covers the mechanism of injury, pathophysiology, diagnosis, assessment, treatment and care of the trauma and environmental emergency patient.

Student Learning Outcomes

1. Understands epidemiology, trauma scoring and destination decisions.
2. Formulates comprehensive and focused assessment strategies for minor, moderate and critically ill patients with bleeding; chest, abdominal, genitourinary, orthopedic, soft tissue, head, face, neck, spine, nervous system trauma.
3. Construct assessment and treatment plans for vulnerable trauma patient populations including the cognitvely impaired, pregnant, pediatrics and geriatrics.
4. Understand the pathophysiology, assessment, management and treatment of environmental emergencies.
5. Understand the pathophysiology, assessment, management and treatment of the multisystems trauma patient.

EMSS 2610L. Paramedic Trauma Care Laboratory

Course Description

A practical course which covers the mechanism of injury, pathophysiology, diagnosis, assessment, treatment and care of the trauma and environmental patient.

Student Learning Outcomes

1. Applies an understanding of epidemiology, trauma scoring and destination decisions.
2. Implement comprehensive and focused assessment strategies for minor, moderate and critically ill patients with bleeding; chest, abdominal, genitourinary, orthopedic, soft tissue, head, face, neck, spine, nervous system trauma.
3. Construct and applies assessment and treatment plans for vulnerable trauma patient populations including the cognitvely impaired, pregnant, pediatrics and geriatrics.
4. Applies an understanding of the pathophysiology, assessment, management and treatment of environmental emergencies.
5. Applies an understanding of the pathophysiology, assessment, management and treatment of the multisystems trauma patient.
6. Safely and effectively perform all psychomotor skills within the National EMS Scope of Practice Model and the New Mexico Scope of Practice at the Paramedic level.
7. Demonstrate professional behavior including, but not limited to, integrity, empathy, self-motivation, appearance/personal hygiene, self-confidence, communication, time management, teamwork/diplomacy, respect, patient advocacy and careful delivery of service.

EMSS 2650. Advanced EMS Operations

Course Description

Theory course covering the operational aspects of paramedic practice including discussions on the Incident Command System, hazardous materials, rescue, crime scene awareness, mass casualty incidents, bioterrorism/WMD, aeromedical transport, ambulance operations and extrication.

Student Learning Outcomes

1. Identify risks and responsibilities associated with:
    a. ambulance and air medical transportation
    b. multiple-casualty incidents
    c. gaining access to and extricating patients
    d. hazardous materials incidents
    e. responding to situations involving weapons of mass destruction
2. Knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety.
3. Establish and work within the incident management system.

EMSS 2710. Advanced Care of Special Populations

Course Description

Comprehend assessment findings with prinicples of pathophysiology and knowledge of psychosocial needs to formulate a field impression and identify a comprehensive treatment/disposition plan for patients with special challenges and neonates, pediatrics, geriatrics, obstetrics.

Student Learning Outcomes

1. Demonstrate comprehensive knowledge of the pathophysiology, assessment and treatment of the following patient types:
    a. neonatal
    b. obstetric
    c. pediatric
    d. patients identified as having special challenges
    e. geriatric
2. Recognizesthe unique psychosocial needs of these patients and demonstrates knowledge of relevant community resources.

EMSS 2710L. Advanced Care of Special Populations Laboratory

Course Description

Integrates assessment findings with prinicples of pathophysiology and knowledge of psychosocial needs to formulate a field impression and implement a comprehensive treatment/disposition plan for patients with special challenges and neonates, pediatrics, geriatrics, obstetrics.

Student Learning Outcomes

1. Understands and implements comprehensive knowledge of the pathophysiology, assessment and treatment of the following patient types:
    a. neonatal
    b. obstetric
    c. pediatric
    d. patients identified as having special challenges
    e. geriatric
2. Demonstrate an awareness of the unique psychosocial needs of these patients and an ability to connect them to relevant community resources.

EMSS 2790. Development of the Professional Paramedic

Course Description

Summative and developmental course providing a comprehensive review of all prior paramedic coursework to prepare students for New Mexico and National Registry testing, presentation of student research projects, and debriefing of field internship experiences. The course also involves comprehensive written and psychomotor exams that will serve as a final for the entire program.

Student Learning Outcomes

1. Demonstrate competency in all cognitive and critical thinking domains by successfully completing comprehensive final written exams.
2 Demonstrate competency in all psychomotor skills by successfully completing comprehensive practical skill final exams.
3. Demonstrate competency in all criteria for affective behavior of the professional paramedic.

EMSS 2850. Paramedic Lab I

Course Description

During this course students' progress through skill demonstration, skill practice, skill mastery evaluation, patient care scenarios, and scripted simulations. Demonstration of Competency is evaluated in the following topic areas: leadership and participation, assessment and response, patient assessment skills, airway skills, medication administration skills, and Cardiac skills.

Assessment is completed though both peer and faculty evaluation. Skill and patient encounter documentation is continued in the clinical phases of the Program. The laboratory phase requires application of knowledge gained in the classroom and independent learning to the psychomotor and affective behavior domains.

Student Learning Outcomes

1. Integrates knowledge of epidemiology and disease pathologies into treatment and transport decisions.
2. Demonstrates an ability to administer medications as appropriately based on patient presentations.
3. Utilizes various methods, tools and techniques to assure a patient has patent airway ventilations and respirations.
4. Demonstrates the appropriate applications and interpretations of EKG findings into patient assessment management and dispositions.
5. Demonstrate safe and effective communications in assessment and management of patients **with medical illnesses.**

EMSS 2855. Paramedic Lab II

Course Description

Reinforce paramedic theory coursework through practical labs and simulated patient care scenarios. Topics covered include medical emergencies, trauma, special populations, operations, and current issues.

Student Learning Outcomes

1. Applies an understanding of pathophysiology, assessment, management and treatment of medical patients.
2. Applies an understanding of pathophysiology, assessment, management and treatment of multi system trauma patients.
3. Applies an understanding of the pathophysiology assessment, management and treatment of Pediatrics and Geriatrics.
4. Demonstrates the ability to administer and treat patients based on their presentations.
5. Utilizes various methods, tools and techniques to ensure treatment plan is appropriate for condition in lab and simulation.
6. Demonstrate safe and effective communications in assessment and management through critical thinking and prehospital management strategies.

EMSS 2890. Paramedic Clinical I

Course Description

A course which provides students with clinical opportunities which may include hospitals, clinics, field rotations and other healthcare settings to administer medications, perform approved skills, and assess and manage patients of all age groups with various medical or traumatic conditions. Provides students an opportunity to apply their knowledge in real patient care situations, under direct supervision. Students may be required to travel to complete this course.

Student Learning Outcomes

With supervision, the student will be able to:

1. Perform a comprehensive assessment, formulate and implement a treatment plan for all patient types across all age groups.
2. Safely and appropriately administer allowed medications.
3. Safely and appropriately perform allowed skills.
4. Work effectively as part of a healthcare team.
5. Demonstrate appropriate affect.

EMSS 2895. Paramedic Clinical II

Course Description

A continuation of Paramedic Clinical I which provides students with clinical opportunities which may include hospitals, clinics, field rotations and other healthcare settings to administer medications, perform approved skills, and assess and manage patients of all age groups with various medical or traumatic conditions. Provides students an opportunity to apply their knowledge in real patient care situations, under direct supervision. Students may be required to travel to complete this course.

Student Learning Outcomes

With supervision, the student will be able to:

1. Perform a comprehensive assessment, formulate and implement a treatment plan for all patient types across all age groups.
2. Safely and appropriately administer allowed medications.
3. Safely and appropriately perform allowed skills.
4. Work effectively as part of a healthcare team.
5. Demonstrate appropriate affect.

EMSS 2996. Emergency Medicine Topics

Course Description

Varies

Student Learning Outcomes

Varies

EMSS 2998. Emergency Medicine Paramedic Internship

Course Description

Varies

Student Learning Outcomes

Varies

Environmental Engineering (ENVE)

ENVE 1110. Environmental Engineering Seminar

Course Description

Not Available

Student Learning Outcomes

Not Available

Environmental Science Engineering (ENSC)

ENSC 1110. Introduction to Engineering Design

Course Description:

Students will be introduced to the profession of engineering and gain fundamental engineering skills with an emphasis on engineering design and problem solving. Topics include problem definition, presentation of a solution, the engineering design process, working in a team environment, engineering graphics by hand and in SolidWorks, graphical solutions, and simple modeling in Microsoft Excel. Students will learn the process of designing, building, modeling, and optimizing a system through a semester-long project.

Student Learning Outcomes

By the end of this course, students will be able to:

1. Apply the engineering design process.
2. Define engineering problems, identify constraints and criteria, generate and evaluate design alternatives, and justify a final solution.
3. Solve introductory engineering problems using analytical and graphical methods.
4. Apply basic mathematics, graphical techniques, and logical reasoning to analyze engineering systems and support design decisions.
5. Communicate engineering ideas and solutions effectively.
6. Convey technical information through written reports, oral presentations, sketches, engineering drawings, and graphical representations.
7. Use modern engineering tools for modeling and design.
8. Create and interpret engineering graphics using freehand sketching and SolidWorks, and develop simple computational models using Microsoft Excel.
9. Work effectively as a member of an engineering team.
10. Collaborate in a team environment to plan tasks, share responsibilities, and contribute to a semester-long engineering design project.
11. Demonstrate professional, ethical, and responsible engineering behavior.
12. Recognize ethical responsibilities, practice safe and responsible conduct, and understand the broader impact of engineering solutions.

ENSC 1111. Computer Programming for Engineers

Course Description

Engineering computer problem solving using a high-level programming language. Algorithms and program development and documentation. Emphasis is placed on programming logical and concise solutions to a variety of problems drawing from engineering disciplines of mechanics, civil, electrical, industrial, and economics.

Student Learning Outcomes

1. Understand basic programming principles/syntax/structure.

2. Understand how to debug computer code.
3. Establish a working knowledge of programming solutions in Matlab.
4. Use Matlab to solve various types of problems in engineering and applied math.
5. Use Matlab to solve a complex, in-depth problem from the student's discipline.

ENSC 2201. Statics

Course Description

Forces and moments acting on rigid bodies in equilibrium, distributed forces including hydrostatic forces, friction, moment of inertia, and problem solutions by computer.

Student Learning Outcomes

1. Students will recognize:
    a. Their individual role of professionalism and ethical responsibility.
    b. The need for clear, neat, and logical solutions to problems.
2. Students will understand Newton's First and Third laws.
3. Students will be able to:
    a. Draw and apply free body diagrams.
    b. Quantitatively analyze forces acting on a rigid body.
    c. Perform entry-level professional work in engineering.
4. Students will continue developing a cognitive reasoning (problem solving) skill set.

ENSC 2216. Engineering Fluid Mechanics

Fundamentals of fluid mechanics including fluid statics, velocity of continuous media, continuity, and momentum balance. Introduction of laminar and turbulent flows, similitude, dimensionless analysis, Bernoulli's equation, friction factor, introduction to pump and compressor selection.

Student Leaning Outcomes

1. Acquire fundamentals related to fluid, including concepts of mass, momentum, and energy conservation.
2. Recognize equations governing fluid motions, i.e., Navier-Stokes equations.
3. Classify and distinguish flow problems.
4. Apply the Bernoulli equation to solve flow problems.
5. Apply dimensional analysis for problems in fluid mechanics.
6. Recognize laminar and turbulent flows.
7. Associate fundamentals of fluid mechanics to real-world applications."

English (ENGL)

ENGL 1105. Introduction to Academic Writing for Multilingual Students

Course Description:

This course is offered to international and domestic multilingual students. The purpose of this course is to provide students with review and practice opportunities to develop writing fluency and coherence, grammar awareness, and academic vocabulary necessary to be successful in ENGL 1110.

Student Learning Outcomes:

1. Create well-organized, coherent paragraphs alone or in essay format.
2. Integrate a variety of sentence structures in connected discourse.
3. Portray, with general mastery, basic grammatical forms with very few errors.

4. Summarize or paraphrase information from source readings correctly.
5. Analyze readings for meaning and main ideas through annotation.
6. Integrate APA style format for in-text citations and references into their writing.

ENGL 1110. Composition I

Course Description

In this course, students will read, write, and think about a variety of issues and texts. They will develop reading and writing skills that will help with the writing required in their fields of study and other personal and professional contexts. Students will learn to analyze rhetorical situations in terms of audience, contexts, purpose, mediums, and technologies and apply this knowledge to their reading and writing. They will also gain an understanding of how writing and other modes of communication work together for rhetorical purposes. Students will learn to analyze the rhetorical context of any writing task and compose with purpose, audience, and genre in mind. Students will reflect on their own writing processes, learn to workshop drafts with other writers, and practice techniques for writing, revising, and editing.

Student Learning Outcomes

1. Analyze communication through reading and writing skills.
2. Employ writing processes such as planning, organizing, composing, and revising.
3. Express a primary purpose and organize supporting points logically.
4. Use and document research evidence appropriate for college-level writing.
5. Employ academic writing styles appropriate for different genres and audiences.
6. Identify and correct grammatical and mechanical errors in their writing.

ENGL 1120. Composition II

Course Description

In this course, students will explore argument in multiple genres. Research and writing practices emphasize summary, analysis, evaluation, and integration of secondary sources. Students will analyze rhetorical situations in terms of audience, contexts, purpose, mediums, and technologies and apply this knowledge to their reading, writing, and research. Students will sharpen their understanding of how writing and other modes of communication work together for rhetorical purposes. The emphasis of this course will be on research methods.

Student Learning Outcomes

1. Analyze the rhetorical situation for purpose, main ideas, support, audience, and organizational strategies in a variety of genres.
2. Employ writing processes such as planning, organizing, composing, and revising.
3. Use a variety of research methods to gather appropriate, credible information.
4. Evaluate sources, claims, and evidence for their relevance, credibility, and purpose.
5. Quote, paraphrase, and summarize sources ethically, citing and documenting them appropriately.
6. Integrate information from sources to effectively support claims as well as other purposes (to provide background information, evidence/examples, illustrate an alternative view, etc.).
7. Use an appropriate voice (including syntax and word choice).

ENGL 1130. Editing and Style

Course Description

Examines the elements of good creative writing and the methodologies of evaluating and editing students' own writing and that of others. Includes style and usage, diction and sentence variety, imagery and figurative language, and how to write concisely and with expression.

Student Learning Outcomes

Upon successful completion of the course, the student will be able …

1. To learn the elements of editing and style that contribute to good writing and the attributes that an effective creative writer needs to be successful.
    a. Study and understand the components and methodology that editors use to improve and re-focus creative works.
    b. Learn and demonstrate mastery of the various attributes of an individual who is both a creative writer and a careful editor.
2. To think creatively and analytically about selected pieces of writing with the purpose of improving them through focused and careful editing.
    a. Read selected pieces of writing and identify ways to improve them through holistic and detailed analytical editing.
    b. Make connections with editing the work of others and applying them to his/her own writing.
    c. Understand the editing process in detail—from sentence level issues such as punctuation and word choice to matters of organization and logic.
3. To understand and learn to incorporate elements such as diction, sentence variety, and figurative language into essays and other works generated for the course
    a. Write essays and other works in various genres that reflect an understanding of the elements of creative writing.
    b. Write essays and other works that demonstrate the ability to incorporate imagery and figurative language appropriately as well as use sentences that effectively communicate the writer's purpose.
    c. Demonstrate the ability to edit the works of others with the above elements in mind.
4. To learn to integrate the concepts of imagination and creativity with the precepts of succinct stylistic writing so that the author's intent is clearly communicated.
    a. Demonstrate in essays and other works an understanding of the importance of clear, concise and succinct writing.
    b. Understand that clarity of purpose and meaning is essential in all forms of creative writing.

ENGL 1160. Introduction to Digital Storytelling

Course Description

Provides a comprehensive overview of the genre of digital storytelling. Digital stories are narratives that combine elements such as text, audio, photography, film, and graphics.

Student Learning Outcomes

1. Describe the history of the development of linear and interactive digital stories.
2. Explain how interactive digital stories build upon narrative techniques to include ludological (gameplay) elements.
3. Explain the significance of digital stories as cultural productions.
4. Analyze the use narrative and gameplay techniques in linear and interactive digital stories.

ENGL 1210. Technical Communications

Course Description

This is an introductory study of written and verbal communications used in the technical professions with emphasis in the planning, execution, and editing of professional and technical documents and other communication media.

Student Learning Outcomes

1. Define the purpose, audience and objective for a given technical document analyze the primary audience for that communication.
2. Design/format the pages and visuals for a document prepare and present oral presentations and briefings.
3. Correctly use the format for several technical documents, including procedures, proposals, and job application materials

ENGL 1220. Introduction to Mass Communications

Course Description

Course covers the functions and organization of the mass media system in the United States; analyzes the cultural, social, and political impact of mass media on US society.

Student Learning Outcomes

1. Explain basic concepts of journalism and strategic communication, as well as some of the legal restraints and ethical issues facing media workers.
2. Write accurately, fairly, ethically, correctly, and clearly in forms and styles appropriate for communication professionals.
3. Recognize news values and the way that professionals critically evaluate information, including an introduction to basic statistics.
4. Apply media literacy knowledge and skills.

ENGL 1230. Introductory Academic Communication

Course Description

The course introduces students to the general culture of a US university. It provides opportunities to develop their listening, speaking, reading, and writing skills related to their coursework in science, technology, engineering, and mathematics (e.g., understanding lectures, reading academic texts, communicating with professors and TAs, etc.). Students are also introduced to strategies for drafting and editing academic writing and for preparing and giving academic presentations.

Student Learning Outcomes

1. Communicate effectively in various forms of academic English writing.
2. Listen and comprehend academic English.
3. Read, comprehend and respond to English academic texts.

ENGL 1240. Writing for Mass Media I

Course Description

This course introduces you to journalistic writing, including conventions of journalism, and the gathering and writing of news articles for print and broadcast media.

Student Learning Outcomes

1. Explain various applications of media literacy knowledge and skills
2. Identify components that guide the creation, distribution and exhibition of media.
3. Describe the goals and methods of various media industries
4. Analyze current mass media issues, including ethical issues.
5. Describe the evolution of media and its cultural, social, geopolitical and economic impact.

ENGL 1310. Introduction to Journalism

Course Description

This course is intended as an introduction to print and online journalism. The student is introduced to the journalistic style of writing, terms used in journalistic work, editing copy, as well as layout and design. Emphasis is also placed on examining complexities surrounding the media, particularly media ethics.

Student Learning Outcomes

1. Recognize newsworthy events or people.
2. Assess the necessary background research for a story and how to interview sources.
3. Develop basic “hard news” stories and basic feature stories.
4. Recognize the ethical conflicts that can arise in the course of researching and writing stories.
5. Apply principles for layout and design of articles.
6. Use appropriate diction, syntax, grammar, and mechanics.

ENGL 1320. Exploring Creative Writing

Course Description

An introduction to creative writing including both fiction and poetry. Students will learn to develop characters, story lines, dialogue and point of view, as well as how to use imagery, sounds and poetic forms.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify techniques for writing fiction or poetry
2. Select appropriate modes of communicating their ideas and emotions
3. Identify useful strategies for writing and revising

ENGL 1410. Introduction to Literature

Course Description

In this course, students will examine a variety of literary genres, including fiction, poetry, and drama. Students will identify common literary elements in each genre, understanding how specific elements influence meaning.

Student Learning Outcomes

1. Identify, define, and understand basic literary conventions and themes in fiction, poetry and drama.
2. Write reasonable, well-supported analyses of literature that ethically integrate evidence from texts.

ENGL 1510. Communication for Multilingual Students

Course Description

This course allows students to apply the knowledge they have acquired in their field of study to further their development in English language skills. Students work on reading and responding to academic texts in both written and oral formats; crafting and expressing an original argument on an academic topic; and correctly summarizing, paraphrasing, and citing academic texts. Students will write and present on researched topics in their fields of study, provide constructive feedback on each other's work, and practice articulating and answering questions on academic topics.

Student Learning Outcomes

1. Listen and comprehend academic English.
2. Read, comprehend and respond to English academic texts.
3. Write academic English with improved proficiency and confidence.

ENGL 1710 Greek Mythology

Not Available

Student Learning Outcomes

Not Available

ENGL 1996. English Topics

Course Description

Varies

Student Learning Outcomes

Varies

ENGL 1997. English Independent Study

Course Description

Varies

Student Learning Outcomes

Varies

ENGL 2088 – English Specialty
This course is used to transfer approved courses from other colleges and universities. (Currently applicable for CNM only for transfer purposes).
Student Learning Outcomes
Varies

ENGL 2110. Traditional Grammar
Course Description
This course surveys traditional grammar, introducing linguistic terminology and methods for identifying and understanding parts of speech, parts of sentences and basic sentence patterns. The course presents terminology and methods designed to increase the student's understanding of the structure of the language.
Student Learning Outcomes
1. Identify and analyze sentence elements, sentence patterns, and usage.
2. Recognize and understand structural relationships involving verb phrases, noun phrases, and adverbial and adjectival modifying phrases and clauses.
3. Recognize parts of speech and explain their functions in phrases, clauses, and sentences.
4. Demonstrate sentence combinations through noun modification, nominalization, and other writing strategies employing knowledge of grammatical forms.
5. Identify differences between spoken and written use of language.
6. Distinguish differences between prescriptive and descriptive grammar.

ENGL 2120. Intermediate Composition
Course Description
This course builds upon and refines the writing skills acquired in previous writing courses, with a focus on non-fiction prose. Research, composition, exposition and presentation abilities will be practiced and developed. Through analysis and revision, students will develop strategies to improve the versatility and impact of their writing. Course topics and emphases may vary by section.
Student Learning Outcomes
1. Use a variety of writing styles and sets of conventions to compose documents for academic, business, technical, scientific, popular publishing or professional settings.
2. Analyze the subjects, purposes, audiences, and constraints that influence and determine document creation.
3. Develop research strategies for writing, gathering information from primary and secondary sources.
4. Use appropriate documentation and document design in writing.
5. Describe and evaluate rhetorical choices.

ENGL 2130. Advanced Composition
Course Description
This course is for students who are striving for fluency, maturity, clarity and significance in their writing. It is an intermediate writing course that builds on and refines writing skills acquired in previous courses. It focuses on non-fiction writing for the professions, business, science, technical fields, academe and/or the popular press. Short works of master writers are studied for ideas, style and structure.
Student Learning Outcomes
1. Students will examine and apply different writing styles and modes used by masters of personal essay and keep a reading response journal of assigned readings as demonstrated by scoring a 70% in faculty designed assignments.

2. Students will develop a sense of audience by discussing their papers with each other in small groups during class or by reading each other's papers and participating in positive, helpful peer reviews as demonstrated by scoring a 70% in faculty designed assignments.

ENGL 2140. Teaching Writing

Course Description

Introduces methods of teaching the writing workshop and the principles of writing to learn. Includes practical as well as theoretical material applicable for teachers at any level. Students develop their own practices and philosophies of teaching writing.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to ...

1. Write for both personal and academic purposes in order to demonstrate understanding of the writing process and insight into the self as writer.
2. Complete a writing-to-learn project in order to explore principles of writing-across-the-curriculum.
3. Articulate how the writing workshop process can function in a classroom at any level.
4. Complete at least one of the course assignments in an online environment.
5. Articulate in written format a beginning philosophy of teaching writing.

ENGL 2210. Professional and Technical Communication

Course Description

Professional and Technical Communication will introduce students to the different types of documents and correspondence that they will create in their professional careers. This course emphasizes the importance of audience, document design, and the use of technology in designing, developing, and delivering documents. This course will provide students with experience in professional correspondence and communicating technical information to a non-technical audience.

Student Learning Outcomes

1. Choose professional communication appropriate for audiences and situations.
2. Write in different genres of professional communication.
3. Identify the purpose of a work-related communication and assess the audiences' informational needs and organizational constraints.
4. Employ appropriate design/visuals to support and enhance various texts.
5. Demonstrate effective collaboration and presentation skills.
6. Integrate research and information from credible sources into professional communication.

ENGL 2215. Advanced Technical and Professional Communication

Course Description

Theory and practice of writing in technical and professional fields, individualized to each students' field. Emphasizes efficient writing processes and effective written products.

Student Learning Outcomes

1. To complicate the definition of "technical and scientific communication" and its relationship(s) to studying and practicing "rhetoric."
2. To complicate our relationship to concepts like "science", "knowledge, "objectivity," neutrality, "clarity," etc.
3. To use a community-based approach to study and practice technical and scientific documents within various discourse communities.
4. To study and practice different genres (i.e. memos, letters, e-mails, reports, proposals, and instruction sets) attending to issues of audience and purpose within discourse communities.
5. To practice some mindful reading strategies that allow you to attend to the use of language and its material and discursive effects in different situations.

6. To examine the material effects of producing, circulating, and consuming technical and scientific texts on the bodies of people within different contexts.
7. To complicate our understanding of "ethics," "responsibility," and "accountability" toward ourselves and others.
8. To work collaboratively and individually to research, to analyze, and to write about public debates regarding the conduct of science and technology.
9. To understand and use basic principles of document design attending to issues of usability and accessibility.
10. To articulate the relationship between technical and scientific communication and issues of inclusion and social justice in the world.

ENGL 2220. Introduction to Professional Writing

Course Description

A beginning course in the professional writing concentration. Study of technical writing, public information and public relations writing and freelance nonfiction writing.

Student Learning Outcomes

1. Students will have a fundamental understanding of writing as a profession.
2. Students will be able to construct a portfolio and explain its significance and proper usage.
3. Students will write for a variety of professional writing genres.

ENGL 2221. Writing in the Humanities and Social Science

Course Description

Theory and practice in interpreting texts from various disciplines in the humanities and social sciences. Strategies for researching, evaluating, constructing, and writing researched arguments. Course subtitled in the Schedule of Classes. May be repeated up to 3 credits.

Student Learning Outcomes

1. Choose professional communication appropriate for audiences and situations.
2. Write in different genres of professional communication.
3. Identify the purpose of a work-related communication and assess the audiences' informational needs and organizational constraints.
4. Employ appropriate design/visuals to support and enhance various texts.
5. Demonstrate effective collaboration and presentation skills.
6. Integrate research and information from credible sources into professional communication.

ENGL 2230. Introduction to Popular Culture

Course Description

The course offers a survey of popular literary genres (horror, science fiction, etc.) as well as film and television. Students will analyze popular culture in the form of popular novels, songs, television shows, movies, comic books, and other cultural productions. Students will analyze this material in the same fashion as literature is analyzed, developing skills of cultural analysis and critique.

Student Learning Outcomes

1. Understand the way popular culture texts reflect larger cultural issues, fears, and desires.
2. Apply the techniques of literary analysis and cultural analysis to a wide variety of popular texts.
3. Discuss the development and evolution of popular culture genres.
4. Practice critically speaking and writing about popular culture.
5. Explore the full range and complexity of popular culture.

ENGL 2240. Introduction to Studies in English

Course Description

This course brings together students majoring in English. It is a required course and must be taken before embarking on the major coursework. Students are introduced to the subfields of rhetoric and professional writing; creative writing; literary studies; and critical theory and cultural studies. Students will be introduced to the life of the department through class visits with faculty members, attendance at departmental events, and a variety of readings and discussions. Some class sessions will include conversations about employment or opportunities for graduate school. The final task will be to craft a letter of intent documenting an intended course of study and future goals.

Student Learning Outcomes

1. Students will be introduced to all the subfields offered by the UNM English Department.
2. Students will be introduced to the life of the department through class visits with faculty members from each of the Department's subfields, attendance at departmental events, and a variety of readings and discussions.

ENGL 2260. Creating Linear Digital Stories

Course Description

In this course, you will craft your own linear digital story! Linear digital stories have a set beginning, middle, and end and can be crafted in any digital subgenre, such as blogs, podcasts, or web videos (just to name a few possibilities). As part of the crafting process, we will engage in a writing circle to give and receive productive feedback for revision. By the end of the course, you will have drafted, revised, and produced one scene of your own (fictional or nonfictional) digital story.Provides an aesthetic understanding of the elements of linear digital storytelling and provides mentorship and hands-on experience in creating a linear digital story.

Student Learning Outcomes

1. Identify literary elements in linear digital story subgenres.
2. Evaluate the literary elements of linear digital story subgenres.
3. Create a short linear digital story.
4. Improve linear digital stories through feedback.

ENGL 2261. Creating Interactive Digital Stories

Course Description

In this course, you will craft your own interactive digital story! Interactive stories are important to the history of video games. Like video games, what happens in an interactive story changes depending on the choices of your reader. As part of the crafting process, we will engage in a writing circle to give and receive productive feedback for revision. By the end of the course, you will have drafted, revised, and produced your own interactive digital story.

Student Learning Outcomes

1. Identify literary and ludological elements in interactive digital stories.
2. Evaluate the literary and ludological elements of interactive digital stories.
3. Create a short interactive digital story.
4. Improve interactive digital stories through feedback.

ENGL 2271. Writing for the Media II

Course Description

Emphasizes advanced skills and professional journalistic conventions, gathering and writing news for print and broadcast media, including a variety of types of stories and legal and ethical topics.

Student Learning Outcomes

1. Analyze daily print and broadcast news
2. Gather information from print and electronic documents
3. Integrate workbook exercises with actual news-writing assignments

4. Demonstrate interviewing techniques for print, audio, and video journalism
5. Organize and develop news story ideas using basic journalistic conventions
6. Prepare news copy suitable for publishing and/or broadcasting
7. Perform in news and editorial teams

ENGL 2280. History of Argument

Course Description

Investigates the major figures and movements in rhetoric from the classical period to modern rhetorical theory, examining relations between rhetorical teaching and practice, culture, epistemology, and ideology.

Student Learning Outcomes

By or at the end of the course, you should understand what the following mean and, if applicable, be able to demonstrate each in writing.

1. Understand how rhetoric, argument, and persuasion work. Become familiar with the key terms and various contexts in which rhetoric, argument, and persuasion function and the contingencies that influence their use and effectiveness.
2. Be familiar with the broad history and major figures of western rhetoric.
3. Apply a number of approaches used to analyze and construct/deconstruct rhetorical arguments, including (but not limited to) Aristotelian appeals and commonplaces, stasis theory, toulmin analysis, pentadic/dramatistic analysis, fallacy analysis, and rogerian analysis.
4. Complete an analysis as well as design and present a project regarding a contemporary issue or concern about which you feel deep passion and commitment; and
5. Improve general critical thinking and communication skills, both oral and written.

ENGL 2290. Journalistic Practice

Course Description

Journalism 2290 is an internship designed to engage students in a professional media workplace as a means of gaining educational experience, on-the-job training, and marketable skills for careers in professional writing and/or mass media.

Student Learning Outcomes

Varies.

ENGL 2310. Introduction to Creative Writing

Course Description

This course will introduce students to the basic elements of creative writing, including short fiction, poetry, and creative nonfiction. Students will read and study published works as models, but the focus of this "workshop" course is on students revising and reflecting on their own writing. Throughout this course, students will be expected to read poetry, fiction, and non-fiction closely, and analyze the craft features employed. They will be expected to write frequently in each of these genres.

Student Learning Outcomes

1. Participate in a constructive conversation and community about creative writing.
2. Read and critically engage with a variety of texts.
3. Compose creative works in various genres of creative writing.
4. Provide respectful, honest, and critical feedback to peers about their work.
5. Revise creative work based on peer feedback and critique.
6. Develop thoughtful workshop reflection on students' own writing and writing process.
7. Evaluate and engage with publication process.

ENGL 2315. Advanced Creative Writing

Course Description
Provides continued exploration and development for writers with experience in a given genre and emphasizes the practice and techniques of published writers.
Student Learning Outcomes
Upon successful completion of the course, the student will be able
1. To use skillfully various techniques in a given genre of creative writing.
2. To demonstrate mastery of the various attributes of an individual who is a creative writer in a certain genre.
3. To think creatively and analytically about selected pieces of writing with the purpose of improving them through peer editing workshops by
    a. Reading selected pieces of writing and identify ways to improve them through peer workshop discussions.
    b. Making connections with editing the work of others and applying them to the student's own writing.
4. To read, recognize, and appreciate the work of published authors who are writing within a given genre.
5. To understand how to present, perform and/or publish in a given genre.

ENGL 2317. Creative Writing Thesis I
Course Description
Not Available
Student Learning Outcomes
Not Available

ENGL 2320. Introduction to Fiction Writing
Course Description This course will introduce students to the basic elements of fiction writing. This course is a reading and "workshop" introduction to the fundamental working modes of fiction. Throughout this course, students will be expected to read classic and contemporary fiction closely and analyze the craft features employed. They will be expected to write frequently in various fiction genres throughout the course.
Student Learning Outcomes
1. Engage in a constructive conversation and community about fiction.
2. Read and critically engage with various works of fiction.
3. Compose creative works of fiction.
4. Provide respectful, honest, and critical feedback to peers about their work.
5. Learn a language that provides groundwork for workshop structure and peer critique.
6. Revise creative work based on peer feedback and critique.
7. Develop thoughtful workshop reflection on students' own writing and writing process.
8. Evaluate and engage with publication process.

ENGL 2330. Introduction to Poetry Writing
Course Description
This course will introduce students to the basic elements of poetry. This course is a reading and workshop introduction to the fundamental working modes of poetry. Students will be expected to read classic and contemporary poetry and analyze the craft features employed. In this course, students will read, write, and respond to poetry and develop their understanding of poetic conventions.
Student Learning Objectives
1. Identify various forms, styles, elements, and conventions of poetry.
2. Write, revise, analyze and present their own poetry and the poetry of others.
3. Respond constructively and respectfully to other writers' poems.
4. Compare and contrast different styles of poetic expression.
5. Articulate how choices in language can impact a poem's meaning.

ENGL 2340. Introduction to Creative Nonfiction Writing

Course Description

This course will introduce students to the basic elements of creative nonfiction. This course is a reading and workshop introduction to the fundamental working modes of creative nonfiction. Throughout this course, students will be expected to read classic and contemporary works in the various genres of creative nonfiction and analyze the craft features employed. They will be expected to write frequently in these genres. Students will explore techniques of nonfiction such as prosody, exposition, descriptive detail, and narrative voice.

Student Learning Outcomes

1. Engage in a constructive conversation and community about creative nonfiction.
2. Read and critically engage with a variety of creative nonfiction works.
3. Compose creative nonfiction.
4. Provide respectful, honest, and critical feedback to peers on their work.
5. Learn a language that provides groundwork for workshop structure and peer critique.
6. Revise creative work based on peer feedback and critique.
7. Develop thoughtful workshop reflection on students' own writing and writing process.
8. Evaluate and engage with the publication process.

ENGL 2345. Intermediate Creative Writing – Fiction

Course Description

Not Available

Student Learning Outcomes

Not Available

ENGL 2350. Introduction to Drama

Course Description

This course introduces students to drama as a literary form. Students will identify elements of the dramatic form, examining how the choices made by the playwright, director, actors, set designer, costume designer, and even the audience influence the performance. Students will also examine different types of plays, such as comedy, historical, and tragedy, and the influence of the historical, social, and political setting.

Student Learning Outcomes

1. Identify, define, and analyze elements of the dramatic form and performance.
2. Demonstrate an understanding of the historical and cultural contexts for plays.
3. Compare and contrast plays of different types and from different periods
4. Identify common dramatic themes.

ENGL 2360. Introduction to Poetry

Course Description

This course is an introduction to reading and thinking about poetry. This course will involve the reading and analysis of poems from a variety of eras. By examining poetic features of tone, speaker, situation, setting, language, sounds, internal structure, and external form, students will build a foundation for complex critical thinking about what poems can do. All poems are born out of particular literary and cultural contexts, which will also be discussed as part of this course’s inquiries into the nature of poetry and poetic form.

Student Learning Outcomes

1. Read poetry from a variety of time periods and cultures.
2. Utilize a variety of critical approaches to analyze poetry.
3. Identify poetic forms and terms.

4. Develop a deeper understanding of the elements of poetry, imagery, rhyme, meter, form, symbol, and myth.
5. Recognize dominant literary and cultural contexts for assigned readings.
6. Write and revise reflective essays that engage with assigned readings.
7. Actively engage in discussions regarding critical interpretations of assigned readings.

ENGL 2365. Intermediate Creative Writing – Poetry
Course Description
Not Available
Student Learning Outcomes
Not Available

ENGL 2367. Intermediate Multi-Genre Creative Writing Workshop
Course Description
A multi-genre workshop for experienced creative writers, offering supportive instruction in writing and peer feedback in order for students to grow their craft, explore their roles and responsibilities as artists in society, and pursue next steps in publishing their work.
Major Topics
1. Craft in multiple genres: synergy of technique, creative expression, and content
2. Constructive participation in writers' workshop activities as both writer and reader
3. Completion and refinement of a significant body of creative writing in one or more genres
4. Preparation and submission of polished pieces for publication and advancement
5. Exploration of personal, social, and professional responsibilities as artists across intersectional contexts

Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Demonstrate growth in craft
2. Provide, receive, and synthesize constructive feedback from self, peers, and instructor
3. Revise drafts into polished pieces
4. Demonstrate understanding of publishing modes and opportunities
5. Generate and synthesize values in a personal artist's statement

ENGL 2370. Introduction to the Novel
Course Description
This course is an introduction to the study of long fiction, such as novels and novellas, focusing on the use of critical approaches to analyze the ways that narrative is created. Students will read and analyze a diverse range of texts that may include varying time periods, nationalities, regions, genders, and ethnicity.
Student Learning Outcomes
1. Read a selection of fictional works.
2. Identify literary devices of long fiction, such as plot, character, setting, point of view, and theme.
3. Use critical approaches and engage in discussions to analyze fiction.
4. Define the strengths and limitations of long fiction forms.

ENGL 2380. Introduction to Short Fiction
Course Description
This course is an introduction to the study of short fiction, focusing on the use of critical approaches to analyze the ways that narrative is created. Students will read and analyze a diverse range of texts that may include varying time periods, nationalities, regions, genders, and ethnicity.
Student Learning Outcomes

1. Read a selection of fictional works.
2. Identify literary devices of short fiction, such as plot, character, setting, point of view, and theme.
3. Use critical approaches and engage in discussions to analyze fiction.
4. Define the strengths and limitations of short fiction forms.

ENGL 2381. Script Development and Storyboarding

Course Description

Examines effective writing principles for creating storyboards that communicate the overall picture of a project, timing, scene complexity, emotion and resource requirements.

Student Learning Outcomes

Upon successful completion of this course, you will be able to do the following:

1. Develop a story idea into a complete storyboard
2. Describe and visualize the creative aspects of a media project from conception to completion
3. Write a scene in the professional script format
4. Deliver a professional verbal and visual presentation of a story idea to an audience
5. The ability to conceive, illustrate and plan a visual project
6. Proficiency in oral, written, and visual communication via storyboarding, script writing and verbal presentations

ENGL 2382. Narrative: Principles of Story Across the Media

Course Description

Examines the various strategies of written and visual storytelling, narrative structure and its principal components (plot, theme, character, imagery, symbolism, point of view) with an attempt to connect them to elements of contemporary forms of media expression, including screenwriting, playwriting, writing for documentaries and animation, etc.

Student Learning Outcomes

By the end of this course, students should be able to:

1. Identify & use the building blocks of storytelling: plot, theme, character, imagery,
2. Symbolism and point of view
3. Develop these building blocks into a cohesive narrative within a written document
4. Effectively communicate in different written formats
5. Create design documents for varied genres of media: narrative short, documentary,
6. Animation, commercial/industrial video, computer game
7. Describe how a written narrative can be translated into a visual medium.

Course competencies

1. Demonstrate the ability to identify and use the building blocks of storytelling: Plot, theme, character, imagery, symbolism and point of view
2. Demonstrate how these building blocks work together to create a cohesive narrative within a written document
3. Demonstrate competency in effective written communication
4. Apply the elements of storytelling in creating design documents for varied formats of media: narrative short, documentary, animation, commercial/industrial video, computer game
5. Demonstrate the understanding of how a written narrative can be translated into a visual medium.

ENGL 2390. Introduction to Linguistics

Course Description

An introductory linguistics course dealing with phonology, grammar, semantics, language acquisition, language change, and the relationship between language and thought.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

Apply the differences between prescriptive and descriptive grammar.

1. Recognize the basic elements of phonetics and phonemics and the concepts of phoneme and morpheme.
2. Develop a general understanding of the theories of language origin.
3. Identify how writing originated and developed, and understand the role of semantics in language.
4. Analyze sentences syntactically.
5. Define the basics of transformational-generative grammar and various sociolinguistic aspects of language.
6. Transcribe speech and writing both phonetically and phonemically.
7. Recognize the basics of child language acquisition and how language changes.
8. Define how the brain is specialized for language.
9. Compare human languages to animal systems of communication.

ENGL 2410. Autobiography

Course Description

This course approaches autobiography through both theory and practice. Students will analyze major autobiographies, read critical commentary on the autobiography genre, and finally, produce their own autobiographical work using the course readings as models.

Student Learning Outcomes

1. Read and analyze autobiographical works.
2. Identify literary models commonly used in the autobiography genre.
3. Incorporate/respond to literary models in student's own creative work.
4. Critique objectively student's own work and that of others.
5. Revise and polished drafts of autobiographical work.

ENGL 2420. Children's Literature

Course Description

Children's Literature is an introductory literature course that will provide an opportunity to explore the children's texts from analytical, pedagogical, and creative perspectives. We will explore literature for children through a lens of critical language arts pedagogy. We will discuss texts and think about ways that we can cultivate book joy for children and young adults, as well as how we can cultivate it for ourselves! Through a concentration on prose and poetry for young adult readers, we will consider various methods for interpreting literature for children with a focus on cultures, languages, and genres in children's literature. Diversity and representation will be the cornerstone of our literary considerations, and through a diverse book list we will consider the importance of positive representations of identity in children's literature as well the importance of providing children access to books. This course will have a SERVICE LEARNING component, meaning that we will work to develop a project that celebrates and supports literacy efforts in our community. Get ready to roll up your sleeves and get ready to read!

Student Learning Outcomes

1. Reflect on your understandings of yourself as a reader and develop your ability to engage in personal and critical response to literature.
2. Develop a broad knowledge of various genres of books for children.
3. Identify literary and artistic elements and analyze how they create effective books for children in order to evaluate the literary quality and appropriateness of specific books.
4. Select literature that reflects and embraces diversity.
5. Examine the role of literature in the lives of children.

ENGL 2430. Fairy Tales

Course Description

An exploration of fairy and folk tales from a variety of cultures. The course introduces methods of analysis while exploring historical and contemporary roles and interrelationships of the tales.

Student Learning Outcomes

1. To understand Fairy Tales (FT) as a specific cultural expression and genre.
2. To identify the salient features of FT.
3. To locate FT in their historical and cultural contex.t
4. To describe how FT evolved over time and traveled across media.
5. To explain historical transpositions and cultural contexts of recurrent motives.
6. To identify continuity of social questions addressed in FT.
7. To understand different textual and visual articulations of those questions.

ENGL 2450. Myth and Literature

Course Description

An introduction to the origin, development and uses of the classical mythologies of ancient Greece and Rome. Mythic themes are explored through both primary and secondary readings and include myths of creation, death and rebirth, fertility, the quest and the hero cycle. The course also addresses elemental archetypes embedded in myth and the importance of classical mythology in the study of literature.

Student Learning Outcomes

1. Recognize significant mythic patterns in literature of ancient Greece and Rome.
2. Recognize these patterns in literature of other countries in later periods.
3. Be familiar with the fundamental archetypes imbedded in classical mythology.
4. Recognize the same basic patterns in mythologies of other regions and times.

ENGL 2505. Introduction to Literacy Studies

Course Description

The popular understanding of literacy often limits it to reading and writing skills taught in formal educational institutions. Scholars of literacy studies, however, view this model of literacy as overly simplified and devoid of context. In English 252, students will expand the definition of literacy beyond the classroom by interrogating the context within which literacy activities occur, while examining the relationships among community, identity, ideology, and language. This course will explore a number of approaches scholars have taken to theorizing literacy. Prerequisite: ENGL 112

Student Learning Outcomes

Students will be able to:

1. Demonstrate understanding of various theories of literacy studies.
2. Read and discuss modes of literacy from various contexts, communities, and cultures.
3. Compose in multiple modes of literacy.
4. Research and apply theories of literacy to consider literacy needs of the future.

ENGL 2510. Analysis of Literature

Course Description

This course is an introduction to literary analysis and writing applied to literary techniques, conventions, and themes. Students will learn how to write focused literary analyses, demonstrating their understanding of biographical, critical, cultural, and historical contexts of various writers and genres. Students will also learn proper documentation, as well as other skills, such as quoting, paraphrasing, and integrating sources, both primary and secondary.

Student Learning Outcomes

1. Demonstrate an understanding of biographical, critical, cultural, and historical contexts.
2. Examine how the formal elements of a text create meaning.

3. Identify and apply various critical approaches to analyzing literature.
4. Summarize and evaluate scholarly articles in literary studies.
5. Integrate academic research to produce clear and detailed literary analysis about major texts from the course.

ENGL 2515. Types of Literature II

Course Description

This course examines selected literary works from one or more genres. The successful students' critical thinking skills are developed through close reading of the genres presented. and exploration into the cultural, social, political, and/or historical influences on the works. Writing assignments may include journaling, a research project, critical commentaries, and/or oral reports.

Student Learning Outcomes

By the end of the semester, students should be able to:

1. Demonstrate continued proficiency in EN 223 Student Learning Outcomes.
2. Analyze literary works for elements, such as theme, character, plot, setting, symbolism, tone, and imagery.
3. Recognize, interpret, analyze, discuss, criticize, and evaluate works of literature created during the period.
4. Identify, distinguish, and evaluate authors of the period.
5. Interpret, organize, and evaluate knowledge of the period and its relationship to the authors and their works.
6. Recognize and use the relevant vocabulary of literary criticism and analysis.

ENGL 2520. Film as Literature

Course Description

The purpose of this course is to teach students how to analyze film as a visual text. Students will learn to analyze films, film techniques, eras, and genres. Students will also identify significant trends and developments in film-making, examining the ways in which film reflects and creates cultural trends and values.

Student Learning Outcomes

1. Develop an understanding of the cultural, historical, and technical contexts for various films.
2. Identify, define, and analyze basic film techniques used in different genres and time periods.
3. Analyze how film uses literature by studying different sources of adaptation.
4. Demonstrate an understanding of film in its various aspects by writing film analysis, reviews, and/or other projects.

ENGL 2521. The Bible as Literature

Course Description

Develops informed readings of Hebrew and Christian scriptures. Emphasizes understanding Biblical literary forms, techniques, themes; historical, cultural contexts for interpretation; authorship, composition, audience for individual books; development of Biblical canon.

Student Learning Outcomes

1. Develop and articulate historically informed and textually supported arguments regarding the form and meaning of biblical texts.
2. Express arguments and explication in clear, organized.
3. Understand the Jewish and Christian scriptures as cultural artifacts, using some fundamental techniques of literary analysis and interpretation, especially: thematic interpretation, stylistic analysis, narrative analysis, poetics, and the rhetorical analysis of figurative language.
4. Use socio-historically informed interpretive methods focused on these fundamental contextual questions : 1) who probably wrote and edited these texts, 2) why and how they most likely did so, 3) how their earliest audiences probably responded to them, and 4) why and how they were later combined to form the canonical Jewish and Christian bibles read today.
5. Know in detail substantial selections of representative, influential, and historically informative biblical texts.

6. Distinguish literary critical and historical analysis of the Bible from those based on faith, tradition, authority, and theology.
7. Recognize, understand, and analyze the forms, genres, and techniques used by biblical authors.
8. Become familiar with and be able to use essential knowledge of the historical, cultural, and geographical contexts of Biblical writing.
9. Learn how evaluate texts as historical documents, as well as how doing so relates to and differs from literary critical analysis and interpretation.
10. Become familiar with common and influential scholarly, critical, and aesthetic ways of reading Biblical texts from a contemporary perspective.
11. Understand the cultural influence of the Bible and its relevance for other areas of scholarly and artistic work.

ENGL 2530. Introduction to Latino/a Literature

Course Description

This course examines a variety of literary genres to explore the historical development of Latino/a social and literary identities. This survey offers an overview of the history of Latino/a literature, introducing the major trends and placing them into an historical framework.

Student Learning Outcomes

1. Read and analyze material: To be successful writers and thinkers, students will consider a number of perspectives, read critically, summarize accurately, and analyze insightfully. These tasks require that students demonstrate an ability to view issues from multiple perspectives as well as analyze, evaluate, and interpret one's own history and position in contemporary society.
2. Engage in critical thinking: Given the range of texts and topics covering Latino/a identity, students should consider ethics pertaining to the dynamics of diversity and inclusion by race, gender, class, sexual orientation, ethnicity, religion and disability in the U.S. and/or global context.
3. Explore marginalized perspectives: Through class discussions and written assignments, students should demonstrate an understanding of how the treatment of groups by race, ethnicity, disability, religion, sexual orientation, and/or gender inequality is socially constructed and maintained.

ENGL 2540. Introduction to Chicanx Literature

Course Description

This course examines a variety of literary genres to explore the historical development of Chicanx social and literary identities. This survey offers an overview of the history of Chicanx literature, introducing the major trends and placing them into an historical framework.

Student Learning Outcomes

1. Read and analyze material: Students will consider a number of different genres, including fiction, poetry, plays, and essays, and be taught to read them critically; summarize them accurately; and analyze them insightfully.
2. Engage in critical thinking: Given the range of texts and topics covering Chicano/a identity, students should consider ethics pertaining to the dynamics of diversity and inclusion by race, gender, class, sexual orientation, ethnicity, religion and disability in the U.S. and/or global context.
3. Explore marginalized perspectives: Through class discussions and written assignments, students should demonstrate an understanding of how the treatment of groups by race, ethnicity, disability, religion, sexual orientation, and/or gender inequality is socially constructed and maintained.

ENGL 2550. Introduction to Southwest Literature

Course Description

New Mexico and the greater Southwest has long been a contested region. Through novels, poetry, and drama, the course focuses on the social, historical, and political issues that create complex portrayals of the beauty, borders, and violence that

give the Southwest such a unique history. By the end of the course, students will have a broader appreciation for the many voices that make up literature from the American Southwest.

Student Learning Outcomes

1. Analyze representative texts from the American Southwest literary canon.
2. Identify literary elements and common themes.
3. Examine the historical and cultural forces that have influenced the writings of Southwest authors.

ENGL 2560. Introduction to Native American Literature

Course Description

This course will introduce students to the literature produced by Native American authors as well as explore issues relevant to the study of Native American literature. The course will also introduce the basic elements of literary analysis.

Student Learning Outcomes

1. Read representative texts by Native American authors from various indigenous cultures and historical backgrounds.
2. Identify the historical and cultural forces that have shaped Native American literature.
3. Demonstrate an understanding of the diversity of oral traditions, written texts, and other media used in Native American literature.

ENGL 2566. Native Literature II: Literatures of Global Indigeneity

Course Description

Indigenous peoples are the descendants of the original habitants of a region prior to colonization. Indigenous peoples have survived and maintained tribal languages, cultures and community structures in the face of violent colonization. They are societies distinct from the settler societies that currently govern their territories. Because of historical and on-going struggles to coexist with settler societies, indigenous peoples continue to work for sovereignty and self-determination in their homelands. As part of the effort to persist, indigenous people “transform” colonial languages through multiple and new genres of literature. In this course, we will read multiple texts and watch films that “take back [the] power over [indigenous peoples] that is constantly imposed on us from the outside” (bird, “writing as witness).

Student Learning Outcomes

Not Available

ENGL 2567. Contemporary Navajo Literature

Course Description

While the Navajo people have always had a deep appreciation for the power and beauty of language, as reflected in the songs, prayers and stories that have sustained them through untold generations, it is not until recently that a number of Navajos have begun to write and publish widely in a number of different genres. Some of those writers are now attracting critical attention and winning prestigious literary prizes. This course will introduce students to some of those Navajo writers and their works. Some of the major themes, issues, and concerns that these writers share as a focus of their work will be discussed, as well as the new and still-evolving role of the writer in contemporary Navajo culture.

Student Learning Outcomes

The online Navajo writers course is a freshman level college course and provides students with the opportunity to hone their reading and writing skills as a part of the process of familiarizing themselves with and understanding the role of literature in contemporary Navajo communities.

Every student will:

1. Gain knowledge about the still-evolving role of writers and a written literature in contemporary Navajo culture.
2. Become familiar with some of the contemporary Navajo writers and their works.
3. Identify and discuss some of the major themes and issues in the writings of those writers.
4. Become familiar with some basic literary terms in order to facilitate discussion.
5. Engage in a discussion about these writers and works.

6. Contribute to online discussions and other writing assignments including journals and blogs.
7. Prepare and submit at least one formal response which uses the writing process, especially revisions.

ENGL 2570. Modern Latin American Literature

Course Description

Students survey this important world literature, which began to emerge in the early 19th century as new world nations strove to achieve independence from Spain and, later, Portugal. The nature of the historical evolution of these nations had an immediate and powerful effect on the developing literature and other cultural forms, and the history of the region has continued to shape the cultural production of all Latin American countries. We will study and discuss, in the light of the region's particular history, the major literary forms: poetry, drama, essays, short stories, and novels. We will place special emphasis on the importance of the literature as the embodiment of a tradition of emergent, multicultural voices speaking through history.

Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Distinguish among the diverse forms and voices in modern Latin American literature.
2. Analyze about vital relationships between literature and culture.
3. Synthesize the historical growth and development of a major multicultural literature.
4. Describe the value of reading a major world literature in translation.

ENGL 2580. Science Fiction

Course Description

Close reading and analysis of major science fiction works. Explores science fiction as cultural metaphor and modern myth.

Student Learning Outcomes

Students will be able:

1. To understand the way science fiction texts reflect larger culture issues, fears, and desires.
2. To apply the techniques of literary analysis and cultural analysis to a wide variety of science fiction texts.
3. To discuss the development and evolution of science fiction.
4. To practice critically speaking and writing about science fiction.
5. To explore the full range and complexity of science fiction.

ENGL 2585. Horror Literature

Course Description

A study of the folk origins of the horror story and its manifestations in mainstream and genre fiction and film.

Student Learning Outcomes

Students will be able:

1. To understand the way horror literature texts reflect larger culture issues, fears, and desires.
2. To apply the techniques of literary analysis and cultural analysis to a wide variety of horror literature texts.
3. To discuss the development and evolution of horror literature.
4. To practice critically speaking and writing about horror literature.
5. To explore the full range and complexity of horror literature.

ENGL 2610. American Literature I

Course Description

This course surveys American literature from the colonial period to the mid-nineteenth century. This course provides students with the contexts and documents necessary to understand the origins of American Literature and the aesthetic, cultural, and ideological debates central to early American culture.

Student Learning Outcomes

1. Recognize the traditions of American literature and their connection to issues of culture, race, class, and gender.
2. Demonstrate familiarity with a variety of major works by American authors.
3. Explore the various influences and sources of American literature.
4. Apply effective analytic and interpretive strategies to American literary works using academic conventions of citation and style.

ENGL 2620 American Literature II

Course Description

This course surveys American literature from the mid-nineteenth century to the contemporary period. This course provides students with the contexts and documents necessary to understand American Literature and the aesthetic, cultural, and ideological debates central to American culture.

Student Learning Outcomes

1. Recognize the traditions of American literature and their connection to issues of culture, race, class, and gender.
2. Demonstrate familiarity with a variety of major works by American authors.
3. Explore the various influences and sources of American literature.
4. Apply effective analytic and interpretive strategies to American literary works using academic conventions of citation and style.

ENGL 2630. British Literature I

Course Description

This course offers a study of British literature from its origins in Old English to the 18th century. This survey covers specific literary works—essays, short stories, novels, poems, and plays—as well as the social, cultural, and intellectual currents that influenced the literature.

Student Learning Outcomes

1. Read and discuss representative works of British writers from its origins in Old English to the 18th century to understand cultural and historical movements which influenced those writers and their works.
2. Identify the characteristics of various British literary genres, such as the essay, novel, short story, poetry, and dramatic literature.
3. Apply effective analytic and interpretive strategies to British literary works using academic conventions of citation and style.

ENGL 2640. British Literature II

Course Description

This course offers a study of British literature from the 18th century to the present. This survey covers specific literary works—short stories, novels, poems, and plays—as well as the social, cultural, and intellectual currents that influenced the literature.

Student Learning Outcomes

1. Read and discuss representative works of British writers from the 18th century to the present to understand cultural and historical movements, which influenced those writers, and their works.
2. Identify the characteristics of various British literary genres, such as the essay, novel, short story, poetry, and dramatic literature.
3. Apply effective analytic and interpretive strategies to British literary works using academic conventions of citation and style.

ENGL 2650. World Literature I

Course Description

In this course, students will read representative world masterpieces from ancient, medieval, and Renaissance literature. Students will broaden their understanding of literature and their knowledge of other cultures through exploration of how literature represents individuals, ideas and customs of world cultures. The course focuses strongly on examining the ways literature and culture intersect and define each other.

Student Learning Outcomes

1. Identify and comprehend key authors and literary works from ancient periods to the Enlightenment.
2. Understand each text's historical and cultural context.
3. Identify and analyze a variety of literary forms, including poetry, plays, and philosophical and religious texts.
4. Compare works from different cultures and historical periods examining genre, style, and content or theme.
5. Analyze how literary works reflect historical, national, cultural, and ethnic differences.

ENGL 2660. World Literature II

Course Description

In this course, students will read representative world masterpieces from the 1600s to the present. Students will broaden their understanding of literature and their knowledge of other cultures through exploration of how literature represents individuals, ideas and customs of world cultures. The course focuses strongly on examining the ways literature and culture intersect and define each other.

Student Learning Outcomes

1. Identify and comprehend key authors and literary works from the 1600s to the present.
2. Understand each text's historical and cultural context.
3. Identify and analyze a variety of literary forms, including poetry, plays, and philosophical and religious texts.
4. Compare works from different cultures and historical periods examining genre, style, and content or theme.
5. Analyze how literary works reflect historical, national, cultural, and ethnic differences

ENGL 2670. African American Literature

Course Description

Not Available

Student Learning Outcomes

Not Available

ENGL 2675. Transatlantic Literatures

Course Description

This course tracks the production, circulation, and reception of literary works in transatlantic contexts over at least 150 years. Students examine a variety of documents to map transformations in form, genre, and medium across historical and geographic contexts. Students consider how colonization, exile, displacement, and migration have track the production, circulation, and reception of literary works in transatlantic contexts over at least 150 years reinforced or contested national literary traditions.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to

1. Track the production, circulation, and reception of literary works in transatlantic contexts over at least 150 years.
2. Identify and analyze a variety of documents to map transformations in form, genre, and medium across historical and geographic contexts.
3. Explain how colonization, exile, displacement, and migration have reinforced or contested national literary traditions.

ENGL 2680. Women's Literature

Course Description

Surveys women writers from the English-speaking tradition. Includes various genres that represent the diversity of women's experiences.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to

1. Read and think critically about each text, analyzing literary elements and interpreting meaning: Read representative texts by women from the literary canon, identifying literary elements and common themes. Make connections, draw conclusions, and interact with ideas presented in reading selections. Examine some of the historical and cultural forces that have influenced the writings of women. Gain an appreciation for the many voices that make up literature from the American Southwest.
2. Generate reflective and academic writing about literature using primary and secondary sources: Generate academic papers focusing on literary texts and using MLA documentation. Generate essays and answers to exam questions with significant analysis and treatment of topic. Generate essays and answers to exam questions that draw connections amongst texts written by women, identifying cultural and historical forces that influenced those texts. Generate research, writings, and answers to exam questions that demonstrate understanding of diversity of literature written by women. Understand and apply standard conventions of writing (spelling, grammar, punctuation, usage, diction, syntax).
3. Interact collaboratively as a means of sharing ideas and extending experience: Contribute and respond with respect and honesty in group discussions. Demonstrate understanding of how cultural, social, and historical forces having influenced women's writing, making connections amongst texts, and showing appreciation of diversity of texts through class discussions.

ENGL 2685. Twentieth-Century Literature

Course Description

A study of modern sensibility as manifested in contemporary works written in English and English translation.

Student Learning Outcomes

Students will be able to:

1. Display a working knowledge of the cultural and historical contexts of 20th-century literature
2. Identify and describe distinct literary characteristics of 20th-century literature
3. Analyze literary works for their structure and meaning, using correct terminology
4. Write analytically about 20th-century literature using MLA guidelines
5. Effectively communicate ideas related to the literary works during class and group activities

ENGL 2690. Introduction to Shakespeare

Course Description

Not Available

Student Learning Outcomes

Not Available

ENGL 2710. Classical Mythology

Course Description

Not Available

Student Learning Outcomes

Not Available

ENGL 2720. Mythology

Course Description

This course is an introduction to the nature and function of mythology. In this class we will study and compare mythologies of different cultures, keeping an eye on the ways in which myths expresses the inexpressible.
If one aspect of myth is that it tends to speak in the indigenous layer of the psyche (what Freud called "primary thinking"), then the fascination with myth can be understood, at least partly, as a fascination with the archaic (or archetypal) aspect of life. From that perspective, the study of myth is partly the study of inner life, the life of the imagination, which is why myth has been central to so many other disciplines.
Although we will study myths analytically, the primary aim of the course is to learn to see and think mythically--that is, to learn how to enter the mythic world.

Student Learning Outcomes

1. Explore ways both individuals and cultures use myth, ritual, and ceremony;
2. Learn to read and interpret symbolic material;
3. Master the basic theoretical issues involved in mythological studies;
4. Recognize basic patterns and mythological motifs in both myths and in the presentation of everyday culture.

ENGL 2730. Celtic Mythology

Course Description

Not Available

Student Learning Outcomes

Not Available

ENGL 2740. Norse Mythology

Course Description

Not Available

Student Learning Outcomes

Not Available

ENGL 2780. Writing Portfolio

Course Description

An individual or small group tutorial in creative writing which will focus on the revision and completion of a manuscript length project in poetry, fiction, or literary nonfiction. Students will be required to complete a minimum five literary essays/short stories or fifty pages of a memoir, novel, or poetry collection. Students will revise work to a finished, polished draft. There will also be an introduction to the business of writing, including market research and the mechanics of submission.

Student Learning Outcomes

1. Develop and complete at least 40 pages of a novel, short story collection, or poetry manuscript.
2. Understand and utilize the elements of the craft.
3. Critique objectively the student's own work and that of others.

ENGL 2790. Programmatic Capstone

Course Description

Varies

Student Learning Outcomes

Varies

ENGL 2980. Topics and Problems in Literature in English

Course Description

Investigation into topics and problems informing literature in English from Beowulf to the present. Assigned texts will illuminate the moral, social, and political dilemmas that modern individuals inevitably confront. Course topics might include but are not limited to: love and betrayal; the causes and costs of prejudice (racial, religious, gender); conformity and rebellion; the family and its discontents; civilization and barbarity.

Student Learning Outcomes

Varies

ENGL 2983. Topics and Problems in World Literature

Course Description

Investigation into topics and problems informing world literature. Assigned texts will illuminate the moral, social, and political dilemmas that modern individuals inevitably confront. Course topics might include but are not limited to: love and betrayal; the causes and costs of prejudice (racial, religious, gender); conformity and rebellion; the family and its discontents; civilization and barbarity.

Student Learning Outcomes

1.Read, comprehend, and analyze works of world literature across a wide variety of genres: poetry, short stories, memoir/creative non-fiction, dramatic works, and novel.

1. Write clear and well-supported interpretations of literary works in discussions, essays, and projects.
2. Compare and contrast works across genres and time periods.
3. Examine significant themes in each period and across time periods.
4. Explain how specific themes in world literature apply to our daily lives.

ENLG 2985. Topics and Problems in Literature of the Americas

Course Description

Investigation into topics and problems informing literature of the Americas from pre-European contact to the present. Assigned texts will illuminate the moral, social, and political dilemmas that modern individuals inevitably confront. Course topics might include but are not limited to love and betrayal; the causes and costs of prejudice (racial, religious, gender); conformity and rebellion; the family and its discontents; civilization and barbarity.

Student Learning Outcomes

In this course, students will:

1. Read, comprehend, and analyze works of American literature across a wide variety of genres: primary historical documents, poetry, pamphlets, essays, short stories, and novel.
2. Write clear and well-supported interpretations of literary works in discussions, essays, and projects.
3. Compare and contrast works across genres and time periods.
4. Examine significant themes in each period and across time periods.
5. Explain how specific themes in early American literature apply to present literature, art, and culture across the Americas.

ENGL 2990. Practicum

Course Description

Practicum hours may be designated for a variety of activities that offer students the opportunity to use their English language skills in such areas as tutoring, editing, public relations, and feature writing.

For every 1 hour of practicum credit, students must complete 4 work hours per week. Students meet on a regular basis with the practicum director/faculty advisor (preferably once a week) to verify progress, address problems and map further avenues of activity.

Student Learning Outcomes

Varies

ENGL 2993. Writing Workshop
Course Description
Varies.
Student Learning Outcomes
Varies

ENGL 2994. Experiential Learning Portfolio
Course Description
The primary objective of the course is to identify, articulate, and document Experiential learning experiences in the form of a portfolio that can be evaluated for possible college credit towards a degree. Students may be granted credit for Work experience, and coursework or training completed outside the traditional College setting, so long as such work or experience covers similar material and concepts.
Student Learning Outcomes

1. Philosophy of experiential learning students will create a portfolio and score 70% or better on the following concepts:
    a. Define experiential learning and contrast how it differs from traditional classroom-based instruction.
    b. Explain why experience does not always constitute learning.
2. Identifying experiential learning activities students will score 70% or better on a portfolio which includes the following:
    a. List non-collegiate activities that may result in experiential learning.
    b. Recognize other activities or accomplishments that may be evidence of experiential learning.
    c. Discuss criteria for assessing validity of experiential learning.
    d. Identify and document the student's own experiential learning experiences.
3. Learning outcome statements students will score 70% or better on a portfolio which includes the following :
    a. Demonstrate the ability to construct a concise narrative.
    b. Documenting life experiences, incorporating correct grammar and Syntax.
4. Express life experiences and identify specific learning that has
    a. Resulted from those experiences.
5. Portfolio construction students will score 70% or better on a portfolio which includes the following:
    a. Demonstrate the use of proper formatting in constructing a portfolio.
    b. Organize and present life experiences in a manner that effectively portrays one's skills and background.
    c. Document life experiences in an orderly and systematic manner.

ENGL 2996. Topics in English
Course Description
Varies
Student Learning Outcomes
Varies

ENGL 2997. English Independent Study
Course Description
Varies
Student Learning Outcomes
Varies

ENGL 2998. English Internship
Course Description

Varies

Student Learning Outcomes

Varies

ENGL 2999. English Capstone

Course Description

This capstone course will utilize the college's rubrics to assess the general education competency (writing, oral communication, information technology, critical thinking, scientific and mathematical reasoning) attainment using student artifacts. A portfolio reflecting best practices will be submitted to a faculty committee for review and evaluation. This course must be completed during the student's last semester prior to graduation.

Student Learning Outcomes

1. Identify artifacts that demonstrate attainment of the six general education competencies:
    a. Writing
    b. Oral communication
    c. Information technology
    d. Critical thinking
    e. Scientific reasoning
    f. Mathematical reasoning
2. Briefly describe each artifact in a reflective essay.
3. Describe in a reflective essay how each artifact successfully meets each criteria identified in the rubrics.
4. Summarize in a reflective essay how the general education competency will impact you in the future and why it is important to your future success.

Entrepreneurship (ENTR)

ENTR 1110. Entrepreneurship

Course Description

Introduces students to the concept of entrepreneurship and to the process of business startups.

Student Learning Outcomes

Students should be able to:

1. Identify the unique characteristics of an entrepreneur.
2. Identify opportunities and conduct needs analysis.
3. Develop value proposition/market fit for proposed products and services.
4. Develop an appropriate business model.
5. Identify availability of necessary resources.

ENTR 1120. Creativity, Innovation and Entrepreneurship

Course Description

Learn how to develop your creative ideas into opportunities working with faculty and guest speakers who will share their hands-on experience and insight into creating and commercializing innovative products and services.

Student Learning Outcomes

Students should be able to:

1. Identify the unique characteristics of an entrepreneur.
2. Identify opportunities and conduct needs analysis.
3. Develop value proposition/market fit for proposed products and services.
4. Develop an appropriate business model.
5. Identify availability of necessary resources.

ENTR 2110. Small Business Management

Course Description

This course is designed to acquaint the student with the opportunities encountered in the management and operations of a small business enterprise.

Student Learning Outcomes

Students should be able to:

1. Contrast the legal forms of business ownership.
2. Prepare a feasible business plan.
3. Describe the impact of internal and external environmental factors on management decision-making.
4. Explain typical government regulations, registrations, and reporting and compliance requirements impacting business.
5. Project financial resources and statements to identify problems and timing of cash infusion.
6. Develop a customer relationship management system.

ENTR 2120. Business Models

Course Description

Business Models are created, edited, destroyed, resurrected, abandoned and made important again every day in boardrooms and basements all over the world. Business models are living things that evolve over time and should never be stuck in a desk drawer.

Student Learning Outcomes

Not Available

ENTR 2130. Finance and Funding for Start-Ups

Course Description

A continuing course in the entrepreneurship series addressing the financial concepts and tools needed by an entrepreneur to make sound business decisions throughout the start-up process. Topics include financial statements, financial ratio analysis, financial proforma, funding sources, exit strategy and financial plans.

Student Learning Outcomes

Students should be able to:

1. Read and interpret financial statements.
2. Determine the health of a business through performance analysis.
3. Create a cash flow proforma.
4. Identify the funding mix (debt, equity, grants, revenue and/or crowdfunding) for a business.
5. Explain how to exit a business.
6. Create a financial plan.

ENTR 2140. Pitching your Start-Up

Course Description

A capstone course in the entrepreneurship certificate. Students will have the opportunity to pitch their start-up idea and receive feedback from potential investors and select community members.

Student Learning Outcomes

1. Analyze a sample pitch deck.
2. Create a pitch deck.
3. Generate the pitch.
4. Practice the pitch.
5. Deliver a pitch to potential investors and/or select community members.
6. Accept feedback.

ENTR 2150. E-Commerce Crowdfunding and Marketing

Course Description
A continuing course in the entrepreneurship series examining e-commerce, crowdfunding and social media as sustainable marketing strategies for a new entrepreneurial venture. Topics include target markets, current and pending regulations, equity, reward and debt-based options and culminate in the creation of a viable marketing plan.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Identify a target market and assess its potential
2. Compare and contrast marketing strategies
3. Define and apply various e-commerce options
4. Describe how to price a crowdfunding campaign
5. Create a marketing plan

ENTR 2996. Topics in Entrepreneurship
Course Description
This course is related to a special topic in the field of business. The topic will be identified in the course schedule.
Student Learning Outcomes
Varies

Entomology, Plant Pathology and Weed Science (EPWS)

EPWS 1110. Applied Biology
Course Description
Introduction to applied biology and ecology focusing on insects, plants and pathogens in natural areas, crops and urban settings.
Student Learning Outcomes
1. Students will learn about the Department of Entomology Plant Pathology and Weed Science and will have the opportunity to meet the in the department.
2. By the end of this course students will have gained a broad understanding of the pests in a wide range of systems, their interactions with other organisms, and the methods available to minimize the influence of pests on target commodities.

EPWS 1110L. Applied Biology Lab
Course Description
Study of applied biology and ecology of insects, plants and pathogens in natural areas, crops, and urban settings. EPWS 1110 strongly recommended to take in the same semester
Student Learning Outcomes
1. Students will learn about the Department of Entomology Plant Pathology and Weed Science and will have the opportunity to meet the Las Cruces-based faculty in the department.
2. By the end of this course students will have gained a broad understanding of the pests in a wide range of systems, their interactions with other organisms, and the methods available to minimize the influence of pests on target commodities.

EPWS 2996. Topics in Entomology, Plant Pathology and Weed Science
Course Description
Specific subjects and credits to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

Environmental Engineering (ENVE)

ENVE 1110. Environmental Engineering Seminar

Course Description:

Seminars by faculty, guest speakers from industry, consulting, and government provide a brief overview of environmental engineering topics, including air pollution, water quality, and solid and hazardous waste.

Student Learning Outcomes

Students upon completion of this course will have:

1. Knowledge of the campus library resources as a research tool.
2. Performed a literature review and written a research paper on a field related topic.
3. Learned about licensure and professional and ethical responsibility.
4. Learned about engineering elements needed to bring a specific project to completion.
5. Recognized the general need for understanding basic sciences to solve problems.
6. An appreciation for the challenges faced by engineers in today's world.
7. Interacted with working engineers during guest lecture questions and answer sessions.

ENVE 2201. Introduction to Environmental Science and Engineering

The fundamentals of physics, chemistry, biology, and geology applied to problem solving in science and engineering. A study of environmental phenomena and strategies to control pollution of water, air, and land. Definition of basics for water quality engineering, water treatment, wastewater treatment, solid and hazardous waste management, radioactive waste management, and air pollution. Environmental impact statements and environmental ethics.

Student Learning Outcomes

Upon completion of this course, students will:

1. Have mastery of the fundamental physical, chemical and biological principles of environmental engineering.
2. Understand the scientific knowledge underpinning the major contemporary problems in the field.
3. Have a working knowledge of the full range of sub-disciplines in environmental engineering including water and wastewater, air quality and climate change, solid and hazardous waste, and others.
4. Will have developed problem-solving abilities as related to technical environmental issues.
5. Be capable of engineering design calculations related to pollution control devices.
6. Will have enhanced both numeracy and literacy as it relates to the science and engineering of the environment.

ENVE 2201. Introduction to Environmental Science and Engineering

The fundamentals of physics, chemistry, biology, and geology applied to problem solving in science and engineering. A study of environmental phenomena and strategies to control pollution of water, air, and land. Definition of basics for water quality engineering, water treatment, wastewater treatment, solid and hazardous waste management, radioactive waste management, and air pollution. Environmental impact statements and environmental ethics.

Student Learning Outcomes

Upon completion of this course, students will:

1. Have mastery of the fundamental physical, chemical and biological principles of environmental engineering.
2. Understand the scientific knowledge underpinning the major contemporary problems in the field.
3. Have a working knowledge of the full range of sub-disciplines in environmental engineering including water and wastewater, air quality and climate change, solid and hazardous waste, and others.
4. Will have developed problem-solving abilities as related to technical environmental issues.

5. Be capable of engineering design calculations related to pollution control devices.
6. Will have enhanced both numeracy and literacy as it relates to the science and engineering of the environment.

Environmental Science (ENVS)

ENVS 1110. Environmental Science I

Course Description

Introduction to environmental science as related to the protection, remediation, and sustainability of land, air, water, and food resources. Emphasis on the use of the scientific method and critical thinking skills in understanding environmental issues.

Student Learning Outcomes

1. Students will learn to critically analyze cause-and-effect relationships in the environment.
2. Students will integrate and synthesize knowledge and draw appropriate conclusions based on the scientific method.

ENVS 1110L. Environmental Science I Laboratory

Course Description

Covers general principles and theory relating to environmental science and management. Focal areas for the course include water management, climate, pollution and waste management. Students taking this course will come away with a basic understanding of the main issues faced by technicians and managers of environmental science departments.

Student Learning Outcomes

1. Students will exercise and develop communication skills in public speaking, technical writing, and research documentation.
2. Students will be relating current environmental issues to their personal, economic, and cultural circumstances.
3. Students will garner assessment and problem-solving skills in areas relevant to health, quality of life, economic development, and cultural preservation.

ENVS 1120. Environmental Science II

Course Description

Provides a continuation of general principles and theory relating to environmental science and management. Focal areas for the course include mining, energy production, mitigation of environmental problems, and topical matters relating to tribal communities. Students taking this course will build upon prior learning to develop an intermediate understanding of the main issues faced by technicians and managers of environmental science departments.

Student Learning Outcomes

1. Students exercise and develop communication skills in public speaking, technical writing, and research documentation.
2. Students expand their abilities to relate current environmental issues to general economic, social, and legal circumstances.
3. Students identify the political and legal contexts of environmental policies, and to be able to articulate the relative importance of each.
4. Students understand linkages between environmental issues at Tribal, State, National, and International contexts.

ENVS 1120L. Environmental Science II Laboratory

Course Description

Complementary laboratory section to ENVS 1120. Continues coverage of general principles and theory relating to environmental science with a focus on environmental testing. Focal areas for the course include weather and climate, food production, ethics, and risk assessment. Students taking this course will come away with a basic understanding of the skills required of technicians and environmental science practitioners.

Student Learning Outcomes

1. Students gain experience and understanding of Environmental Science as a discipline, including scientific reasoning, key concepts, terminology, and social context.
2. Students acquire vocabulary and technical understanding of climate, weather, biogeography and ecological principles.
3. Students appropriately interpret risk assessment results, discussing the implications and limitations of methods for governing contemporary environmental challenges.
4. Students independently design and execute a laboratory experiment utilizing discipline standard procedures.

ENVS 1130. The Blue Planet

Course Description

To understand global change and environmental concerns, this course weaves together an understanding of Earth's systems, including the lithosphere, atmosphere hydrosphere, and biosphere. We will look at scientific approaches to understanding human interactions and impacts on Earth systems. Students are encouraged, but not required, to enroll concurrently in ENVS 1130L.

Student Learning Outcomes

1. Define what science is and describe the process of scientific inquiry using examples from Environmental Science.
    a. You will be able to explain and construct hypotheses and hypothesis tests for Environmental science problems, and you will know the difference between a hypothesis and a theory.
    b. You be able to evaluate observations about the physical world.
    c. You will be able to describe the importance of scientific inquiry, and you will be able to describe the importance of peer review and doubt in science.
    d. You will be able to describe questions that science can answer and those that science cannot answer.
2. You will gain a basis for scientific evaluation of environmental issues that are encounter. Students will be able to read and report on popular scientific papers (e.g., National Geographic, Nature, the IPCC report for policymakers) and identify the hypotheses that scientists are testing, observations they use to test these hypotheses, and results of their work. Through this, students will be able to evaluate newspaper and other reports of environmental science issues.
3. You will be able to explain basic diagrams, graphs, equations, and writing used in Environmental sciences.
    a. You will be able to evaluate rate problems in environmental science (e.g., rate of flow in channels or aquifers, rate of energy exchange in the atmosphere, rate of tectonic plate motion).
    b. You will be able to draw and/or interpret diagrams related to Environmental science concepts (e.g., population structure diagrams, contour maps of aquifers, systems diagrams of the carbon cycle, water cycle, rock cycle).
    c. You will be able to represent Earth systems on maps (e.g., atmospheric circulation patterns; earthquake and volcano locations from plate tectonics).
    d. You will be able to construct, read, and interpret common graphs used in Environmental sciences (e.g., hydrographs, rainfall vs. time, temperature/CO¬¬2 change through time).
4. You will be able to briefly describe scientific issues related to resource availability and global climate and environmental change.
    a. You will be able to discuss hypotheses related to global warming and describe scientific evidence for global warming.
    b. You will be able to explain mechanisms of climate change (e.g., greenhouse effect).
    c. You will be able to define basic concepts in water resources (e.g., stream discharge, aquifer recharge/discharge, water table).
    d. You will be able to explain how energy moves around the Earth systems and the link between energy resource use and environmental impact in a scientific manner.

e. You will be able to describe connections and feedback loops in Earth systems (e.g., biosphere, atmosphere, geosphere and hydrosphere) and how these may be evaluated and studied through the lens of science.

ENVS 1130L. The Blue Planet Laboratory

Course Description

Laboratory course for The Blue Planet. In our Blue Planet labs, students will often work together to collect data and students are encouraged to discuss their observations and ideas, but students are expected to write their own answers in their own words on their worksheets.

Student Learning Outcomes

1. Students will be able to construct a hypothesis, propose a test, and then complete the test using quantitative and spatial data [e.g. weathering and erosion processes in the Albuquerque area from the Sandia Mountains to the Rio Grande or similar but site-specific at other locations statewide].
2. Students will be able to make hydrologic measurements in the field (e.g., pH and dissolved oxygen) and make calculations using those measurements that lead to graphical display and interpretation of data.
3. Students will be able to make and use observational data determined from the relationships between Earth systems (e.g., biosphere, geosphere, hydrosphere, atmosphere) to infer geologic/Earth system processes.
4. Students will be able to analyze graphical data and use graphs from global environmental data to assess interactions between different Earth systems (e.g., rainfall, vegetation, cloud cover).
5. Students will be able to effectively communicate (written and/or oral) an interpretation of quantitative and graphical data to evaluate a societally relevant environmental science problem (e.g., the relationship between hydraulic fracking and earthquakes, evaluating various energy resources, evaluating liquefaction risks and ground water contaminant risks).
6. Students will learn the basics of functioning successfully in a field setting, including use of some basic equipment and techniques, and putting into practice the basic steps of collecting field data.
7. Students will be able to interpret scales, elevations and use of contours in both topographic contour and groundwater contour maps.
8. Students will be able to use observational/collected data from experimentation and apply this information to Earth system processes (e.g. ocean circulation processes).

ENVS 1140C. Introduction to Produced Water Lecture and Laboratory

Course Description

This course introduces the science, management, and environmental challenges of produced water, a byproduct of oil and gas operations. Students will examine the composition of produced water, treatment technologies, regulatory requirements, and beneficial reuse strategies (e.g., agriculture, industrial, geothermal applications.) Case studies highlight regional issues, with a focus on New Mexico and other major oil-producing basins. Hands-on labs include water sampling, chemical analysis, and evaluation of treatment methods.

Student Learning Outcomes

1. Define produced water and describe its origins in oil and gas operations.
2. Analyze produced water composition (salinity, hydrocarbons, metals, radionuclides, organics).
3. Explain regulatory frameworks governing produced water handling and disposal.
4. Compare treatment technologies (filtration, membrane, evaporation, chemical, biological).
5. Evaluate reuse applications and environmental risks.
6. Apply sampling and testing methods for produced water quality.

ENVS 1210C. Field Methods in Environmental Science Lecture and Laboratory

An applied course in methodologies commonly employed by environmental managers for sampling, mitigation evaluation, and planning. Students will come away with a solid foundation in applied management techniques for air, water, solid waste, climate and mineralogical/geological resources management.

Student Learning Outcomes

1. Gain experience and understanding of different types of environmental testing, methodology, and equipment use.
2. Develop and exercise scientific sample handling and documentation skills.
3. Identify quality testing appropri8ate to a variety of different scientific, professional, and social scenarios.
4. Critique different types of environmental testing.
5. Improve their abilities to measure risk in environmentally oriented contexts.
6. Demonstrate the ability to follow QA/QC procedures, including chain of custody documentation.
7. Demonstrate the ability to operate environmental monitoring equipment (pumps, meters, samplers).

ENVS 1210 Field Methods in Environmental Science.

Catalog Description

An applied course in methodologies commonly employed by environmental managers for sampling, mitigation evaluation, and planning. Students will come away with a solid foundation in applied management techniques for air, water, solid waste, climate and mineralogical/geological resources management.

Student Learning Outcomes

1. Gain experience and understanding of different types of environmental testing, methodology, and equipment use.
2. Develop and exercise scientific sample handling and documentation skills.
3. Identify quality testing appropriate to a variety of different scientific, professional, and social scenarios.
4. Critique different types of environmental testing.
5. Improve their abilities to measure risk in environmentally oriented contexts.

ENVS 1310. Environmental Regulations

Course Description

An overview of current federal regulations in environmental science, including, but not limited to the Clean Air Act, the Clean Water Act, EPA guidelines, state and basic Tribal regulations. The curriculum provides an understanding of the regulations, how they are interpreted and enforced, and where they are applicable.

Student Learning Outcomes

1. Students gain experience and understanding of environmental regulations, including administrative and legislative traditions, key concepts, and terminology.
2. Students are able to differentiate general policy, administrative rule, and law. Students will understand the constitutional origins and limitations of each.
3. Students gain familiarity with key natural and cultural resource management law, including treaties, conventions, the National Environmental Policy Act.
4. Students garner analytic skills through reading of legal cases and legal scholarship and writing critical responses.
5. Students can articulate linkages between environmental issues at tribal, state, national, and international contexts.
6. Students can explain tribal and U.S. legal systems in the context of resource management.

ENVS 2110. Contemporary Issues in Environmental Science

Course Description

As a contemporary issues course, this class applies environmental science management and planning techniques to current 'hot topics' in the field. Participating students will engage in round table discussions, applied problem solving and media research to develop management and remediation strategies for real-world environmental problems.

Student Learning Outcomes

1. Students identify and appropriately summarize popular media and academic literature sources as they pertain to relevant environmental issues.
2. Students distinguish key stakeholders and management issues for current environmental issues.
3. Students demonstrate proficiency in conducting a problem-oriented case study analysis with the goal of constructing and defending a management solution.
4. Students develop written communication skills to examine and explain management issues associated with key contemporary environmental issues.
5. Students develop oral communication skills to support and defend a proposed management solution.

ENVS 2111. Environmental Engineering and Science
Course Description
Principles in environmental engineering and science: physical chemical systems and biological processes as applied to pollution control.
Student Learning Outcomes
1. To understand the nature of water quality parameters in the context of Civil Engineering and Environmental Science (Water Treatment/Wastewater Treatment/Environmental Science).
2. To learn to apply engineering and scientific solutions to water quality problems.
3. To understand environmental regulations and their consequences on the design of pollution control systems.

ENVS 2111L. Environmental Engineering and Science Laboratory
Course Description
Laboratory experiments associated with the material presented in ENVS 2111.
Student Learning Outcomes
1. List typical analyses commonly performed to evaluate physical, chemical, and microbiological parameters used to describe water quality.
2. Follow experimental procedures listed in the class laboratory manual, or other publications such as Standards Methods, to perform common water quality analyses.
3. Evaluate, analyze, and discuss experimental results and present the conclusions in the form of a professional report.

ENVS 2120. Tribal Environmental Management and Planning
Course Description
This course addresses specific issues related to tribal environmental management, including mechanisms for tribal decision-making about environmental issues, jurisdiction in relation to other government agencies like state environment department and the EPA, and past precedents for successful Tribal implementation of environmental management programs.
Student Learning Outcomes
1. Students gain experience and understanding of tiered and multi-jurisdictional governance.
2. Students exercise and develop communication skills in public speaking, technical writing, and legal documentation.
3. Students are able to link current environmental issues to the appropriate governmental or tribal management agencies.
4. Students can articulate the functionality and administration of promulgated laws and regulations at tribal and agency levels.
5. Students understand linkages between environmental issues at Tribal, State, National, and International contexts.

ENVS 2130. Critical Thinking in Science
Course Description

Critical Thinking in Science will improve and/or develop student's proficiencies in thinking and problem solving ultimately resulting in improved decision-making abilities. This course will examine the process through which thought and problem-solving take place and to expand upon the critical thinking skills that will lead to optimizing the student's ability to succeed in all fields of science. Many problems students will face as science professionals do not have obvious answers; therefore, the goal this course is to enable students to rely upon skills taught to address the problem aided by a proven method leading to greater creativity in problem solving, decision making and science leadership.

Student Learning Outcomes

1. Understanding the process of critical thinking and problem solving.
2. Learning tools that can aid in problem solving and decision making.
3. Learn to evaluate available information with the understanding of bias and perception.
4. Learn to recognize and challenge assumptions and presuppositions.
5. Learn to make a reasoned argument and to defend and/or see error in the argument (art of debate).
6. Be able to identify and manage the risks associated with making and implementing decisions.
7. Learn to analyze and assess the strength of an argument and the implications for a course of action.
8. Learn to identify and explain and/or rectify logical errors in an argument or scientific result.
9. Be able to generate critical scientific questions and develop a course of action to address the questions.
10. Building self confidence in critical thinking, problem solving, decision making and leadership in Science.

ENVS 2140. Introduction to GIS/GPS and Cartography

Course Description

You will evaluate the characteristics, uses, and limitations of computer applications in natural resource management including application programs in statistical analysis, computer modeling, geographic information systems (GIS), global positioning systems (GPS), and database management systems (DBMS).

Student Learning Outcomes

1. Have a basic understanding of the history of nature of cartography.
2. Understand and remember major principles of good cartographic design (symbolization, map elements, generalization, map projection, color use, visualization, etc.).
3. Understand and remember major techniques for data classification.
4. Understand and remember characteristics of the major types of thematic maps (qualitative, choropleth, proportional symbol, dot, cartogram, etc.).
5. The student will demonstrate basic proficiency in map creation and design principles, including thematic map display, employment of map projections and cartographic design.
6. Know about sources of data for cartography (census, data depositories, collecting one's own data, etc.) and become independent cartographers.
7. The student will describe the fundamental concepts of Geographic Information Science and Technology and demonstrate proficiency in the basic functions of geospatial software and hardware.
8. The student will demonstrate awareness of fundamental remote sensing and spatial analysis techniques.
9. The student will demonstrate proficiency in the creation and acquisition of spatial data including the use of the Global Position System.
10. The student will learn to evaluate diverse information in maps for analysis of data relevant to the biological and physical sciences especially in natural resource management.
11. The student will demonstrate how to access different sources of data, demonstrate the process of creating data, and discuss the fundamental concepts of data quality.
12. Be able to use computer illustration and GIS software to construct maps or other graphics both professionally (for a publication, presentation, or research project, etc.).

ENVS 2150. OSHA Health and Safety

Course Description
Overview of the accepted technologies to protect the health and safety of personnel handling hazardous waste. Meets OSHA 29 CFR 1910.120 requirements for Hazardous Waste Operations.
Student Learning Outcomes
1. Understand the purpose of OSHA and its role in regulating occupational safety.
2. Use Site Characterization to establish problems that may exist in your workplace and measures that can be implemented to eliminate hazards.
3. Identify hazardous materials existent in the workplace and the possible methods, symptoms and preventative measures of exposure.
4. Encourage the use of Material Safety Data sheets (MSDS) to identify and properly handle hazardous materials.
5. Familiarize yourself with materials, compounds and mixtures that may present flammable, explosive, chemical or radiological hazards.
6. Emphasize the importance of personal protective equipment in limiting hazardous exposure.
7. Establish an effective Site Control Program to limit the risk of exposure to only those working in the hazardous work zone.
8. Implement procedures for treating workers in the event of hazardous exposure.

ENVS 2160. Principles of Agriculture Ecology
Course Description
You will be introduced to ecology in the analysis of agriculture and sustainable alternatives, with an emphasis on the fundamentals of agriculture: soils, seeds, and water, and the geographical and cultural context of farming systems. You will study topics in traditional agriculture, farm development and design, and sustainable farm practices.
Student Learning Outcomes
1. To gain an understanding of principles of ecology and its application toward agricultural systems.
2. To understand different methods of food production and to be able to contrast systems from an ecological framework regarding the management of seeds, soils, and water resources.
3. To understand the application of Permaculture principles to sustainable and traditional agriculture.
4. To understand impacts of agriculture on natural systems and the use of agriculture in restoration.

ENVS 2170C. Environmental Microbiology Lecture and Laboratory
Course Description
This course introduces the role of microorganisms in natural and engineered environments. Emphasis is placed on microbial diversity, biogeochemical cycles, and the roles of microbes in water quality, soil health, waste treatment and contaminant degradation. Students will gain laboratory experience in sampling, culturing, and identifying microorganisms relevant to environmental systems.
Student Learning Outcomes
1. Describe microbial diversity and physiology relevant to environmental systems.
2. Explain the role of microbes in carbon, nitrogen, and sulfur cycles.
3. Identify pathogens of concern in water, soil, and air.
4. Perform standard microbiological sampling and culturing techniques.
5. Evaluate microbial processes in remediation, wastewater treatment, and soil regeneration.

ENVS 2190C. Contaminate Fate & Transport (Modeling) Lecture and Laboratory
Course Description
This course introduces the physical, chemical, and biological processes that control the fate and movement of contaminants in soil, water, and air. Students will learn to use conceptual and computational models to predict contaminant transport and

assess risks to human health and the environment. Emphasis is placed on hydrologic and geochemical modeling, as well as real-world case studies of contamination incidents.

Student Learning Outcomes

Upon completion of the course students will:

1. Explain the physical, chemical, and biological processes affecting contaminant fate (sorption, dispersion, degradation, volatilization).
2. Develop conceptual site models for contaminant transport.
3. Apply modeling tools (e.g., MODFLOW, MT3D, HYDRUS, EPA SCREENS3) for contaminant transport.
4. Evaluate uncertainty and limitations in contaminant fate models.
5. Interpret model outputs to inform remediation and risk assessment decisions.

ENVS 2210C. Environmental Site Assessment (ESA) Lecture & Laboratory

Course Description

This course introduces the principles and practices of conducting environmental site assessments (ESAs) in compliance with ASTM and EPA standards. Students will learn how to perform Phase I and Phase II ESAs, evaluate environmental risks, and document findings in technical reports. Practical emphasis is placed on historical research, site reconnaissance, sampling strategies, and communicating results to clients, regulators, and stakeholders.

Student Learning Outcomes

1. Describe the purpose and scope of Phase I and Phase II ESAs.
2. Collect and evaluate environmental records and historical data.
3. Conduct site reconnaissance to identify potential Recognized Environmental Conditions (RECs).
4. Design and implement sampling strategies for Phase II investigations.
5. Prepare ESA reports that comply with ASTM E 1527 and regulatory requirements.

ENVS 2996. Topics in Environmental Science

Course Description

Varies

Student Learning Outcomes

Varies

ENVS 2998. Environmental Science Internship

Course Description

Varies

Student Learning Outcomes

Varies

ENVS 2999. Environmental Science Capstone

Course Description

Varies

Student Learning Outcomes

Varies

Exercise Science (EXSC)

EXSC 1110. IM Youth Fitness

Course Description

This course exposes students to the principles and techniques of teaching fitness to children and young adults. The course explores developmental stages, motor skill assessment, games, and fitness activities for youngsters. Incorporating methods of effective teaching, enhancing student learning, and managing students effectively are emphasized.

Student Learning Outcomes

1. Describe the importance of health-related components of youth fitness.
2. Demonstrate various assessment tools and interpret results.
3. Design age-appropriate exercise prescriptions.
4. Describe safe and effective exercise techniques.
5. Describe the importance of lifelong fitness activities.

EXSC 1120. IM Pilates

Course Description

A course designed to prepare fitness and exercise professionals to teach Pilates mat classes at varying skill levels to generally healthy adults.

Student Learning Outcomes

1. Demonstrate verbal and physical teaching techniques related to Pilates mat movements.
2. Demonstrate verbal and physical teaching techniques related to modifications of each Pilates exercise.
3. Demonstrate knowledge of anatomy and kinesiology as related to Pilates mat movement.
4. Design and teach a variety of Pilates mat class choreography with emphasis on muscular balance and flow of movements.

EXSC 1130. IM Fitness Cycling

Course Description

Students learn the fundamentals of designing indoor fitness cycling classes. Emphasis is placed on equipment safety, riding techniques, music selection, exercise class formats.

Student Learning Outcomes

1. Demonstrate teaching fitness cycling students through a sound and safe exercise class.
2. Demonstrate teaching students' participants proper riding form and bike setup.
3. Select appropriate music for the format of the workout.
4. Conduct a segment of an indoor cycling format.

EXSC 1140. IM Senior Fitness

Course Description

Students learn the fundamentals of exercise leadership, prescription and design for senior fitness programs.

Student Learning Outcomes

1. Develop exercise programs for senior populations.
2. Demonstrate modifying exercise prescription based on individualized needs.
3. Demonstrate teaching seniors on proper form of various exercises.
4. Demonstrate teaching seniors through a sound and safe exercise program.

EXSC 1150. IM Personal Training

Course Description

This course gives students instructional methods of personal fitness training. Instructional techniques for fitness development and methods for leading an exercise session, including design, instruction and evaluation, are the foundation of the class.

Student Learning Outcomes

1. Describe current trends in the industry.

2. Develop programs for various populations.
3. Demonstrate the use of assessment results as the guideline for exercise prescription development.
4. Describe lifetime fitness and wellness concepts.

EXSC 1160. IM Group Exercise

Course Description

This course covers the theoretical bases underlying physical fitness and instruction techniques for fitness development in group classes. Emphasis is on hands-on learning of methods for leading a group exercise class, including visual and auditory cues, dance routines and patterns. Students learn to design and teach fitness classes in bench step, aerobics, kickboxing, resistance training and core strengthening. This class also covers adherence and motivation to exercise. Current trends in exercise class modes and formats are examined. Safety and injury prevention are emphasized.

Student Learning Outcomes

1. Demonstrate knowledge of the theoretical bases underlying physical fitness
2. Demonstrate ability to plan, organize and instruct group exercise classes with positive effect on the various components of fitness.
3. Organize and instruct fitness classes with an emphasis on efficacy, safety and injury prevention, as well as motivation and adherence.
4. Describe the physiological mechanisms underlying improvement in physical fitness.
5. Identify modes of activity for the development of physical fitness
6. Describe the exercise intensity, frequency, duration and progression required to elicit a positive training effect.
7. Design and teach fitness classes such as: step aerobics, kickboxing, resistance training and core strengthening.

EXSC 1170. IM Alternative Strength Training

Course Description

This course will cover the fundamentals, theories and application of alternative strength training methods such as: stability ball, medicine ball, resistance band and functional training. This course will also cover efficient use of these exercises and methods to target needs and goals of individualized exercise programs. Emphasis is placed on actual experience, exercise safety, progression and proper technique of alternative training modalities.

Student Learning Outcomes

1. Demonstrate an understanding of alternative strength training modalities and concepts.
2. Demonstrate the ability to plan safe alternative training methods into a strengthening program.

EXSC 1180. IM Training Techniques Review

Course Description

This course reviews essential personal training and group fitness techniques relevant to national personal training certification exams and practical application. Topics include postural alignment, biomechanics, proper spotting techniques, and exercise recommendations/modification.

Student Learning Outcomes

1. Demonstrate safe and proper exercise and spotting techniques.
2. Demonstrate an understanding of the muscle groups utilized relative to the exercises performed.
3. Demonstrate an understanding of basic principles of biomechanics and how they apply to exercise and postural alignment.
4. Recommend and/or modify a safe and effective exercise program for individual clients.

EXSC 1190. IM Outdoor Application

Course Description

This course examines methods and components of athletic training and outdoor leadership in an experiential based environment. Topics include risk-management, group facilitation, exposure, and conditional outdoor leadership theories.

Student Learning Outcomes

1. Develop exercise programs for outdoor applications.
2. Identify and describe various conditional outdoor leadership theories.
3. Demonstrate effective leadership in an experiential outdoor setting based on individual needs.
4. Demonstrate an ability to instruct an exercise group outdoors with an awareness of appropriate risk-management, overall safety, and environmental impact.

EXSC 1210. Fitness Instructor Training I

Course Description

Designed for students who want to pursue the American Council on Exercise (ACE) personal fitness trainer certification and/or the SFCC Fitness Instructor Training (FIT) Certificate. This course focuses on facilitating rapport with clients, exercise adherence, self-efficacy and behavior change. Human anatomy, kinesiology, exercise physiology and nutrition will be introduced, as they pertain to the personal fitness trainer scope of practice.

Student Learning Outcomes

1. Describe the role and scope of practice for the personal trainer.
2. Explain exercise motivation and adherence.
3. Practice clear communication and teaching technique.
4. Define principles of behavior change and health psychology.
5. Demonstrate an understanding of human anatomy, exercise physiology and applied kinesiology.
6. Describe basic nutritional principles.
7. Describe the integrated fitness training model.

EXSC 1220. Fitness Instructor Training II

Course Description

Designed for students who want to pursue the American Council on Exercise (ACE) personal fitness trainer certification and/or the SFCC Fitness Instructor Training (FIT) Certificate. This course focuses on applying the integrated fitness model to program design, functional and physiological assessments, mind-body exercises and different training modalities. This course also addresses adaptations for common injuries, legal and professional guidelines and responsibilities, business fundamentals, and ACE certification review.

Student Learning Outcomes

1. Perform functional and physiological assessments.
2. Develop programs for stability, mobility and movement.
3. Describe resistance and cardiorespiratory training.
4. Describe mind-body exercises.
5. Adapt exercise routines for special populations and people with injuries.
6. Recall legal and professional guidelines and responsibilities.
7. Demonstrate an understanding of personal trainer business fundamentals.
8. Demonstrate the ability to pass the ACE personal trainer certification.

EXSC 1990. Exercise Science Practicum I

Course Description

Varies

Student Learning Outcomes

Varies

EXSC 2110. Exercise Physiology

Course Description

A survey of scientific principles, methodologies, and research as applied to exercise and physical fitness. The emphasis is on physiological responses and adaptations to exercise. Basic elements of anatomy and physiology are also included.

Student Learning Outcomes

1. Describe the basic anatomy and physiology of the muscular, nervous, endocrine, cardiovascular, and respiratory systems.
2. Differentiate between the aerobic and anaerobic energy systems and the effects of acute and chronic exercise on each.
3. Explain how to measure energy expenditure and what causes fatigue during exercise.
4. Identify expected cardiorespiratory responses associated with postural changes, acute physical exercise, and adaptations resulting from long-term exercise training.
5. Identify the normal chronic physiological adaptations associated with cardiovascular exercise and resistance training.
6. Explain general principles of exercise training.
7. Describe physiological responses to exercising in hot and cold environments.
9. Describe physiological responses to exercising at altitude.
10. Identify ways to optimize training and minimize overtraining.

EXSC 2115C. Anatomy & Physiology I

Course Description

Not Available

Student Learning Outcomes

Not Available

EXSC 2120. Structural Kinesiology

Course Description

Students learn about anatomy, kinesiology and biomechanics as they relate to sport and exercise. Special attention is focused on the practical implications of human movement and how they relate to developing scientifically based exercise programs.

Student Learning Outcomes

1. Demonstrate knowledge of the theoretical and applied principles underlying human movement
2. Design scientifically founded training programs.
3. Demonstrate knowledge of muscles, including insertion and origin
4. Describe different types of muscle contractions.

EXSC 2130. IM Lifestyle Change

Course Description

Health-risk appraisals and their application to lifestyle change. Topics include weight control, stress management, smoking cessation and the principles of exercise adherence. Emphasis is on techniques in behavior modification, motivation, teaching and counseling, and behavior changes as lifestyle change.

Student Learning Outcomes

1. Instruct an individual using behavior modification.
2. Devise strategies to promote exercise initiation and exercise adherence.
3. Apply behavior modification techniques and motivational strategies to instruction in lifestyle change.
5. Demonstrate instructional and counseling techniques appropriate for use in the lifestyle change programs.

EXSC 2140. Nutrition for Fitness and Sport

Course Description

An introdution to the basic principles of nutrition, including functions, interactions, and human requirements of nutrients and their roles in maintaining optimum health in the exercising adult. The effects of exercise on nutritional requirements and guidelines for their use are emphasized. The efficacy and potential risks of various ergogenic aids are reviewed.

Student Learning Outcomes

1. Demonstrate understanding of the functions of major nutrients.
2. Describe the basic process of digestion and absorption of nutrients.
3. Identify food sources of major nutrients.
4. Identify credible, reliable resources for information on nutrition and sports nutrition.
5. Demonstrate an understanding of the nutritional concerns and requirements of the active adult and athlete.
6. Formulate guidelines for an adequate healthy diet of active persons and athletes.
7. Formulate guidelines for an adequate, healthy diet for weight management purposes.

EXSC 2150. Prevention and Care Exercise Injury

Course Description

Methods for the injury-prevention design of exercise settings and exercise programs. Students explore the use of physical conditioning techniques to prevent injury and discuss current exercise fads and myths that promote injury. The course presents methods for injury recognition and evaluation, the on-site care of exercise injuries, and emergency procedures. May be taken twice for degree or certificate credit. Must have certifications in CPR and first aid.

Student Learning Outcomes

1. Design, implement and evaluate injury-free exercise sessions
2. Recognize and care for common exercise injuries and physical conditions
3. Describe psychological considerations in injury prevention and rehabilitation
4. Recognize challenging environmental conditions

EXSC 2160. Fitness & Exercise Testing

Course Description

Techniques for conducting safe and sound physical fitness assessments. Tests for assessing cardiorespiratory fitness, muscular strength, power and endurance, flexibility, body composition, functional fitness and pulmonary capacity are included. Metabolic calculations and conversations are explained, as well as safety guidelines and equipment use and maintenance.

Student Learning Outcomes

1. Describe and follow the guidelines of the ACSM on exercise testing.
2. Solve metabolic calculations.
3. Structure and conduct tests of cardiorespiratory fitness, muscular strength, muscular power and muscular endurance, flexibility, body composition, functional fitness and pulmonary capacity, as well as interpretation of test results.
4. Communicate effectively with the test subject.
5. Calibrate, maintain exercise testing equipment.
6. Demonstrate appropriate safety procedures.

EXSC 2161. Techniques of Team Sports

Course Description

This course prepares teachers to be able to give movement prescription regarding team skills activities. The team skill activities include dribbling, ball handling, use of implements, catching, throwing, passing manipulation, kicking, striking,

dodging and chasing. Class experiences will include analyzing movement and performance techniques including the use of specific performance feedback, and applications to team sport activities.

Student Learning Outcomes

Not Available

EXSC 2163. Techniques of Individual Sports

Course Description

This course prepares teachers to be able to give movement prescriptions regarding individual sports activities, such as racquet sports, golf, and others. Instruction in the techniques inherent to each individual sport will be presented. Class experiences will include analyzing movement and performance techniques, including the use of specific performance feedback, and applications to individual sport activities.

Student Learning Outcomes

Not available

EXSC 2165. Techniques of Innovative Games and Activities

Course Description

Not Available

Student Learning Outcomes

Not Available

EXSC 2170. Physical Fitness Programming and Instruction

Course Description

Theoretical bases underlying physical fitness programming and instruction. Methods for leading an exercise class, as well as personal fitness training, including recruitment, adherence and motivation are studied. Current exercise class modes and formats will be examined, as well as trends in personal training. Legal and professional responsibilities of the fitness professional will be studied. Safety and injury prevention are emphasized.

Student Learning Outcomes

1. Describe fitness principles and theories.
2. Design and teach group fitness classes.
3. Design programs for personal training clients.
4. Describe recruitment of clients for personal training and group exercise classes.
5. Apply methods for exercise adherence and motivation.
6. Describe legal and professional responsibilities of the fitness professional.
7. Recommend exercises for special populations.

EXSC 2300. Introduction to Sport Management

Course Description

This course introduces the foundations of sport management, skills and competencies required of sport managers in various sport or sport-related organizations, including strategic management planning process, human resources management, financial management, sport marketing, facility and event management in amateur and professional industry.

Student Learning Outcomes

1. Understand the current structure of sport industry structure as well as the issues facing sport/sport related organizations (Content)
2. Discuss and analyze different theories of and approaches to leadership (Content and Critical Thinking)
3. Develop an understanding of the various roles and functions of a manager in sport industry (Content and communication).

4. Demonstrate an understanding of the unique dimensions and characteristics of sport and how these influence the management of sport (Content, communication, critical thinking, and Technology)
5. Demonstrate an understanding of various budgeting/financial practices utilized in organizations (Content, communication, critical thinking, and Technology)
6. Become knowledgeable of the role of administration in risk management within physical education and athletics, i.e., facility management and event management (Content)
7. Define and utilize the terminology of the sport industry and the process of sport management (Content)
8. Understand key concepts and strategies in sport marketing (Content and Critical Thinking)
9. Demonstrate an understanding of various legal issues pertaining to physical education and athletics (Content)
10. Develop written and oral communication skills by completing various writing assignments and classroom presentations (Content, Critical Thinking, and Communication)

EXSC 2561. Techniques of Team Sports

Course Description

This course prepares teachers to be able to give movement prescription regarding team skills activities. The team skill activities include: dribbling, ball handling, use of implements, catching, throwing, passing manipulation, kicking, striking, dodging and chasing. Class experiences will include analyzing movement and performance techniques including the use of specific performance feedback, and applications to team sport activities.

Student Learning Outcomes

For the team sports played in middle and high schools, learn:

1. The essential rules of each sport (Traits 1&3)
2. The techniques of successful participants (Traits 1&3)
3. The strategies employed for Excel®lence (Traits 1,2&3)
4. Create Lesson Plans with accompanying PPT (Traits 2&4).

EXSC 2563. Techniques of Individual Sports

Course Description

This course prepares teachers to be able to give movement prescription regarding individual sports activities, such as racquet sports, golf, and others. Instruction in the techniques inherent to each individual sport will be presented. Class experiences will include analyzing movement and performance techniques, including the use of specific performance feedback, and applications to individual sport activities.

Student Learning Outcomes

For the team sports played in middle and high schools, learn:

1. The essential rules of each sport (Traits 1&3)
2. The techniques of successful participants (Traits 1&3)
3. The strategies employed for Excel®lence (Traits 1,2&3)
5. Create Lesson Plans with accompanying PPT (Traits 2&4).

EXSC 2565. Techniques of Innovative Games and Activities

Course Description

This course is designed to prepare teachers to be able to give movement prescription regarding innovative games and activities, such as ultimate, disc golf, flicker-ball, and team handball. Instruction in the techniques inherent to innovative games and activities will be presented. Class experiences will include analyzing movement and performance techniques including the use of specific performance feedback, and applications to regarding innovative games and activities.

Student Learning Outcomes

For the innovative games played in middle and high schools , learn

1. The essential rules of each sport (1)
2. The techniques of successful participants (1,2)
3. Lesson Plan development & implementation (2,3,4).

EXSC 2990. Practicum
Course Description
Varies
Student Learning Outcomes
Varies

EXSC 2998. Internship
Course Description
Varies
Student Learning Outcomes
Varies

Expanded Functions Dental Auxiliary (EFDA)

EFDA 2250. Restorative Functions
Course Description
This course covers foundational knowledge in general and dental anatomy and physiology, dental materials, placing and shaping direct restorations, fitting and shaping of stainless steel crowns, dental impressions, Isolation, and occlusion function. These principles will be specifically applied to amalgam and composite restorations. This course will be intense to allow us to begin placing restorations on prepared typodont teeth.
Student Learning Outcomes

1. Describe general and dental anatomy, physiology, oral pathology, and occlusion.
2. Describe the concepts and applications in placing and shaping direct restorative materials in cavity preparations completed by a dentist.
3. Describe taking of impressions for permanent fixed or removable prosthesis, including single crowns or single tooth replacement prosthesis.
4. Describe cementing permanent or provisional restorations with temporary or provisional cement, provided the permanent cementation is completed and monitored by the dentist within six months.
5. Describe placing pit and fissure sealants under supervision as certification or licensure allows
6. Describe placing temporary or sedative restorations in open carious lesions after hand excavation of gross decay and debris.
7. Explain placing temporary or sedative restorative material into unprepared tooth fractures as a palliative measure.
8. Explain removing residual orthodontic bracket or band cement or resin from teeth after the brackets or bands have been removed by the dentist performing the orthodontic treatment, or to prepare the tooth or teeth for re-cementation of a debonded bracket or band.
9. Describe performing preliminary fitting and shaping of stainless steel crowns 10.Explain re-cementing temporary or permanent crowns or bridges using provisional cement under the general supervision of a dentist, under an emergency situation.
10. Demonstrate readiness for placing restorations on prepared typodont teeth.

EFDA 2250L. Restorative Functions Laboratory

Course Description

An introduction to the manipulation and placement of restorative materials, fitting and shaping stainless steel crowns, taking a single tooth final impression and practicing other skills for expanded functions dental auxiliary (EFDA) as approved by the New Mexico Board of Dental Health Care. Students will apply concepts from dental anatomy and materials science to restorative procedures.

Student Learning Outcomes

1. Demonstrate the concepts and applications in placing and shaping direct restorative materials in cavity preparations completed by a dentist.
2. Demonstrate taking of impressions for permanent fixed or removable prosthesis, including single crowns or single tooth replacement prosthesis.
3. Demonstrate cementing permanent or provisional restorations with temporary or provisional cement, provided the permanent cementation is completed and monitored by the dentist within six months.
4. Demonstrate placing pit and fissure sealants under supervision as certification or licensure allows
5. Demonstrate removing residual orthodontic bracket or band cement or resin from teeth after the brackets or bands have been removed by the dentist performing the orthodontic treatment, or to prepare the tooth or teeth for re-cementation of a debonded bracket or band.
6. Demonstrate performing preliminary fitting and shaping of stainless steel crowns.
7. Demonstrate re-cementing temporary or permanent crowns or bridges using provisional cement under the general supervision of a dentist, under an emergency situation.

EFDA 2293. EFDA Clinical Experience

Course Description

A clinical course providing practice in expanded functions dental auxiliary (EFDA) skills. Emphasis is on the placement of amalgam and composite restorations on patients. Clinical experience will be provided in an affiliated clinical site. This course also includes seminars to discuss clinical experiences and measures to take care of any deficiencies.

Student Learning Outcomes

1. Place and shape direct restorative materials in cavity preparations completed by a dentist.
2. Take impressions for permanent fixed or removable prosthesis, including single crowns or single tooth replacement prosthesis.
3. Cement permanent or provisional restorations with temporary or provisional cement, provided the permanent cementation is completed and monitored by the dentist within six months.
4. Place pit and fissure sealants under supervision as certification or licensure allows.
5. Place temporary or sedative restorations in open carious lesions after hand excavation of gross decay and debris.
6. Place temporary or sedative restorative material into unprepared tooth fractures as a palliative measure
7. Remove residual orthodontic bracket or band cement or resin from teeth after the brackets or bands have been removed by the dentist performing the orthodontic treatment, or to prepare the tooth or teeth for re-cementation of a debonded bracket or band.
8. Perform preliminary fitting and shaping of stainless steel crowns 9.Re-cement temporary or permanent crowns or bridges using provisional cement under the general supervision of a dentist, under an emergency situation.

EFDA 2294. Dental Insurance Billing and Coding

Course Description

This self-paced, online course gives administrative dental professionals a strong background in and thorough understanding of how the dental insurance process works. Students gain knowledge and relevant, up-to-date information that enables them to excel as dental insurance billing and coding professionals.

Student Learning Outcomes

1. Analyze basic principles of dental coding.
2. Explain how codes are broken down and when specific codes should be used.
3. Properly complete dental forms using given scenarios.
4. Describe the use of cross coding in medical and dental insurance claims.
5. Describe the risk management aspect of dental coding.

EFDA 2296. Dental Fluoride, Polishing and Sealants Review

Course Description

A review of course content previously learned through attending a program or on-site training. Instructors, in a fast-paced format, review topics in order to present all the information within the scheduled time frame. the student will focus on dental fluoride applications, dental sealants application and coronal polishing. The course will include information on state licensure requirements for dental professionals including the national board examination and continuing education requirements.

Student Learning Outcomes

1. Describe the concept of fluorides used in dentistry.
2. Describe the concept of sealants used in dentistry.
3. Describe the concept of coronal polishing in dentistry.
4. Explain the national and state rules and regulations as they pertain to dental fluorides, coronal polishing and sealants.

EFDA 2297. Dental Radiation Health and Safety Review

Course Description

A review of course content previously learned through attending a program or on-site training. Instructors, in a fast-paced format, review topics in order to present all the information within the scheduled time frame. The student will focus on radiation health and safety. The course will include information on state licensure requirements for dental professionals including the national board examination and continuing education requirements.

Student Learning Outcomes

1. Explain the history of radiation and the use of the Hittorf-Crooks and Coolidge tubes.
2. List the properties of radiation and explain the biological effects of radiation exposure.
3. Explain how a radiograph are produced utilizing various Intra and extra-oral radiographic techniques, equipment and technology.
4. Describe the radiation safety precautions.
5. Explain the national and state rules and regulations as they pertain to dental radiography.
6. Explain radiography infection control

EFDA 2298. Dental Infection Control Review

Course Description

A review of course content previously learned through attending a program or on-site training. Instructors, in a fast-paced format, review topics in order to present all the information within the scheduled time frame. the student will focus on

infection control in dental office. The course will include information on state licensure requirements for dental professionals including the national board examination and continuing education requirements.

Student Learning Outcomes

1. Describe patient and dental healthcare worker education.
2. Explain cross-contamination and disease transmission.
3. Explain maintenance of aseptic conditions and environmental asepsis.
4. Describe sterilization procedures.
5. Describe understanding of occupational safety.
6. Explain the national and state rules and regulations as they pertain to infection control in a dental office.

EFDA 2299. General Chairside Review

Course Description

A review of course content previously learned through attending a program or on-site training. Instructors, in a fast-paced format, review topics in order to present all the information within the scheduled time frame. the student will focus on general chairside procedures in a dental office. The course will include information on state licensure requirements for dental professionals including the national board examination and continuing education requirements.

Student Learning Outcomes

1. Explain collection and recording of clinical data.
2. Describe chairside dental procedures.
3. Describe chairside dental materials.
4. Explain patient education and oral health management procedures.
5. Describe understanding of prevention and management of dental and medical emergencies.
6. Describe dental office operations and practice management.
7. Explain the national and state rules and regulations as they pertain to general chairside.

EFDA 2350. Advanced Allied Dental Skills

Course Description

This course emphasizes experience with current technology and advanced level allied dental health skills needed for employment in today's dental offices.

Student Learning Outcomes

1. Adapt the current methods for infection control following the OSHA and state regulations
2. Discover a variety of advanced allied dental skills
3. Describe the State Dental Practice Act as it relates to advanced allied dental skills
4. Apply the ADA Principles of Ethics and Code of Professional Conduct

CDHC 2998. Community Dental Health Coordinator Internship

Course Description

A clinical course providing practice in Community Dental Health Coordinator (CDHC) skills. Clinical experience will be provided in an affiliated clinical site under the supervision of a licensed dentist or a registered dental hygienist. This course also includes seminars to discuss clinical experiences and measures to take care of any deficiencies. Travel may be required.

Student Learning Outcomes

1. Take and complete health and dental history
2. Expose and develop necessary radiographs as ordered by the supervising dentist or as established in protocol by a supervising dentist
3. Collect and transmit patient data and images through teledentistry means to a dentist

4. Place temporary and sedative restorative materials in unexcavated carious lesions and unprepared tooth fractures
5. Transmit prescription or medication orders on the direct order of a dentist
6. Provide limited palliative procedures for dental emergencies in consultation with a supervising dentist as allowable by the rules
7. Provide community dental education and advocate for patients and the community in accessing dental care
8. Perform other related functions for which the CDHC meets educational standards established by the board and that are not prohibited by statute or rules

Family and Child Studies (FCST)

FCST 1120. Introduction to Family and Child Studies

Course Description

This course is designed to provide students with a broad introduction to primary concepts, theories, and research methods in family studies from an ecological and interdisciplinary perspective (e.g., anthropology, history, human development, psychology, sociology). A related objective is to explore the applications of the concepts of family studies to various child and family programs across communities. Through the use of ecological and cultural approaches, students in this class will develop an understanding of the diversity of family forms, functions, and needs and how children and families function as an essential component to society.

Student Learning Outcomes

1. Recognize similarities and differences among families and the ecology of families.
2. Explore the important external and internal factors that impact family functioning.
3. Analyze advantages and disadvantages of methodological techniques used to study families.
4. Compare the influence of contextual variables on diverse family structures and dynamics across the life cycle.

FCST 1125 Carpe Noctem: Sleep, Health, and the Family

Course Description

Students will learn about issues in sleep research with a focus on the examination of sleep in the family context. The course will emphasize how family processes influence sleep across development and vice versa.

Student Learning Outcomes

1. Gain knowledge of typical and atypical aspects of sleep-in children and adolescents.
2. Develop an understanding of how to measure sleep/wake variables.
3. Develop an understanding of how family functioning affects sleep and vice versa.
4. Develop an understanding of sleep within the context of the broader sociocultural milieu.
5. Understand the bidirectional effects between health functioning and sleep.

FCST 1130. Interpersonal Skills in Intimate Relationships

Course Description

Developing social skills within friendships, dating relationships, marriage, parenting, and families.

Student Learning Outcomes

1. To understand several theories that explain why some people have healthy interpersonal relationships while others do not.
2. To gain insight about oneself.
3. To learn and improve upon selected relationship skills that improve quality of life.
4. To learn skills that improve interpersonal relationships.

FCST 1150. Health, Safety and Nutrition

Course Description

Not Available

Student Learning Outcomes

Not Available

FCST 1160. Consumer Education

Course Description

Study of the interaction of consumers, government, and domestic and foreign markets. Evaluation of consumer information and protection. Analysis of economic, social and political factors that influence buying decisions.

Student Learning Outcomes

To give students a new perspective on consumerism and marketing from the perspective of current trends. The objective of this course is to offer a sound understanding of the marketplace and how to function in it as a wise and thoughtful consumer. Topics include: the global economic system, marketing, buying transportation, consumer rights, insurance, credit cards, and fraud risks.

FCST 2110. Infancy Through Middle Childhood in the Family

Course Description

This course discusses research and theory relevant to prenatal development and the physical, mental, and socio- emotional development of the child from birth through age 12. This developmental period will be examined across different cultures and in real world contexts. Attitudes, knowledge, and skills needed for working with young children and their families will be introduced.

Student Learning Outcomes

1. Evaluate how genes and the environment interact to impact human development from prenatal stages through age 12.
2. Assess the effects of environmental influences on the developing fetus.
3. Discuss the capacities of newborn development through age 12.
4. Evaluate how individuals and couples change during the transition to parenthood.
5. Analyze the physical, cognitive, and social-emotional development of the child from birth through age 12.

FCST 2120. Middle Childhood Development in the Family

Course Description

Research and theory relevant to the physical, mental, social, and emotional development of the child from age five to age twelve. Attitudes, knowledge, and skills related to working with school-age children in the family system. Observation in a variety of settings may be required. Restricted to Las Cruces campus only.

Student Learning Outcomes

Upon completing this course, students will be able to:

1. Compare strengths and weaknesses of theories of human development
2. Distinguish the advantages and disadvantages of different methods of studying human development.
3. Analyze the physical development of the child from age 6 to 11 years.
4. Evaluate the cognitive development of the child from age 6 to 11 years.
5. Assess the social and emotional development of the child from age 6 to 11 years.
6. Formulate ways that parents and professionals can promote the development of the child from age 6 to 11 years.

FCST 2130. Marriage and Family Relationships

Course Description

This course provides insights into contemporary marriage and family situations. Focus is on decision-making for better understanding of families and the broader society.

Student Learning Outcomes

Upon completing this course, students will be able to:

1. Analyze myths about contemporary family life.
2. Explore and articulate their understanding of theories, gender roles, sexuality, intimacy, power in relationships, homes and family, parenting, crises.
3. Demonstrate their understanding of diverse family structures in premarital, marital and family relationships.

FCST 2135. Adolescent Development and the Family

Course Description

Research and theory relevant to the physical, mental, social, and emotional development of the children ages 12 to 18. Attitudes, knowledge, and skills related to working with adolescents in the family system. Observation in a variety of settings may be required.

Student Learning Outcomes

Upon completing this course, students will be able to:

1. Compare adolescents of today with adolescents of the past.
2. Describe the physical, cognitive, and psychosocial development of the adolescent in the family system and evaluate individual differences in development.
3. Compare and contrast ways in which culture impacts adolescent development.
4. Assess effective parenting strategies with adolescents.
5. Analyze the influence of family, peers, school, and work on adolescent development.

FCST 2140. Adult Development and Aging

Course Description

Research and theory related to the physical, mental, social, and emotional development of older adults. Attitudes, knowledge, and skills related to working with older adults in the family system, including normative, and nonnormative transitions.

Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Compare and contrast theories of adult development and aging and apply theories to adult behavior.
2. Distinguish the similarities and differences of physical, emotional, cognitive, and psychosocial aspects of adult development.
3. Describe multicultural factors that impact attitudes toward aging and coping with aging family members.
4. Evaluate ways in which special issues (including but limited to Alzheimer's Disease, heart disease, end of life issues) impact aging.
5. Devise a conceptualization of one's own perspective in dealing with aging and aging family members.

FCST 2145. Strengthening Family Structures

Course Description

Examines families from a structural perspective by being exposed to systems thinking. Explores how families are similar to and different from others in society, including biological and social systems. Studies and encourages the practice of a strength-based perspective.

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Analyze the complexity and dynamics of family systems
2. Describe the dynamic nature of families and intimate relationships
3. Examine personal beliefs and assumptions about families
4. Recognize prominent myths about families, and intimate relationships
5. Discuss the interactive relationships of race, class, gender and sexual orientation

6. Evaluate how families and intimate relationships around the world are increasingly affected by global
    a. events, particularly trade imbalances, etc.
7. Describe key issues facing families in the twenty-first century

FCST 2310. Food Science

Course Description

Food science principles integrated through the study of theoretical and scientific issues, and the practical aspects of food selection, preparation, storage, sanitation and costing.

Student Learning Outcomes

On completion of this course, students will be able to:

1. Explain the scope and the history of food science and technology.
2. Become familiar with basics of human nutrition and food labeling.
3. Understand the basic chemistry and functional properties of food carbohydrates, food lipids and food proteins, and the chemistry of colors and food flavors.
4. Explain the nature and function of food additives and food laws and regulations in United States.
5. Describe the basic principles of food processing operations such heat, cold and drying.
6. Understand how animal products such as meats, dairy products and fruits are preserved.
7. Explain the most common biological hazards responsible for foodborne illnesses, the factors that contribute to foodborne illnesses and Hazard Analysis Critical Control Points (HACCP)
8. Examine the basics of sensory evaluation and food product development.

FCST 2320. Culinary Nutrition

Course Description

Science of nutrition and current dietary recommendations combined with strategies and techniques used to prepare healthful and appetizing food. Areas of study include the essential nutrients, proper portioning, calculation of meal nutrition, menu development, modification and analysis, and meeting the specialized dietary and health needs of individuals and groups.

Student Learning Outcomes

1. Prepare students to address and solve common nutritional problems through a wholistic dietary plan, targeted at a specific customer base.
2. Demonstrate effective and professional written communication and documentation.
3. Identify methods for accessing a customer's nutrition needs, resources, and education.
4. Examine the needs of an operation's menu using demographics, menu mix and theme, nutritional value, and the capabilities of staff/limitations of the facility.
5. Appraise the balanced nutritional menu created for an operation and evaluate the importance of basic nutrition for restaurants and the food service industry.
6. Design and tailor a marketing or customizing aspect to menu design, by which to satisfy a diverse customer base.

FCST 2993. Workshop in Family and Consumer Sciences

Course Description

Varies

Student Learning Outcomes

Varies

FCST 2996. Topics in Family and Child Studies

Course Description
Varies
Student Learning Outcomes
Varies

Family and Consumer Sciences (FCSC)

FCSC 2250. Overview of Family and Consumer Sciences Teaching
Change in **Course Number** to **FCSC 2250** from **FCST 2250**, change in SLOs
Course Description
Overview of planning and teaching skills. Supervised experiences in observing and directing the learning of secondary family and consumer sciences students. Philosophy and history of the profession.
Student Learning Outcomes
At the conclusion of the course, learners will be able to:

1. Explain the foci of FCS—past, present and future.
2. Begin to develop a professional role in FCS.
3. Formulate a personal philosophy of FCS, and of teaching.
4. Explain the teaching process.
5. Give examples of roles, responsibilities and qualities of effective and ethical teachers.
6. Assess the characteristics, backgrounds, and needs of learner audiences.
7. Explain various learning theories/principles.
8. Illustrate how various input factors influence teaching decisions.
9. Plan a researched based student-centered lesson with a learning activity in a FCS content area.
10. Give examples of ways to evaluate learner growth.
11. Present a FCS content-based lesson effectively to learners using PowerPoint presentation software and a selected teaching method.
12. Evaluate one's own teaching and the teaching of others.
13. Exhibit increased confidence in one's abilities as a teacher/educator.
14. Exhibit excitement about assuming the teacher/educator role.

FCSC 2330. Housing and Interior Design
Change in **Course Number** to **FCSC 2330** from FCST 2330, change in SLOs, change in course description
Course Description
Investigation of types of housing and factors impacting housing decisions for families. Selection, planning, and arrangement of interior components of homes to meet the needs of the family.
Student Learning Outcomes
At the conclusion of the course, learners will be able to:

1. Differentiate between different architectural designs (i.e., Cape Cod, contemporary, craftsman, ranch, southern colonial, Spanish, Victorian, pueblo, New Mexican territorial, and territorial revival) and be able to identify historical, cultural, demographic, geographical, and environmental influences on style and aesthetics.
2. Analyze the fundamentals of housing for all families and cultures and understand the role housing plays in the ecological model of human ecology.
3. Define elements of design as related to housing and interiors (i.e., color, form, line, space texture).
4. Define principles of design as related to housing and interiors (i.e., balance emphasis, harmony, proportion, unity).
5. Compare and contrast the different periods of interior design from the 20th century to the present.
6. Analyze the influence of historical and cultural factors in the development of current interior trends.

7. Select and arrange interiors that are functional and aesthetically pleasing to designated interior design situations.
8. Identify, describe and make application of textiles as related to various furniture and interior design styles.
9. Design a three-dimensional tiny house or an interior space, using all concepts learned.

Farrier Science (FASC)

FASC 1110. Horseshoeing Theory I

Course Description

This course is classroom oriented and designed to present the principles of horseshoeing. A variety of horseshoeing principles are studied (hoof balance, foot biomechanics, and physiological shoeing), as well as gaits of horses. A study of the types and uses of horses is also reviewed.

Student Learning Outcomes

1. Identify and demonstrate the correct use of horseshoeing tools used for trimming and shoeing horses.
2. Identify and demonstrate the aspects of geometric and functional balance.
3. Identify various shoes and nails and demonstrate their uses on horses.

FASC 1060. Hoof Care for Horse Owners

Course Description

This course is a basic overview of hoof care designed for horse owners. Topics include hoof management involving nutrition, foot care manners, trimming & shoeing, horseshoe selection, and nail selection.

Student Learning Outcomes

1.Basic anatomy students will:
   a. Describe Foot's purpose.
   b. Draw & describe hoof growth (age).
   c. Draw & label parts of hoof.

2.Hoof Management students will:
   a. Explain the importance of trimming/shoeing 6 to 8 weeks.
   b. Discuss the nutrition in a horse's diet relating to hoof management.
   c. Explain the role of horse owners in preventing/understanding foot diseases.
   d. Discuss the first aid kit.

3. Foot care behavior students will:
   a. Discuss the role of horse owner involving foot care manners, and horsemanship.
   b. Explain the handling foals.
   c. Describe techniques/methods of restraint.

4. Trimming & shoeing students will:
   a. Balance relating to trimming and shoeing.
   b. Draw and label the three views showing balance of horses' feet.
   c. Describe how horses would be trimmed differently versus being shod.

5. Shoe selection students will:
   a. Understand shoe types and selections.
   b. Label parts of horseshoe.

6. Farrier selection students will:
   a. Discuss Farrier expectations/qualifications.

b. Explain certification.

FASC 1120. Horseshoeing Theory II

Course Description

This course is designed to present more advanced principles of horseshoeing. Shoeing to change gait faults and the principles of functional hoof balance are covered. Specialty shoeing needs of horses are also presented along with the principles of shoeing various types and uses of horses.

Student Learning Outcomes

1. Illustrate and discuss the principles of functional hoof balance.
   a. Explain the three dimensions of geometric balance by explaining the X, Y, and Z coordinates.
   b. Discuss the principles of landing, loading, and break over.
   c. Discuss the principles of hoof flight.
   d. Conceptualize the principles of changing hoof balance.
2. Recognize and identify common gaits of horses
   a. Identify the natural gaits of horses.
   b. Recognize the learned gaits of horses.
3. Identify and assess gait faults that can be helped through trimming and shoeing.
   a. View and assess horses for movement.
   b. Discuss the principles of gait fault correction.
4. Discuss the principles of shoeing performance horses.
   a. Discuss the principles of western stock horses.
   b. Discuss the principles of English type horses.
   c. Discuss the principles of gaited show horses.
   d. Discuss the principles of race horses.
   e. Discuss the principles of harness horses.
5. Discuss the principles of shoeing according to conformation.
   a. Identify foot conformations and how to shoe for them.
   b. Identify front limb conformations and how to shoe for them.

c. Identify hind limb conformations and how to shoe for them.

FASC 1210L. Horseshoeing Laboratory I

Course Description

This course presents the principles and techniques of shoeing sound horses. From trimming feet to shaping shoes to nailing shoes on, students gain experience by working on horses. This laboratory-oriented class takes a field approach with students trimming and shoeing horses at the college and at local ranches.

Student Learning Outcomes

1. Identify and demonstrate the correct use of horseshoeing tools used for trimming and shoeing horses.
   a. Identify the principles of trimming horses.
   b. Identify and calculate the aspects of geometric and functional balance.
   c. Identify various shoes and nails and demonstrate their uses on horses.

FASC 1220L. Horseshoeing Lab II

Course Description

This course covers advanced horseshoeing principles and techniques. Shoeing to correct conformational and gait faults is practiced and learned through hands-on experience. Assessment of horses in various gaits and shoeing to change functional hoof balance are addressed.

Student Learning Outcomes

1. Shoe sound horses that perform in various gaits.
    a. Shoe horses that perform in natural gaits.
    b. Shoe horses that perform in learned gaits.
    c. Apply the principles of changing hoof balance.
2. Shoe to change gait faults that can be helped through trimming and shoeing.
3. Identify and recognize gait faults.
    a. View and assess horses for movement.
    b. Apply the principles of gait fault correction.
    c. Apply the principles of changing hoof flight
    d. Apply the principles of changing hoof balance.
4. Apply the principles of shoeing performance horses.
    a. Apply the principles of shoeing western-stock horses.
    b. Apply the principles of shoeing English type horses.
    c. Apply the principles of shoeing gaited show horses.
    d. Apply the principles of shoeing racehorses.
    e. Apply the principles of shoeing harness horses.

f. Apply the principles of shoeing Draft horses.

5. Apply the principles of shoeing sport horses.
    a. Apply the principles of shoeing shoe hunters.
    b. Apply the principles of shoeing show jumpers.
    c. Apply the principles of shoeing three-day eventers.
    d. Apply the principles of shoeing field hunters.

FASC 1310L. Blacksmithing I

Course Description

This course presents to student's concepts, skills and techniques utilized in blacksmithing and forging. Techniques in forging tools and horseshoes with several toe and heel modifications are addressed in this laboratory-oriented class. Students will gain hands-on experience in this course as they learn the art of shaping shoes.

Student Learning Outcomes

1. Operate and utilize coal and gas forges safely.
    a. Explain how to safely start, operate, and shut down coal and gas forges.
    b. Describe how to efficiently operate coal and gas forges to heat steel.
2. Utilize an anvil, hammer and tongs to forge shoes.
    a. Identify the parts of an anvil and their uses.
    b. Describe how to fluidly use their body to forge iron.
    c. Identify various types of hammer blows.
    d. Explain how to efficiently use tongs when forging.
3. Forge modifications on machine made shoes.
    a. Identify commonly found hoof shapes for which to shape cold shoes.
    b. Explain how to forge toe modifications on machine made horseshoes.
    c. Explain how to forge heel modifications on machine made horseshoes.
    d. Forge weld a bar shoe for a horse.

FASC 1320L. Blacksmithing II

Course Description

This course presents advanced principles and techniques used in blacksmithing. Students forge a variety of projects to learn and enhance blacksmithing skills. The projects involve several advanced techniques that should help students forge tools, shoes, and specialty projects. These techniques are used to forge a variety of specialty shoes for horses.

Student Learning Outcomes

1. Forge shoe modifications to change functional balance and gait faults of horses.
    a. Forge toe modifications.
    b. Forge heel modifications.
    c. Identify modifications which create optical illusions.
2. Forge specialty shoes for performance horses.
    a. Forge fullered shoes.
    b. Forge caulks.
    c. Forge weld and braze.
    d. Forge aluminum shoes.
3. Forge specialty shoes for mules and draft horses.
    a. Forge working draft horse shoes.
    b. Forge show draft horse shoes.
    c. Forge mule shoes.

FASC 1710L. Specialty Horseshoeing

Course Description

This course is designed for students who are certificate seeking and do not wish to enroll in general education courses. This course will provide additional experience in horseshoeing through hands-on learning. This is a laboratory-oriented course providing students with additional time to practice their horseshoeing skills. Some forging techniques will be utilized in this course.

Student Learning Outcomes

1.Assess a horse pre- and post-shoeing by identifying four out of five areas to address while shoeing and includes:
    a. Explaining how to trim and balance feet for geometric x, y and z balance.
    b. Assessing and evaluating horses for functional balance.
2. Forge and fit horseshoe modifications by:
    a. Identify the five commonly seen hoof shapes.
    b. Explaining how to shape shoe cold.
    c. Describing how to fit shoes cold.
    d. Describe how to fit shoes hot.
3. Make different horseshoeing and forging tools.

FASC 1996L. Special Topics in Farrier Science

Course Description

This is an advanced special topics course for students who desire to gain additional laboratory time. This is a laboratory-oriented course allowing students extra time to practice techniques and build their skills in horseshoeing. Horses will be worked on as available and some forging techniques will be utilized.

Student Learning Outcomes

1. Shoe horses by.
    a. Demonstrating the five hoof shapes.
    b. Shaping and fitting cold shoes.
    c. Shaping and fitting hot shoes.
2. Shoe horses with special or therapeutic needs.
    a. Distinguish between sound and therapeutic shoeing.

b. Distinguish the level for a specific horse.
c. Determine shoe types for a particular need.

3. Forge various tools and horseshoe modifications.
    a. Identify various fore punch structures and uses.
    b. Successfully forge all shoe board modifications.
    c Discuss the differences between normalizing, annealing, hardening and tempering of various metals.

FASC 1998. Internship in Farrier Science I

Course Description

This course is designed to provide on-the-job work experience. Students gain this experience by working under the direct supervision of a practicing Farrier. Exposure to technical skills, business management, and customer relations are realized in this course.

Student Learning Outcomes

1. Goal setting students will:
    a. Set important, measurable, and attainable goals.
    b. Write those goals for reference.
2. Pulling, clinching, and finishing students will:
    a. Carefully and efficiently pull shoes.
    b. Efficiently clinch feet.
    c. Finish feet like a show case window.
3. Apprenticing students will:
    a. Identify the tasks of an apprentice.
    b. Complete the tasks of an apprentice.
4. Business students will:
    a. Identify the qualities of a professional.
    b. Calculate and charge a fair price for services.
    c. Manage time and scheduling.
    d. Maintain records needed for a Farrier business
    e. Identify records needed for completing tax documents.
5. Communication students will:
    a. Effectively communicate with peers.
    b. Demonstrate how to work professionally with clients.
    c. Demonstrate written communications with clients.
    d. Explain critical apprenticeship experiences

FASC 2000. Certification Preparation

Course Description

This course is designed to help students prepare for certification examinations of national associations. The written, forging and shoeing exams at each level will be covered according to the level the students are preparing for. This course will utilize both lecture and field approaches to preparation. Both full-time Ferrier students and farriers in business would benefit from this course.

Student Learning Outcomes

1. Certification Students will:
    a. Identify the testing structure of national exams.
    b. Identify levels of certification.
    c. Recall exam requirements.
2. Written Exam Students will:

a. Identify exam subjects.
b. Identify exam format.
c. Complete written practice exams.

3. Shoeing Exam Students will:
    a. Identify exam subjects.
    b. Identify exam format.
    c. Complete shoeing practice exams.
4. Forging Exam Students will:
    a. Identify exam subjects.
    b. Identify exam format.
    c. Complete forging practice exams.

FASC 2230L. Farrier Science Therapeutics

Course Description

This laboratory-oriented course is designed to provide students with the knowledge, skills, and techniques of trimming and shoeing horses with common pathological conditions, including laminitis and navicular syndrome. The assessment of lame horses and application of therapeutic shoes will be discussed, demonstrated, and practiced.

Student Learning Outcomes

1. Use hoof testers to detect lameness according to Industry standards.
2. Shoe a horse with pads according to Industry standards.
    a. Develop a method of detection.
    b. Identify types and uses of pads.
    c. Identify types and uses of pads.
    d. Prepare pads for application.
3. Shoe a horse with clips according to Industry standards.
4. Shoe a chronically foundered horse according to Industry standards.
    a. Develop a method of detection.
    b. Identify types and uses of therapeutic shoes.
    c. Apply therapeutic shoes.
    d. Measure feet for therapeutic shoes.
5. Shoe a horse with navicular syndrome on a horse according to Industry standards.
    a. Develop a method of detection.
    b. Identify bar shoes.
    c. Apply bar shoes.

FASC 2330L. Farrier Craftsmanship Therapeutics

Course Description

This laboratory-oriented course is designed to instruct students in the craftsmanship of forging therapeutic and pathological horseshoes for common lameness. From measuring the feet to choosing the material for construction in building the shoes, students will practice the processes used to make therapeutic horseshoes.

Student Learning Outcomes

1. Follow the design and process of forging therapeutic shoes by:
    a. Identify types of therapeutic shoes.
    b. Designing and layout therapeutic shoes.
    c. Measuring feet for therapeutic shoes.
2. Forge bar shoes by:
    a. Measuring for bar shoes.

b. Forming bar shoes.
c. Welding bar shoes.
d. Fitting bar shoes.

3. Forge heart bar shoes by:
    a. Placing of heart bars.
    b. Measuring for the shoes.
    c. Forming shoes.
    d Welding the heart bar.
4. Forge wedged heel shoes by:
    a. Forging elevated shoes from keg shoes.
    b. Forging handmade wedged shoes.
    c. Forging aluminum wedges.
5. Forge horseshoe modifications and therapeutic shoes by:
    a. Forging extensions.
    b. Forging handmade extension shoes.
    c. Forging aluminum extension shoes.

FASC 2530. Lameness Physiology

Course Description

This course is designed to present a comprehensive approach to biomechanics, pathology, and common lameness of horses. Emphasis is placed on the limb, leg and foot. Dissections of the leg and foot will be conducted by students. Anyone with an interest in doing veterinary referral work should benefit from this class.

Student Learning Outcomes

1. Correctly identify four out of five techniques in a sequence to detect lameness on a faculty administered exam.
2. Develop a method of detection.
3. Practice locating lameness.
4. Recognize the Farrier's role in caring for the lame horse.
5. Recognize the veterinarian's role in caring for the lame horse.
6. Recognize the owner's role in caring for the lame horse.
7. Recognize clinical signs of front limb lameness.
8. Locate the structures involved.
9. Determine causes of lameness.
10. Determine what the Farrier can do for the lameness.
11. Identify common diseases of the hoof.
12. Recognize clinical signs of foot lameness.
13. Locate the structures involved.
14. Determine causes of lameness.
15. Determine what the Farrier can do for the lameness.
16. Discuss hoof diseases and unsoundness with peers and owners.
17. Recognize clinical signs of hind limb lameness.
18. Locate the structures involved.
19. Determine causes of lameness.
20. Determine what the Farrier can do for the lameness.
21. Identify structural and angular deformities.
22. Recognize clinical signs of deformities.
23. Locate the structures involved.
24. Determine causes of deformities.

25. Determine what the Farrier can do for the deformities.

FASC 2997. Independent Study in Farrier Science

Course Description

This course is designed to give students experience in developing, conducting and writing a small research project. Special topics or problems related to horseshoeing will be considered for projects. Students should gain detailed insight into a topic that is of particular interest to them. The requirements for this course are completed on an arranged schedule.

Student Learning Outcomes

1. Develop a research topic and project.
    a. Identify a topic of interest.
    b. Identify a topic that needs researched.
    c. Identify views of the horse.
2. Complete research on the selected research topic.
    a. Research previous studies.
    b. Research current theories.
    c. Identify resources.
3. Demonstrate written skills by successfully completing the research paper.
    a. Follow the guidelines of the MCC writing rubric.
    b Identify resources needed.
    c Develop a format for the study.
4. Demonstrate oral communication skills by giving an oral presentation of the project to their peers.
    a. Develop a time line for the presentation.
    b. Prepare visual aids for the presentation.
    c. Give the presentation.

FASC 2998. Internship in Applied Farrier Science II

Course Description

This course is designed to provide on-the-job work experience and allow the student to apply skills and knowledge. Students gain this experience by working under the direct supervision of a practicing farrier. Application of technical skills, business management, and customer relations are realized in this course.

Student Learning Outcomes

1. Goal Setting Students will:
    a. Set important, measurable, and attainable goals.
    b. Write those goals for reference.
2. Pulling, Clinching, and Finishing Students will:
    a. Carefully and efficiently pull shoes.
    b. Efficiently clinch feet.
    c. Finish feet like a show case window.
3. Apprenticing Students will:
    a. Identify the tasks of an apprentice.
    b. Complete the tasks of an apprentice.
4. Business Students will:
    a. Identify the qualities of a professional.
    b. Learn how to charge a fair price for services.
    c. Learn how to manage time and scheduling.
    d. Keep records needed for a farrier business.
    e. Identify records needed for completing tax documents.

5. Communication Students will:
    a. Demonstrate the ability to work with peers.
    b. Demonstrate how to work professionally with clients.
    c. Identify means to communicate in writing to clients.
    d. Discuss critical apprenticeship experiences

FASC 2999L. Farrier Science Capstone Course

Course Description

This course is designed to be a capstone course for Farrier Science, focusing on specialty and therapeutic work. Both shoeing and forging will be implemented into this laboratory-oriented course. Preparation for the American Farriers Association advanced certification exams will be a part of this course.

Student Learning Outcomes

1. Identify areas of skills which need further practice.
    a. Assess their own knowledge and skills.
    b. Recognize their limitations.
    c. Build on their strengths.
    d. Strengthen their weaknesses through demonstrations.
2. Determine the need, forge and apply therapeutic horseshoes.
    a. Forge all shoe modifications on the A.F.A. practical for a horse.
    b. Apply all shoe modifications on that horse.
3. Determine the need, forge and apply specialty horseshoes.
    a. Forge specialty shoes for a given horse.
    b. Apply specialty shoes for a given horse.
4. Pass the three parts of the certified farrier exams.
    a. Identify and label all bones, joints, and growth plates.
    b. Demonstrate knowledge of the construction, function, and location of the elastic and inelastic hoof structures and how they contribute to a sound, healthy foot.
    c. Demonstrate a fundamental understanding of the suspensory apparatus.
    d. Correctly identify definitions, functions and origin and insertion of all tendons and ligaments.
    e. Demonstrate basic knowledge of the circulation system of the lower leg and hoof.
    f. Recognize definitions, anatomy involved, and possible causes of the following conditions: splints, thrush, laminitis, founder, ringbone, carpitis, corns, osslets, sheared heel, stringhalt, and navicular lameness.
    g. Identify and discuss all gaits and gait faults (e.g. forging, brushing, speedy cutting, scalping, cross firing, elbow hitting, overreaching, etc.)
    h. Forge clips, square toes, rocker toes, rolled toes, extended

Film & Digital Media Arts (FDMA)

FDMA 1021. Visual Concepts

An introductory course in visual literacy for both two-and three-dimensional visual arts, including the concepts of unity, emphasis, balance, scale, rhythm, line, texture, space, motion, and color. Design thinking principles will be integrated within an interactive, ideational drawing approach. Students will become acquainted with these fundamental visual concepts through the use of both manual and digital tools.

Student Learning Outcomes

At the conclusion of this class students will be expected to:

1. Define and understand the fundamental concepts that inform visual thinking and communication (Gestalt, unity, emphasis, balance, scale, rhythm, line, texture, space, shape, motion, value and color)

2. Execute various 2- and 3-D visual projects with good craftsmanship and awareness of form from concept to completion (including ideational sketching and presentation methods)
3. Present, critique and articulate their own work and the work of others in the context of assignments and topics.

FDMA 1110. Film History

Course Description

This course surveys the history of cinema - investigating the process by which the original "cinema of attractions" evolved into a globally dominant form of visual storytelling. We will explore the development of cinema both as an art form and as an industry, and consider the technological, economic, cultural factors, and key international movements that shape it.

Student Learning Outcomes

1. Develop appreciation for the history of cinema.
2. Develop knowledge of the key eras in the history of US cinema.
3. Learn the characteristics of major movements in international cinema.
4. Explain technological innovations that were necessary for, and integral to, the advancement of cinema.
5. Recognize the various elements that go into telling a story in cinema.

FDMA 1115. Design History

Course Description

A history of graphic and industrial design and architecture of the western world from 1450 A.D. through to the present. The course will describe the various periods and styles in design as they relate to the historical settings during which the works were created. Emphasis will be placed on the political, social, spiritual, intellectual, and cultural movements that affect the creation and development of design.

Student Learning Outcomes

1. Describe design traditions and works of design from various periods
2. Appraise why and how the designer creates
3. Analyze significant design trends and practitioners
4. Analyze modern and contemporary designs

FDMA 1120. Desktop Publishing I

Course Description

This course is designed to teach introductory skills for designing and creating publications and presentations with layout software. The course will focus on graphics and typographic design, fonts, and other skills for print and web publishing.

Student Learning Outcomes

1. Demonstrate knowledge of fundamental features and navigation of desktop publishing software.
2. Combine text and images for effective communication.
3. Develop a balanced composition through use of color, contrast, and alignment.
4. Place images within a composition and wrap around text.
5. Produce documents with professional layout and typography skills.
6. Create attractive and effective designs.
7. Combine knowledge of typography, images, and design principles to produce professional print and web media.
8. Create or add to a professional design portfolio for future use.

FDMA 1130L. Film Crew I Lab

Course Description

Co-requisite lab for FDMA 2110. Students complete International Alliance of Technical Stage Employees (IATSE 480, OSHA) safety training, a fitness assessment and training in basic nutrition and environmental concerns specific to film set work.

Students will complete technical workshops for equipment operation. Students will be responsible for fees required for certification.

Student Learning Outcomes

At the conclusion of this course, the student should be able to;

1. Work safely and effectively on a film set.
2. Describe physical demands of location work.
3. Formulate good personal choices in nutrition using current dietary guidelines and physical health planning.
4. Model professional on set behaviors and safe use of technical equipment

FDMA 1140. Dramatic Analysis

Course Description

We will read representative plays and explore basic elements of the dramatic text, a foundational step for all theatre and film artists. The class format is lecture/discussion. You are expected to contribute to class discussions by way of an informed reading of the assigned material.

Student Learning Outcomes

1. Develop high order of reading skills, learning to read a text closely and attentively; to grasp the larger argument and implications of a dramatic text
2. Develop the ability to think independently
3. Learn to assess textual evidence
4. Learn to deploy textual evidence
5. Develop critical thinking and interpretive skills, learning to think both analytically and imaginatively

FDMA 1150. Introduction to Film Technology

Course Description

Introduction to film technology trades.

Student Learning Outcomes

Upon completion of this course, students should be able to:

1. Analyze and critically interpret film tech methods: I.E. Safety, Call sheets, Film tools, etc.
2. Demonstrate a firm understanding of working effectively in production crew positions in a group environment.
3. Explain the process of how the artist/designer made the specific piece and or decisions on final submissions.
4. Recognize and articulate specific film production structure, from original concept to final release.
5. Articulate personal ideas and thoughts on various artistic information.

FDMA 1160. Introduction to MAC Office Suite

Course Description

This course will introduce the student to computer terminology, concepts, and applications to focus on Microsoft Office Suite and their integration.

Student Learning Outcomes

Upon completion of this course, students should be able to:

1. Analyze and critically interpret the Mac operating system: I.E. Tools, Window, Applications, Key commands, etc.
2. Demonstrate a firm understanding of the OSX principles.
3. Recognize and articulate specific OSX terms and definitions.
4. Articulate personal ideas and thoughts on various OSX system information.

FDMA 1170. Scanning Techniques

Course Description

This course develops students' skills with scanning devices and software and correcting scanned content. Topics include scanning film, transparencies, flat work and three-dimensional objects, resolution and file formats and a checklist for purchasing a scanner.

Student Learning Outcomes

1. Use the software appropriately to scan objects and imagery
2. Use the software appropriately to correct scanned imagery for different output formats.

FDMA 1180. Adobe® Lightroom

Course Description

This class presents a thorough overview of Adobe® Lightroom, an application encompassing digital workflow, file management, basic adjustments, and presentation tools. Students will have a hands-on opportunity to work with Lightroom to create an efficient and comprehensive digital workflow.

Student Learning Outcomes

1. Use Adobe® Lightroom to professionally manage, develop, and present digital images.
2. Understand and use Adobe® Lightroom modules and tools.
3. Use Adobe® Lightroom to enhance and streamline the digital workflow.

FDMA 1185. Experimental Cinema

Course Description

Balances practical exercises with a theoretical and historical approach to film that expands and challenges the current views within the independent film industry nationally and internationally. Students experiment with conceptions of filmmaking by creating dialogue and healthy debate while also fostering individual creativity as filmmakers, artists and citizens of the culture.

Student Learning Outcomes

1. Explain the effects of an ever-evolving media landscape within the context of contemporary culture.
2. Identify historical and multicultural art movements and practitioners within the history of experimental filmmaking.
3. Interact with filmmaking and media in ways that expand the notion of what these subjects may be in the future.
4. Create a unique work of art in which it's subject or form is related to the context and history of experimental filmmaking and contemporary art practices.

FDMA 1190.International Documentary Cinema

Course Description

An exploration of the evolution of international documentary cinema focusing on films, directors, themes, issues, and cultures that have led to the most influential non-fiction films since the beginning of the 20th century. Technical, political, and socio□economic influences are explored. Students also examine our current society, the future of documentary films in the context of contemporary society, and how new technologies impact documentary films.

Student Learning Outcomes

1. Describe documentary film production processes and procedures
2. Analyze early 20th century documentaries
3. Evaluate propaganda films of the 20th century
4. Identify the effect of digital technology and 9/11/2001 on documentaries
5. Analyze and discuss sociological trends and the future of documentaries.

FDMA 1210. Digital Video Production 1

Course Description

An introduction to digital video production. Students learn camera operation, lights and audio equipment. Hands-on production is completed in the studio and on location.

Student Learning Outcomes

1. Plan and produce a digital video project
2. Apply post-production workflow
3. Work in team and as individual to complete digital video projects.

FDMA 1215. Introduction to Video Production

Course Description

An introductory course in video production designed for high-school aged students. Students create short video and new media productions that focus on diverse youth and cultural issues in the community. Through peer collaboration, research, and hands-on creation, students learn to pitch and execute stories that are topical and of current interest.

Student Learning Outcomes

1. Demonstrate form, structure, and style of short video productions
2. Identify the importance of the role of new media in society
3. Demonstrate short video production techniques
4. Demonstrate short video editing techniques
5. Identify the basic principles of pitching ideas for video productions.

FDMA 1220. Introduction to Digital Video Editing

Course Description

In this course, students learn the basics of the post-production process for non-linear video editing. Students work with multiple video formats and create short movies for multiple distribution platforms. Skills include media management and professional terminology.

Student Learning Outcomes

1. Define concepts related to digital video editing.
2. Use non-linear video editing software for editing a short film
3. Enhance storytelling through the use of continuity, timing, cutaways, intercutting, compositing, transitioning, jump cutting, montaging and animating.
4. Use text, titles, transitions, video effects, sound effects, dialogue, and visual assets for digital video editing.

FDMA 1255. Introduction to Digital Audio Documentary

Course Description

An introduction to basic digital studio and field production techniques and the procedures necessary for gathering aural history for the production of documentary radio/web broadcast. You will learn how to select and edit excerpts from your interviews to produce radio vignettes. You will study Pro Tools, basic audio field recording with digital technology, the practice of aural history, and the art of sound collage.

Student Learning Outcomes

By the end of the course, students will:

1. Gain experience in the basic techniques of audio recording and editing.
2. Observe the physical and social world with an understanding of how to record it.
3. Be conversant with the concepts of documentation and interpretation.
4. Have worked on a collaborative group project and as part of the class team.

FDMA 1260. Introduction to Digital Media

Course Description

Explores concepts of how text, graphics, sound, images and video come together in a digital media program and researching new trends and current issues related to media applications and design. Students will be involved in teamwork, communication and workplace interaction simulation.

Student Learning Outcomes

Students completing this course should be able to:

1. Describe and identify the principal components and terminology of digital media.
3. Analyze and examine the use of digital media as a communication tool
4. Plan and implement a digital media project
5. Critique professional digital media products.
6. Create projects using a variety of digital media tools
7. Demonstrate a working knowledge of copyright and usage rights
8. Present completed projects in a professional manner for critique.

FDMA 1265. Digital Media Literacy

Course Description

You will create a personal web page, which will serve as the foundation for exploring communication and web publication/syndication in the modern world.

Student Learning Outcomes

By the end of the course, students will:

1. Gain experience in the basic methods of creating and publishing web pages.
2. Develop skills to evaluate bias and meaning in one's own web published content and that of others.
3. Investigate the language of persuasion, as "persuader" and "persuade."
4. Explore issues of ethics in social media.
5. Develop critical thinking.

FDMA 1266. Digital Techniques in Visual Art

Course Description

Studio course introducing fundamental two-dimensional concepts and principles while focusing on processes and methodologies. Concepts, skills, process activities and methods introduced in this course are applicable across all areas of design. This course will utilize visual problem-solving skills to address personal, social, cultural or social justice issues and perspectives. Assignments will enable students to develop critical thinking and the ability to effectively communicate digital art criticism in a collaborative environment.

Student Learning Outcomes:

1. Develop skills in a variety of Adobe®® programs through tutorials, research and projects.
2. Develop traditional and digital production understanding for 2-D print and web projects.
3. Develop the ability to think conceptually and critically.
4. Develop the ability to articulate constructive criticism and guidance for suggested rework of the projects.
5. Build and practice using design vocabulary while discussing your own (and others') work.

FDMA 1280. Shooting Your Story

Course Description

This course covers basic filmmaking shot composition and story development for different movie genres. Using straightforward technologies, students will explore the essential movie-making elements: lighting, sound, and set decoration, that support the camera department as they develop their own visual story.

Student Learning Outcomes

1. Conceptualize and write a story suitable for presentation as a short film.
2. Create a short film using a variety of technologies for capturing visual elements and sound.
3. Design and create a visual plan including props to enhance a short film feature.

1290. Electronic Color Theory and Practice

Course Description
Students learn about electronic color modes, spaces, device calibration and color management. They learn to match output to input depending on production method, Including Web, print, and video. Topics include additive and subtractive color primaries, defining color space, device gamuts, choosing a color model, calibration and profiles, color management workflow, third party calibration software and hardware and color modes (bitmapped, grayscale, RGB, CMYK and Lab.)
Student Learning Outcomes

1. Understand the uses and applications of additive and subtractive color primarie.
2. Choose a color mode and working space.
3. Manage color calibration from Input to output for all media applications.
4. Make appropriate aesthetic and design choices regarding color.

FDMA 1310. Introduction to Television Production
Course Description
This course will provide students with an introduction to producing programming for television broadcast. Students will learn basic shooting, editing and broadcast live and recorded media. Work is performed on location and in the studio.
Student Learning Outcomes

1. Have a general understanding of how a variety of television programming is created.
2. Gain experience in the basic tasks of television production, including basic competencies in film conceptualization, videography, lighting, sound recording, editing and live switching.
3. Analyze television shows and other media.
4. Apply television production skills in individual and group projects.
5. Identify and analyze effects of television production on society.

FDMA 1320. Beginning Make-up Artistry
Course Description
Production aspects of make-up for film and television. Students learn the basic concepts of foundation, color, glamour and special effects make-up and participate in hands-on practical application of make-up for models and actors.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:

1. Demonstrate beginning level application of make-up for the motion picture, media and fashion industry.
2. Understand and participate in management and organizational roles on a film or fashion set.
3. Utilize appropriate industry standards as they apply to make-up.
4. Demonstrate team working skills as it applies to the make-up industry.

FDMA 1330. Documentary Film Production
Course Description
Documentary Film Production is a comprehensive introduction to the basics of Documentary Film Production. Students will make two short Documentaries.
Student Learning Outcomes

1. Demonstrate introductory level working knowledge and demonstrate proper use of camera, lighting, sound, and any other production equipment used during production and post-production.
2. Students will build a portfolio of their completed documentaries by writing, shooting, and editing footage into a commercial. Students will interview subjects on camera. Students will be able to showcase their works on a variety of platforms.
3. When working on a project a set of rules must be used to properly cover every aspect of shooting and producing. Students will demonstrate their understanding of these rules and concepts.

FDMA 1350. Radio Journalism

Course Description

An introduction to radio journalism offered in partnership with KSFR 101.1 FM Santa Fe public radio station. Students work with professional news journalists to learn the trade and tools used in broadcast and podcast news radio.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Write comprehensive journalistic prose
2. Identify credible news research sources for news reporting
3. Edit and integrate interviews, "natural sound" environments and research materials into a complete newscast for broadcast
4. Collaborate in team environments to deliver radio news in a professional environment.

FDMA 1355. Introduction to Visual Communications

Course Description

Not Available

Student Learning Outcomes

Not Available

FDMA 1360. Web Design I

Course Description

This course provides an introduction to web development techniques, theory, and design. Students will learn HTML, CSS application, and strategies for effective site navigation and design, along with industry standard web editing software to develop various websites.

Student Learning Outcomes

1. Acquire and utilize web design terminology.
2. Create basic web pages using HTML.
3. Demonstrate how to use industry-standard web editing software.
4. Design professional pages that are easy to navigate and quick to load.
5. Develop a basic comprehension of CSS
6. Prepare and export a variety of graphics to be used online.
7. Compare and contrast designing for web media vs. print media.
8. Analyze the importance of web presence in today's business/social climate.

FDMA 1365. UX/UI User Experience/User Interface Design

Course Description

An introduction to creating effective web page designs for yourself or your client. Students learn how a website's interface impacts a user's experience and the techniques to engage and maximize a website's effectiveness. Students explore the process that spans initial research and audience profiling, to content development and information architecture, to wireframing then, finally, to prototyping and style development.

Student Learning Outcomes

1. Demonstrate integration of research
2. Demonstrate understanding of the major components for user experience
3. Demonstrate understanding of user interface techniques
4. Demonstrate style and composition supporting UX/UI Principles

FDMA 1370. Commercial Production

Course Description

Commercial Production is a comprehensive introduction to the basics of Commercial Production. Students will make a commercial for a local business.

Student Learning Outcomes

1. Demonstrate introductory level working knowledge and demonstrate proper use of camera, lighting, sound, and any other production equipment used during production.
2. Students will build a portfolio of their completed commercials by writing, shooting, and editing footage into a commercial. Students will be able to showcase their works on a variety of platforms.
3. When working on a project a set of rules must be used to properly cover every aspect of shooting and producing. Students will demonstrate their understanding of these rules and concepts.

FDMA 1380. Introduction to Protools

Course Description

This hands-on course provides a basic introduction to recording and editing using Digi Design's Pro Tools software. Students have access to their own Pro Tools equipped Mac or Windows workstation as well as to the recording studio. Students record and edit their own final project.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Record audio for use in Pro Tools
2. Edit audio in Pro Tools
3. Create a finished product and burn to CD

FDMA 1390. Introduction to Ableton® Live

Course Description

Students work with Ableton® Live, the most frequently used live music performance and production software, to create and perform music. The features of the software will be studied in depth as well as music production and performance techniques.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Operate Ableton® Live software
2. Create and manipulate computer-based audio
3. Understand audio synthesis
4. Develop creative workflow
5. Create computer-based music for live performance
6. Create different styles of work with computer technology
7. Understand how to integrate third-party software with Ableton® Live

FDMA 1410. Audio Production I

Course Description

Students will learn about and apply essential tools and techniques in analog and digital audio production. Topics include acoustic science, microphones, recording and mixing techniques, analog and digital audio hardware and software, including multi-track, computer-based recording and editing systems.

Student Learning Outcomes

1. Apply tools and techniques in analog and digital audio production.
2. Illustrate the fundamentals of acoustic science.
3. Model professional behavior used in audio recording.

FDMA 1415. Principles of Sound

Course Description
The creation of a professional quality original media soundtrack is possible for relatively low production/post-production costs. This class is designed to give the student an overview of creating sound for a variety of digital media. Topics include acoustic principles, sound design, audio hardware, recording techniques; and editing, processing, and multi-track mixing, using software applications.
Student Learning Outcomes
Upon successful completion of this course, students will be able to do the following:

1. Record and edit wild sound effects and synced dialogue
2. Discover, upload, and edit on-line music, ambience and sound effect loops
3. Implement audio design theories
4. Create an aesthetic soundtrack which incorporates multiple elements and dimensions
5. Design, edit, process, mix and master a synced multi-track soundtrack
6. Demonstrate capable use of digital audio production and post-production workflow
7. Produce short audio projects which meet media industry technical standards.

FDMA 1417. Audio Field Recording
Course Description
Learn to use digital and analog audio recording equipment to produce field recordings from diverse settings. The class is designed as a workshop, incorporating fieldtrips, individualized support, group critiquing and problem solving.
Student Learning Outcomes

1. Identify, connect, and operate a variety of digital and analog recording devices: recorders, microphones, cables, headsets, power adapters, and media
2. Determine appropriate applications of specific microphones and recording devices
3. Plan, prepare, evaluate and execute successful field recordings
4. Effectively employ recording techniques for both environmental recordings and interviews
5. Envision and plan a project from conception to completion, including pre-production, production and post-production design. This includes writing and submitting a formal proposal with goals, project description, target audience, outcomes, evaluation and budget that would incorporate the class field recordings and additional fieldwork.

FDMA 1420. Performance for Film and Media I
Course Description
Introduction to acting skills and techniques unique to film, television and web-based productions. The class includes writing and performing a monologue for the screen, partner scene work, audition preparation and professional filmmaking terminology.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:

1. Perform short scene and monologue for the camera
2. Use film terminology appropriately
3. Understand career options
4. Demonstrate understanding of script breakdown and character analysis
5. Apply acting techniques for motion media.

FDMA 1430. Writing for Mass Media and the Web
Course Description

Instruction focuses on writing skills and applications for all forms of mass media, including journalism (news) and persuasive writing (advertising copy) and the web. Topics include basic principles of writing, analysis of factual information, the concept of news and careers in writing for mass media.

Student Learning Outcomes

1. Identify the general writing requirements for mass media
2. Identify the specific writing requirements for specific mass media forms
3. Write to specification several examples of mass media writing
4. Analyze elements of news or advertising copy with regard to their correct use.

FDMA 1450. Girls Make Media

Course Description

The class focuses on directing, producing, shooting and editing through hands-on workshops. Students in the class will work individually and in teams to create small films. Classes are designed to create media literacy pertaining to female focused subjects and create feminine voice through altruistic behavior. Designed for young women ages 14-21.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify and operate digital film production equipment
2. Perform direction and production skills
3. Understand female focus in media and electronic storytelling
4. Participate in a team process
5. Understand editing and compression for video.

FDMA 1460. Women make Media

Course Description

Designed for women ages 18+. The class focuses on directing, producing, shooting and editing through hands-on workshops. Students in the class will work individually and in teams to create small films. Classes are designed to create media literacy pertaining to female focused subjects and create feminine voice through altruistic behavior.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify and operate digital film production equipment, including cameras, lighting and audio equipment
2. Perform production and direction skills
3. Understand female focus in media and electronic storytelling
4. Participate constructively in a supportive and thoughtful team process
5. Understand editing and compression for video.

FDMA 1465. Women of Cinema

Course Description

A detailed study of the history of women producers and directors in the film industry. This course focuses on women directors and producers of the film industry. from early silent films to current cinema. This course explores the gender bias that has plagued the film industry since its beginning. Students delve into the work of
women ground-breakers and mavericks.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify significant women directors and producers and their impact on cinema
2. Demonstrate an understanding of gender bias in the film industry
3. Analyze the impact of women directors and producers from the silent era to present day
4. Identify women ground-breakers and mavericks.

FDMA 1470. Introduction to Social Media Basics

Course Description

Introduces the basics of Facebook, Twitter, Instagram, LinkedIn, and Pinterest. Topics include audience, purpose, demographics, image creation in Canva and Pic Monkey, obtaining and using stock images, review of successful social media campaigns and evaluation tools available, and management tools such as Hootsuite, Sproutsocial, Buffer, and Facebook scheduling.

Student Learning Outcomes

1. Create personal and business social media accounts
2. Capture or create images
3. Explain the function of social media platforms and management tools.

FDMA 1475. Social Media Basics

Course Description

Develops students' skills using the social media platforms of Facebook, Twitter, Instagram, LinkedIn, and Pinterest and introduces blogging. Topics include successful social media campaigning, optimum scheduling, third-party scheduling, advertising, boost posting, Google analytics, and social media integration with websites. Students create and utilize a WordPress site.

Student Learning Outcomes

1. Create personal and business social media accounts
2. Create a social media campaign
3. Produce reports that include data and analytics
4. Apply social media tools within websites.

FDMA 1480. Contemporary and Postmodern Film

Course Description

An examination of the social and political context of the postmodern era of filmmaking. This class explores postmodern filmmaking techniques, aesthetic choices and stylistic devices. Includes the work of Quentin Tarantino, the Coen Brothers, Ridley Scott, Spike Jonze and Charlie Kaufman.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Recognize and distinguish the differences between postmodern filmmaking and other types of filmmaking.
2. Describe the political and social context of contemporary filmmaking.
3. Describe and recognize the use of specific filmmaking techniques, aesthetic choices and stylistic devices.
4. Critique various contemporary films from multiple perspectives, including film studies, cultural theory and sociocultural history.

FDMA 1510. Introduction to 3-D Animation

Course Description

This course provides an overview of 3-D animation production processes. Students will be introduced to basic story development and the creation of computer-generated assets and cinematic sequences. The course will survey specialty areas of digital animation and various software and techniques applied in entertainment and information media. Students will review and critique other’s animation, as well as plan and produce original animation for review by classmates and as part of a CGI demo reel.

Student Learning Outcomes

1. Demonstrate a fundamental understanding of 3-D animation history and principles.

2. Analyze animation work of other artists.
3. Appropriately utilize the various media technologies for digital 3-D animation.
4. Demonstrate and apply basic techniques of digital 3-D animation.
5. Demonstrate and apply basic processes of creating CGI for a narrative.
6. Apply some basic strategies for developing and creating a story visually, and create original animations.
7. Present original animations to instructor and classmates for critique.
8. Create a CGI demo reel of work completed during the course.

FDMA 1515. Introduction to Digital Image Editing – Photoshop®

Course Description

In this course, students will learn how to use the tools in Adobe® Photoshop®® to create new images and edit existing images. Tools used will include selections, layers, and adjustments, among other pixel editing tools. Basic composition and output will be emphasized in all projects.

Student Learning Outcomes

1. Make and refine selections
2. Adjust color and tone in an image
3. Eliminate unwanted objects in an image
4. Apply layers to organize and create effects
5. Create brushes, styles and vector shapes
6. Prepare image for print and screen output
7. Apply masking and layers to non-destructively edit an image
8. Effectively utilize blending modes and layer styles
9. Apply adjustment layers
9. Apply design principles including typography.

FDMA 1517. Photoshop® Techniques

Course Description

Students will familiarize themselves with image editing using Adobe® Photoshop®®. Students will use Adobe® Photoshop®® tools for painting, retouching, and enhancing images. Students will learn to work with layers and layer selections.

Student Learning Outcomes

1. Understand what a digital image is – resolution
2. Digital workflow
3. Optimize images in Adobe® Camera Raw
4. Effectively use selections tools: Quick Selection, Color Range, Quick Mask pen tool and refine edge
5. Understand layers and layer masks
6. Add text to images and page layouts
7. Composite images – Smart Filter, Transform.

FDMA 1520. Introduction to Digital Media

Course Description

This course is designed to provide students with a survey of the histories, innovative concepts, and creative possibilities of digital media. Within both the lecture hall and the studio lab, students will consider a wide variety of digital media processes and applications. Additionally, students will learn fundamental skills in teamwork, storytelling, and design.

Student Learning Outcomes

1. Demonstrate their understanding of fundamental key concepts, principles of animation and the moving image, and visual storytelling skills through digital narrative,
2. Demonstrate collaboration and interdisciplinary work through digital media projects,

3. Students will be able to present and analyze creative works and develop strong communication.

FDMA 1525. Introduction to Filmmaking

Course Description

An introduction to the study and practice of filmmaking. Students will study the formal elements of film through close-reading of significant short films and relevant excerpts from feature-length films. Introductory study is enriched through the applied practice of hands-on filmmaking exercises.

Student Learning Outcomes

1. Students will learn the basic elements of film.
2. Students will learn how to effectively use HD cameras and consumer-level filmmaking software applications to demonstrate a basic comprehension of those elements.
3. Students will learn how to better conceive, create and distribute short film projects.

FDMA 1531. Evolution of Electronic Games

Course Description

Focus on the evolution of video games and how they have shaped mainstream entertainment.

Student Learning Outcomes

1. Analyze the historical development of video games from early arcade machines to modern consoles and mobile platforms.
2. Evaluate the impact of technological advancements on video game design, graphics, and gameplay mechanics.
3. Identify key milestones, influential games, creators, and major companies that shaped the video game industry.
4. Examine how video games have influenced and been influenced by other forms of media and popular culture.
5. Assess the social, cultural, and economic impacts of video games as they evolved into a mainstream form of entertainment.
6. Discuss current trends and predict future directions in video game development and the gaming industry.

FDMA 1535. Introduction to Illustrator

Course Description

Students receive instruction on vector graphics creation using vector illustration software. The students will create professional-quality artwork for print publishing and multimedia graphics. Instruction includes creating and manipulating basic shapes, drawing with the pen tool, using various brushes, working with type and preparing graphics for web, print, and digital publication.

Student Learning Outcomes

1. Apply a variety of shape blending options
2. Create and apply new gradients
3. Apply Gradient Meshes and Envelopes
4. Create symbols, brushes and vector shapes
5. Apply Pathfinder® and other effects
6. Effectively utilize the pen tool to draw and edit shapes
7. Effectively utilize Vector tools
8. Prepare image for print and screen output
9. Apply clipping masks.
10. Prepare image for use in another program
11. Apply design principles including typography.

FDMA 1536. Advanced Computer Illustration

Course Description

Advanced techniques in 2-D vector drawing and fundamentals of 3-D illustration for use in print, web, and multimedia applications..

Student Learning Outcomes

1. Demonstrate proficiency in using advanced features of Illustrator.
2. Identify and create different illustrator/art styles using advanced techniques for shading, perspective, light, reflection.
3. Produce high quality digital imagery incorporating basic principles of composition.
4. Create a series of illustrations demonstrating a design competency in layout foundation and illustrative moods or client/project based solutions.
5. Create high quality portfolio pieces that demonstrate an advanced knowledge of design, composition and Illustrator techniques.
6. The students will produce finished printed portfolio pieces demonstrating a comprehensive knowledge of typographical, design, illustrative and layout skills.

FDMA 1540. Introduction to Motion Graphics

Course Description

This course introduces students to digital animation using Adobe® After Effects®. Students will use After Effects to create layers, compositions, typefaces, visual effects, and rendering. Students will also design short animations of their own, and will work through lessons and tutorials.

Student Learning Outcomes

1. Demonstrate a basic understanding of animation history and principles, including traditional and digital animation.
2. Compare and contrast the animation work of other artists.
3. Demonstrate experience in the basic components of digital animation, including layers, compositions, typefaces, effects, and rendering, utilizing professional motion graphics software.
4. Create professional-looking special effects projects.
5. Create professional-looking short animations.
6. Explain the importance of professional animation.

FDMA 1545. Introduction to Photography & Digital Imaging

Course Description

This course is a study of the principles and techniques of photography using digital equipment, and discusses how digital cameras, imaging editing, and technology have changed the world of photography. Students will learn about studies in resolution, lighting, software, editing, printing, and web applications. They will gain fundamental knowledge in the rapidly expanding technology of photography and imaging, and be able to incorporate the knowledge into all areas of digital graphics.

Student Learning Outcomes

1. Exhibit proper usage of the principles and techniques of photography using digital equipment.
2. Utilize features and techniques of a digital camera with proper use of lenses, settings, and flashes.
3. Create photo collections that represent proper use of technical skills.
4. Demonstrate proficiency in planning, lighting, capturing, and distributing photographic projects which show ability to create photographs artistically and to tell a story or express an idea.
5. Utilize appropriate software to create original projects.
7. Demonstrate knowledge in post-production of photos as to sizing, sampling, resolution, and exporting.
8. Produce original projects which respect intellectual property of others.
9. Create a digital portfolio of work completed during the course.

FDMA 1550. Introduction to Post-production Editing

Course Description
A comprehensive introduction to the basics of editing short films, documentaries and commercials. This is the second course of a comprehensive 2 Year Certificate in Film and Television Production.
Student Learning Outcomes
1. Demonstrate introductory level working knowledge and demonstrate proper use of post-production and editing software.
2. Students will demonstrate editing skills by putting together scenes of shot footage.
3. Students will build an editing portfolio of their completed works by shooting scenes and editing them using post-production software.
4. Students will be able to showcase their finished work on a variety of platforms.
5. When working on a project a set of rules must be used to properly cover every aspect of editing. Students will demonstrate their understanding of these rules and concepts.

FDMA 1555. Introduction to the Creative Media Industry
Course Description
This class is an introductory course for students who are beginning their understanding of media and how it affects them and our society. It offers a broad-stroked view of the entire industry including marketing, production, history, jobs, design, architecture, new media literacy, and industry standards. Students will listen to experts in the field, get involved in open discussions about the industry and use new information to complete hands-on individual & group assignments.
Student Learning Outcomes
Students enrolled in this course will leave with:
1. The basic philosophies and methods that guide people working in the Creative Media industry.
2. Knowledge of a wide variety of different jobs, qualifications and paradigms used in the industry.
3. Marketing, Production, Budgets, History, New Media, Inspiration and other aspects of the industry.
4. An accurate view of the Creative Media field.

FDMA 1560. Screenwriting I
Course Description
An introduction to writing scripts for media and film. Students are introduced to narrative film structure and produce a short script.
Student Learning Outcomes
1. Identify components of television and film scripts
2. Perform simple scriptwriting assignments
3. Write a simple screenplay.

FDMA 1570. Game Design Analysis
Course Description
An overview of games past to present and analysis of specific video game genres. Students learn the historical and cultural significance of video games through lecture and research. Students analyze and write about a different genre or video game each week. Topics include game history, game analysis, game mechanics, game design, and game theory.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Demonstrate an understanding of the history of video games and their significance in today's culture
2. Effectively dissect and analyze a video game
3. Explain the genres of video games, their mechanics, presentation, and theory
4. Present and analyze topics within video games, including sociological, cultural, and historical perspectives.

FDMA 1580. Game Design Fundamentals

Course Description

An introduction to the elements of game design and creation. Video games will be dissected and analyzed. Students create traditional (non-video) games to gain hands-on knowledge of the fundamentals of game design. Topics include game design, game play, game balance and game theory.

Student Learning Outcomes

Not Available

FDMA 1610. Co-op Feature Film Production

Course Description

Co-Op Feature Film Production extends the opportunity to work on a UNM Produced Film in a variety of capacities that include grip work, production assistants, script supervisors, and editors. Students will work closely with each other and the director to successfully shoot a feature film.

Student Learning Outcomes

1. Demonstrate introductory level working knowledge and demonstrate proper use of camera, lighting, sound, and any other production equipment used during production.
2. Students will learn hands on by working on a Feature Film production as it is being produced. Students will be credited for their work on the film and given a copy of the finished product for showcasing.
3. When working on a project a set of rules must be used to properly cover every aspect of shooting and producing. Students will demonstrate their understanding of these rules and concepts.

FDMA 1620. Location Shooting

Course Description

Issues of coverage and composition for short-form independent location filmmaking with special attention to considerations of post-production. Basic camera usage on location; basic storytelling; assessing/utilizing locations for set, light and sound sources; basic editing and DVD authoring.

Student Learning Outcomes

Upon completing this course, students will demonstrate the following:

1. Understanding of principles of HD video camera operation
2. Ability to use camera and lighting equipment to creatively tell stories.
3. Basic capacity with post-production process.
4. Ability to translate the written word into a visual image.
5. Knowledge of proper set etiquette and ability to collaborate effectively and professionally.

FDMA 1630. Principles of Design

Course Description

This course will explore how we see and use visuals to communicate information. Students will develop critical thinking skills in applying concepts of basic design principles. Students will apply the concepts with hands-on and analysis assignments. These concepts will then be applied to design for advertising, print, digital media, and web design. The business of design will also be covered with emphasis on client relations and networking. .

Student Learning Outcomes

Students completing this course will:

1. Practice Creativity
2. Plan a Design project
3. Demonstrate the effective use of Emphasis & Contrast
4. Demonstrate the effective use of Balance and Alignment
5. Demonstrate the effective use of Harmony and Repetition

6. Demonstrate the effective use of Flow, Movement, and Rhythm
7. Demonstrate the effective use of Simplicity and Economy
8. Effectively apply basic color theory
9. Demonstrate the effective use of Typography principles
10. Apply design principles to Screen & Print Projects
11. Develop client relations

FDMA 1635. Design Principles

Course Description

Explore the relationships of the forms and principles of the natural world, the processes they perform, and how to intentionally embed universally understood information that communicates deeply and effectively in a global world. This class will include examples of process from nature and their correlates in humanly expressed design-why and how they work. Students will create design projects based on these concepts.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate the ability to recognize patterns of nature
2. Distinguish universal principles in nature and apply them to design
3. Collaborate with a group to create effective design solutions

FDMA 1640. Independent Film

Course Description

An exploration of the form, history and impact of motion pictures as an art form, an economic force and a representative form of communications as observed through the lens of independent film. View examples of various categories of independent films and explore issues related to the social, historical, business and cultural aspects of the medium. Topics include genre studies from road movies to grind house and a focus on auteurs from Cassavetes to VanSant.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify critical elements of film structure, plot and composition.
2. Identify developments in the history of independent filmmaking.
3. Define critical terms related to film production and criticism.
4. Demonstrate critical viewing skills.

FDMA 1650. Short Film Production

Course Description

Short Film Production is a comprehensive course in short film production. Students will prepare for preproduction, write, cast, rehearse, shoot, and edit their own short film throughout the course. Students will demonstrate their understanding of short film production.

Student Learning Outcomes

Upon successful completion of the course student will be able to:

1. Demonstrate introductory level working knowledge and demonstrate proper use of camera, lighting, sound, editing software and any other production equipment used during production.
2. Students will build a portfolio of their work in Short Film Production by shooting and editing their own short film in which they will be able to showcase their finished work on a variety of platforms.
3. When working on a project a set of rules must be used to properly cover every aspect of shooting and producing. Students will demonstrate their understanding of these rules and concepts.

FDMA 1660. SUAVs (Drone) Technology I

Course Description

This course is part one of a two-part six credit hour certificate program in Drone Technology. curriculum includes; pilot operation, FAA Part 107 certification preparation, and commercial deployment of Small Unmanned Aerial Vehicles (SUAVs), more commonly known as drones. Topics covered will be Still and Moving Imagery, Surveying, and Mapping.

Student Learning Outcomes

1. Relevant Laws and Regulations - Students will get an overview of the rules currently governing use of SUAVs. We will provide resources for understanding these policies as well as context about them. A strong emphasis will be placed on preparation for FAA Part 107 certification exam.
2. Current Applications of the Technology - We will present. scenarios in which SUAVs have been used for local research well as other prospective applications of the technology. We will discuss strengths, weaknesses, advantages, and limitations of the quadcopters and related programs we have used so far.
3. Flight Mechanics - Students will learn the basic flight-related terminology describing the actions of the drone while in mid-air, and the logic behind the parts of the vehicle that cause those actions to take place. Pitch, roll, and yaw will be explained in context of a drone.
4. Piloting Skills - Students will have the opportunity to practice operating several different SUAVs in controlled environments under the supervision of our two licensed operators. Safety will be our main priority; but we also want students to enjoy and feel comfortable learning how to pilot high-quality small SUAVs.
5. Creative/Entertainment/Marketing Applications - Through multiple organized creative still and moving image projects. Students will learn to plan and execute image capturing for creative/entertainment (filmmaking), and marketing (Real Estate, Construction) applications.
6. Mission Planning - Students will become familiar with apps such as Drone Deploy that are used as mission planning software for image collection. They will learn the basics of plotting a path and determining the settings that the drone will use to fly its mission autonomously.
7. . Photogrammetry and Image Processing - Students will learn how to convert images taken using a drone into larger composite orthomosaic images using stitching software.
8. Project-Based Inquiry - As part of this exploration of knowledge, students will have three small projects over the duration of the course.
9. Safety - As researchers ourselves, we want to emphasize.

FDMA 1665. SUAVs (Drone) Technology II

Course Description

This course is part two of a two-part six credit hour certificate program in Drone Technology. curriculum includes; pilot operation, FAA Part 107 certification preparation, and commercial deployment of Small Unmanned Aerial Vehicles (SUAVs), more commonly known as drones. Topics covered will be Still and Moving Imagery, Surveying, and Mapping.

Student Learning Outcomes

By the end of the course, students will:

1. Relevant Laws and Regulations - Students will get an overview of the rules currently governing use of SUAVs. We will provide resources for understanding these policies as well as context about them. A strong emphasis will be placed on preparation for FAA Part 107 certification exam.
2. Current Applications of the Technology - We will present scenarios in which SUAVs have been used for local research well as other prospective applications of the technology. We will discuss strengths, weaknesses, advantages, and limitations of the quadcopters and related programs we have used so far.
3. Flight Mechanics - Students will learn the basic flight-related terminology describing the actions of the drone while in mid-air, and the logic behind the parts of the vehicle that cause those actions to take place. Pitch, roll, and yaw will be explained in context of a drone.

4. Piloting Skills - Students will have the opportunity to practice operating several different SUAVs in controlled environments under the supervision of our two licensed operators. Safety will be our main priority; but we also want students to enjoy and feel comfortable learning how to pilot high-quality small SUAVs.
5. Creative/Entertainment/Marketing Applications - Through multiple organized creative still and moving image projects. Students will learn to plan and execute image capturing for creative/entertainment (filmmaking), and marketing (Real Estate, Construction) applications.
6. Mission Planning - Students will become familiar with apps such as Drone Deploy that are used as mission planning software for image collection. They will learn the basics of plotting a path and determining the settings that the drone will use to fly its mission autonomously.
7. Photogrammetry and Image Processing - Students will learn how to convert images taken using a drone into larger composite orthomosaic images using stitching software.
8. Project-Based inquiry - As part of fn1s exp1orat10n or knowledge, students will have three small projects over the duration of the course.
9. Safety - As researchers ourselves, we want to emphasize.

FDMA 1700. Film Theory and Criticism

Course Description

An exploration of the nature of film as a complex cultural, psychological, and political medium through the discussion of key theoretical and critical approaches. Includes realist theory, genre criticism, auteur theory, structuralism, feminist theory, and journalistic criticism. The course combines weekly feature-length viewings with lectures, group discussions, and written assignments. Prerequisite: ENGL 109. Offered: Occasionally. Three lecture hours.

Student Learning Outcomes

1. Identify basic film terminology
2. Discuss major trends in film criticism and theory
3. Analyze films using different critical approaches
4. Articulate individual ideas about film in relation to these trends and types of criticism.

FDMA 1710. 2-D Animation

Course Description

Students will learn the basics of digital 2-D animation by working through a variety of exercises, creating an original storyboard, and animating five or more shots utilizing industry standard software.

Student Learning Outcomes

1. Be able to correctly storyboard an animation scene
2. Define and demonstrate basic animation terminology and principles.
3. Produce a complete hand drawn animation using industry standard software and processes.

FDMA 1715. 2-D Compositing & FX

Course Description

This course will familiarize students with the process of compositing and creating special effects for animation using industry standard software. Students will learn how to assemble an animated scene and use advanced 3-D lighting, spacing, and digital effects to achieve a dynamic, professionally rendered look.

Student Learning Outcomes

1. The goal of this class is for students to learn how to use advanced compositing and effects tools in order to achieve a more dynamic and professional visual look for their animations or motion graphics.
2. By the end of the class, you should be proficient animation compositors that can assemble and synthesize a basic animation into a rendered, visually sophisticated piece.
3. Students who pass this class will have a basic to intermediate knowledge of Adobe® After Effects.

FDMA 1716. 2-D Animation and Sound

Course Description

Students will learn sound editing theory and practice including audio effects and restoration. Students will also learn 2D Animation basics including drawing, tracing and moving assets. Animating characters and text with motion tweening and masks.

Student Learning Outcomes

1. Edit single track audio files.
2. Apply audio effects.
3. Edit multiple tracks.
4. Design sounds.
5. Create animated graphics.
6. Create animated text.
7. Create and animate symbols.
8. Adjust camera angles.
9. Motion tween assets.
10. Build and animate basic characters.

FDMA 1720. 3-D Character Design

Course Description

Focus on designing a character and then taking that design and building it in 3-D using intermediate modeling techniques.

Student Learning Outcomes

Upon completion, with 80% accuracy, 80% of the students who complete this course, will be able to:

1. Translate concept art into a low-and high-resolution 3-D model using proper modeling techniques
2. Use Polygon modeling techniques to create a 3-D character
3. Layout UVs and utilize Adobe® Photoshop® to texture a model.

FDMA 1725. 3-D Shading and Lighting Techniques

Course Description

Study of various global, scene and character lighting techniques, shading and shadowing, and creating atmospheres and reflections that bring computer generated 3-D scenes to life. Examines environmental and studio lighting to bring real life experience into the digital production process.

Student Learning Outcomes

1. Students will demonstrate visual communication skills through critiques, written explanations, and storyboarding.
2. Students will be able to illustrate ideas.
3. Students will be able to storyboard animation and video projects.
4. Students will be able to create complex lighting situations in a 3-D environment.
5. Students will be able to expand expertise in 3-D studio as well as Maya.
6. Students will be able to produce original projects that respect intellectual property of others.

FDMA 1730. 3-D Graphics and Animation II

Course Description

A continuation of 3-D graphics and animation studies, geared towards developing and producing advanced animation projects by expanding and refining skills acquired in MART 148. Topics include advanced techniques and tools for 3-D modeling, texturing, and character rigging.

Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Demonstrate an understanding of expressions and behaviors
4. Create realistic textures
4. Create convincing movement
5. Produce 3-D animations with audio tracks

FDMA 1740. Graphic Design: Basics
Course Description
Introduces principles of good design for visual communication. Terminology, history, and processes in computer generated print media are covered.
Student Learning Outcomes
Upon completion of this course, students should be able to:
1. Analyze and critically interpret graphic design choices: I.E. Line, Space, Negative Space, Scale, Position, Layout, etc.
2. Demonstrate a firm understanding of the Graphic Design principles.
3. Explain the process of how the artist/designer made the specific piece and or decisions on final submissions.
4. Recognize and articulate specific graphic design terms and definitions.
5. Articulate personal ideas and thoughts on various artistic information.

FDMA 1745. Graphic Design: Computer Illustration
Course Description
Digital manipulation of images using Bezier curves, points and paths, color blends and fills, and non-linear text.
Student Learning Outcomes
Upon completion of this course, students should be able to:
1. Analyze and critically interpret graphic design choices: I.E. Line, Space, Negative Space, Scale, Position, Layout, etc.
2. Demonstrate a firm understanding of the Illustrator program and palette(s).
3. Explain the process of how the artist/designer made the specific piece and or decisions on final submissions.
4. Recognize and articulate specific illustrator windows: Layers, Swatches, Color, Brushes, Align, and Pathfinder.
5. Articulate personal ideas and thoughts on various artistic information.

FDMA 1993. Workshop
Course Description
Varies
Student Learning Outcomes
Varies

FDMA 1994. Film and Digital Media Arts Portfolio
Course Description
Varies
Student Learning Outcomes
Varies

FDMA 1996. Topics
Course Description
Specific titles to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

FDMA 2110. Introduction to Film Studies

Course Description

This course introduces students to the fundamentals in film history, criticism, and theory. Through viewing and analysis of a variety of narrative, documentary, and experimental films, students will advance their understanding of key issues in filmic representation and aesthetics. A range of approaches will be employed in understanding the aesthetic and cultural significance of the medium, including feminism, post-colonialism, critical race theory, and modernism.

Student Learning Outcomes

1. Identify key movements in film history.
2. Demonstrate a basic vocabulary in film production, as well as film studies and criticism.
3. Recognize and identify the specific formal elements that make up a film.
4. Interpret and analyze how formal elements contribute to the implicit meaning of a film.

FDMA 2110L. Introduction to Film Studies Laboratory

Course Description

Most of us watch films for entertainment and enjoyment. We are constantly aware of the "content" of the film: characters, plot, dialogue, etcetera. This class challenges you to become aware of the formal elements of film and to learn to use those elements to "read" a film as a text. Students will be able to argue larger thematic meanings of films, independent of the surface, content-based meaning.

Student Learning Outcomes

Upon successful completion of this course, students will be able to

1. Recognize and Identify the specific formal elements that make up a film.
2. Distinguish between those formal elements and the content of a film.
3. Interpret and Analyze how formal elements contribute to the implicit meaning of a film.
4. Apply these skills to discuss, and write about films with academic rigors.

FDMA 2111. Environmental Scene Design

Course Description

Modeling design techniques used to create environments and scenes for use in animated films and games. Investigation of both natural and architectural environments to be recreated in the virtual world.

Student Learning Outcomes

Not Available

FDMA 2112. Environmental Modeling, Shading and Lighting

Course Description

Modeling design techniques to create natural and architectural environments to be used for animated films and gaming. Study of various lighting techniques, shading and shadowing.

Student Learning Outcomes

1. Understand how to model more efficiently.
2. Understand how UV texturing works.
3. Create seamless textures.
4. Model, texture, shade, and light their own object.

FDMA 2113. Fabrication for Film

Course Description

Students will gain construction and fabrication skills utilized by film art departments including design, light construction, sculpture and prototyping, and will contribute to the design and fabrication of sets and costumes for student film projects.

Student Learning Outcomes

1. Work with film production staff to conceptualize the look for a motion picture. Implement proper safety procedures when working in a studio environment.
2. Design and build props and models using various artistic techniques including sculpting, molding and painting.
3. Create props and models in adherence to deadlines established by film director.

FDMA 2120. Film Crew I/Introduction to Film and Media Workflow

Course Description

An introduction to the film industry. This class teaches film production processes, film crew hierarchy, film production set-safety and etiquette and provides hands-on training in industry standard film production equipment. Students complete the semester by participating as a below-the-line crew member on a short film.

Student Learning Outcomes

1. Explain film production processes; Interpret call sheets and deal memos, model basic on-set protocols and professional behavior
2. Assist producers and directors in completing a professional film project
3. Work effectively in production crew positions in a group environment.
4. Recognize and articulate specific film production structure, from original concept to final release.

FDMA 2125. Film Crew II

Course Description

The second of three courses (FDMA 2120, 2125 and 2130) designed to train students to become working members of film crews. It will be taught by working film professionals. Content will be lecture and hands-on. Students complete the semester by working as part of an actual film crew as below-the-line and above-the-line crew members.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Understand film production processes used to produce a film
2. Manage craft area job functions
3. Model on-set protocols and professional behaviors
4. Assist producers and directors in completing a professional film projects

FDMA 2130. Film Crew III

Course Description

This is the third of three courses (FDMA 2120, 2130 and 2135designed to train students to become working members of film crews. Students work in teams to complete a short motion picture.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate· the film production process
2. Direct the motion picture
3. Produce the motion picture
4. Shoot the motion picture
5. Edit the motion picture
6. Distribute the motion pictures

FDMA 2135. Film Crew IV

Course Description

The first of two courses that span a full academic year. In FILM CREW IV students who have been accepted will produce and direct their film and/or media project Students will work with instructors during this process and have access to equipment,

technology and student crew members to complete their production. Students must have completed their pre-production for their project and have followed the submission guidelines published by the college before taking this class.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Utilize appropriate industry standards for job applications
2. Understand and participate in management and organizational roles on a film set
3. Produce and Direct a motion picture
4. Better interpersonal and networking skills.

FDMA 2140. Film Crew V

Course Description

The second of two courses that span a full academic year. In FILM CREW V students who have been accepted will complete the post-production process for their film and/or media project. Students will work with mentors during this process and have access to equipment, technology and student crew members to complete their production. Students will have a deadline for completion set by the instructors. Upon completion all students must participate in the college's end of the year screening program as well as submit to four film festivals statewide.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Utilize appropriate industry standards for job applications
2. Understand and participate in management and organizational roles on a film set
3. Edit a motion picture
4. Implement editing theory and practice
5. Distribute a motion pictures

FDMA 2144. Pre-production Management

Course Description

Pre-production planning paperwork breakdowns, budgeting, and scheduling; taking a project from start to finish from a producer’s standpoint.

Student Learning Outcomes

1. Demonstrate proficiency in various areas of pre-production
2. Create a script breakdown, budget, production and post-production schedule, and management plan and timeline that are technically sound.
3. Use features of pre-production and project management software, to foresee and plan the pre-production, production, and post-production stages of a project
4. Demonstrate understanding of the processes of supporting and managing a project, through the pre-production, production, and post-production stages to completion
5. Work collaboratively and communicate effectively with the pre-production and management teams to produce the desired finished project.

FDMA 2145. Postproduction Color Compositing

Course Description

An intermediate course in color grading, color compositing, and post-production using DaVinci Resolve. This course provides hands-on training in the theories, techniques and practice of digital color grading and editing with the DaVinci Resolve post-production editing system. Students explore the core principles of color compositing and color grading to enhance and bring a new layer of story to images and films.

Student Learning Outcomes

1. Describe the basics of color theory

2. Demonstrate the use of color in storytelling
3. Create finished films using Da Vinci Resolve editing system
4. Demonstrate the use of Da Vinci Resolve software tools, secondary corrections, nodes, and tracking
5. Implement proper workflow for final deliveries.

FDMA 2150. Desktop Publishing II

Course Description

This class will enhance and build upon student layout/design skills developed in the Introduction to Desktop Publishing course, incorporating intermediate to advanced concepts in typography and layout design. Upon completion of this course, students will be able to use page layout software to prepare a variety of documents for presentation and critique, including newsletters, instructional flyers, and other complex design/typographic pieces.

Student Learning Outcomes

1. Build upon knowledge of design and design terminology.
2. Exhibit intermediate to advanced design principles using type, layout, and color.
3. Demonstrate skill in intermediate to advanced concepts and features of page layout software.
4. Exhibit knowledge of styles, tables, images and clipping paths and interactive documents as well as printing preparations and procedures.
5. Create layouts for print, web, and other media that demonstrate an intermediate to advanced knowledge in typography and layout design.
6. Format and produce newsletters and instructional flyers, as well as larger, complex projects such as packaging mechanicals, multiple master page documents, and books.
7. Assess works of graphic design for quality and effectiveness.
8. Utilize produced material to create or add to a design portfolio for future use.

FDMA 2153. Introduction to WordPress

Course Description

Instruction in creating blog websites using WordPress, the industry standard content management system CMS). Topics include Word press themes, navigating the dashboard, creating blog posts, adding pages, and creating menus.

Student Learning Outcomes

1. Demonstrate familiarity with Word press themes
2. Demonstrate the ability to navigate the dashboard and manage the site.
3. Create a static page and menu
4. Post a blog.

FDMA 2155. Photoshop® II

Course Description

This is an intermediate-level course in Adobe® Photoshop®, building on skills and concepts learned in Photoshop® I. Topics include layer and channel masks, advanced layers, color management, and presentation tools.

Student Learning Outcomes

1. Demonstrate a thorough understanding of layers and masks
2. Demonstrate competency with Photoshop® tools and adjustments
3. Demonstrate a basic knowledge of color management
5. Analyze tasks and delineate the steps necessary to achieve a finished project

FDMA 2160. Film Crew Seminar

Course Description

Industry specific seminars focused on particular craft areas in the film industry. Seminars are hands-on practical classes.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Articulate understanding of film industry practices.
2. Distinguish between various educational and career choices in New Mexico film industry.
3. Demonstrate application of improved film making skills.

FDMA 2165. Film Crew Internship

Course Description

Internship students work on various film projects from Hollywood films to independent feature to public service announcements. Student must complete 150 internship hours in the course of one semester. All students participating in the internship program must have a B or better in Film Crew Training I and complete a Production Assistant Workshop.

Student Learning Outcomes

1. Internship work on professional films.
2. Work effectively and safely
3. Understand and use technology specific to job application
4. Networking.

FDMA 2170. Advanced Grip Training

Course Description

Advanced course in grip skills for the professional motion picture and television industry. This course covers building and operation of camera dollies, jibs, general rigging techniques, and on-set safety. Students gain practical experience through use of industry standard equipment.

Student Learning Outcomes

1. Identify basic grip equipment
2. Safely build and operate camera dollies
3. Safely build and operate jibs
4. Demonstrate safe rigging techniques
5. Demonstrate on-set safety.

FDMA 2171. Adventure Filmmaking

Course Description

Introduction to the technical skills of Adventure Filmmaking. This 10 Day
intensive course will give students an opportunity to use cutting edge camera gear in outdoor settings while working as a team to tell exiting stories and stay safe.

Student Learning Outcomes:

Students will be able to:

1. Manage technical camera gear in challenging outdoor locations
2. Create a risk assessment plan with strategies for safety
3. Work as a team to create a compelling video reel
4. Demonstrate at least three camera moves that add to the visual storytelling process
5. Edit and organize the post-production workflow

FDMA 2175. International Cinema

Course Description

A cinematic exploration of other nations, cultures and ways of perception. Films from around the world provide the basis for such topics as the historical development of a nation's cinema through the eyes of its leading directors; an in-depth focus on

the works of a foreign filmmaker; a multi-cultural comparison of films thematically linked; and other subjects related to appreciating international cinema.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Discuss the uniqueness of a foreign culture's way of perception.
2. Recognize and describe the differences between American cinema and that of other nations.
3. Identify the oeuvre of culture or individual filmmaker.
4. Write a critical analysis of film, utilizing the basic vocabulary of film.

FDMA 2180. International Horror Cinema

Course Description

In-depth analysis of international horror cinema in which students explore important contributions from foreign countries to the horror genre. Rare films offer insight into the development of cinema's portrayal of the terrifying from ghosts to homicidal maniacs, from social judgment to repressed sexuality.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe the historical development and contributions of foreign films to the horror genre.
2. Describe the social and psychological significance of the horror genre.
3. Compare and contrast different cultural examinations of what constitutes horror.
4. Discuss and demonstrate an appreciation of the horror genre as a medium of social commentary.
5. Critically examine and describe the diverse foundations of the horror genre and their impacts on the field.

FDMA 2190. Social Media and Global Sustainability

Course Description

Not Available

Student Learning Outcomes

Not Available

FDMA 2195. Beyond Hollywood

Course Description

This course concentrates on the representation of children and adolescents in world cinema. The portrayal of children throughout world cinema has a long and rich complex history, which has been primarily shaped by family and national structures. Through film screenings, readings, and discussions class will center on the exploration of what it means to look at children and what cultural baggage are their bodies asked to carry. Also, what impact do national and global politics have on the lives of children? Through the establishment and use of basic vocabulary and analytic methodologies of film studies, larger theoretical and practical questions about how cinema functions as a cultural and ideological force, especially how it helps to construct ideas about the family, the nation, and national identities will be addressed. Class screenings will cover a breadth of children and adolescents in world cinema but readings, discussions, and outside film viewings will provide a more comprehensive overall picture.

Student Learning Outcomes

1. Recognize important and innovative international cinematic works whose focus is on children and adolescents.
2. Interpret and evaluate the significance of cinematic works within their historical, economic, political, cultural, and global contexts.
3. Orally apply theoretical concepts to the critical examination of specific works from international film culture.
4. Analyze and criticize cinematic works through oral and written assignments.
5. Formulate educated interpretations of cinematic works through the use of cultural theory.

FDMA 2210. Digital Video Production II

Course Description

Advanced techniques of the tools and application of professional film making

Student Learning Outcomes

1. Demonstrate the ability to produce and manage a video project.
    a. Produce a script, storyboard, and production schedule for a video project designed for a specific audience.
2. Demonstrate proficiency in producing quality digital video footage and audio tracks.
    a. Shoot to the script and storyboard using a variety of camera and lighting techniques.
    b. Produce a finished complex sound track including narration, music, and sound effect.
3. Demonstrate ability to produce and edit a professional quality video project.
    a. Integrate all production aspects of the project including video, audio, graphics, titles, transitions, and effects. Guide the project through the final production stages.
4. Develop competency in digital video distribution using various formats and techniques.
    a. Distribute project in various formats which could include DVD and web posting.

FDMA 2215. Digital Cinematography II

Course Description

Teaches professional skills for digital video motion photography. Students use professional camera, lighting, and grip equipment; develop digital acquisition workflow for post-production; work in small film crews; and apply professional cinema techniques to image acquisition.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate proper workflow for digital acquisition in production for successful transfer to post-production.
2. Model job behaviors in the areas of digital image technician, cinematographer, media manager, camera assistant, grip, and electric technician.
3. Create aesthetic compositions as they apply to digital cinematography.

FDMA 2215L. Digital Cinematography Lab

Course Description

A corequisite course for FILM 281, FILM 282, and FILM 283. The focus of the lab is professional preparation of camera, lighting, and sound equipment for digital cinematography classwork Students work in teams to assemble industry standard film equipment, test operation of equipment, and troubleshoot necessary maintenance and repairs.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Safely operate camera equipment
2. Safely operate lighting and sound equipment
3. Conduct professional standard equipment preparation
4. Solve safety concerns and technical problems.

FDMA 2220. Digital Cinematography III

Course Description

Teaches professional skills for digital video motion photography. Students use professional camera, lighting, and grip equipment; develop digital acquisition workflow for post, production; hire and manage small film crews; and apply professional cinema techniques to image acquisition. Focus is on developing professional skills for camera assisting, media management, and electrical distribution.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Apply proper workflow for digital acquisition in production for successful transfer to post-production
2. Demonstrate job skills in the areas of digital image technician, cinematographer, media manager, camera assistant, grip, and electrical technician
3. Create aesthetic compositions as they apply to digital cinematography
4. Hire and manage student film crews.

FDMA 2225. Digital Cinematography IV
Course Description
Teaches professional skills for digital video motion photography. Students practice professional skills in cinematography within a team-based environment. Classes are held on location throughout Santa Fe County and are designed for students to develop their skills to support directors of photography, key grips, best boys, gaffers, and post-production supervisors while executing small digital video projects. This class is designed for students wishing to work in camera, grip, electrical, or post-production film jobs.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Execute proper workflow for digital acquisition in production for successful transfer to post-production
2. Demonstrate the job skills of digital image technician, cinematographer, media manager, camera assistant, grip, and electric technician
3. Manage crew on remote locations and through extreme weather conditions.

FDMA 2230. Media and the Environment
Course Description
The study of media and documentary filmmaking in the fields of culture, ecology, anthropology and socio-political journalism. Explore social conscious stories and how filmmakers and scientists interconnect in the field of environmental journalism. The class will focus on forms, structures and styles of documentary filmmaking as well as the historical, social and cultural context of the genre.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Summarize the social impact of the documentary film
2. Assess the human and cultural values associated with documentary filmmaking
3. Evaluate and critique documentary filmmaking techniques
4. Understand the relationship between science, corporations, technology and the media industries.

FDMA 2235. Music Production/Master
Course Description
Advanced digital audio post production and recording techniques using current entertainment industry-standard software and hardware.
Student Learning Outcomes
Upon successful completion of this course, students will be able to do the following:
1. Demonstrate a fundamental understanding of Analog and Digital Audio production and post-production.
2. Produce short audio projects and recordings with technical expertise.
3. Record and edit audio to sync to most any video format.
4. Compose and edit short recordings for the purpose of playback and syncing in any format such as video or Audio CD
5. Process audio, mix and master for a final professional product.

FDMA 2240. Digital Documentary Film Intensive
Course Description

In this intensive, workshop format class, students work in teams, learning and utilizing the necessary skills to plan and produce a short digital film. Students will work with documentary film professionals in completing their own documentary film projects.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Produce and direct a documentary film
2. Understand diversity and culture in documentary film production
3. Speak about the process of their work and development of their film
4. Understand the process of distribution for documentary films

FDMA 2241. Advanced Camera Techniques

Course Description

Professional camera techniques and training for electronic news gathering and studio filmmaking. Utilizes high-end handheld shooting techniques, cranes, dollies, and Steadicam training.

Student Learning Outcomes

1. Students knowledge of high-end video camera operation and features.
2. Students must know all the working features of the video production equipment being used during the course in order to achieve the desired footage as required by the instructor.
3. Demonstrate proficiency in producing quality digital video footage.
4. Individuals must acquire the knowledge of different shooting styles in different productions situations and use those acquired skills to produce the appropriate video footage.
5. Using the proper lighting in different on location shooting styles.
6. Skill of each individual utilizing the usage of high-end camera equipment such as dollies, cranes and Steadicam.
7. Each individual must work as a team player to create professional style video footage.

FDMA 2245. Advanced Digital Video Production

Course Description

You will study advanced camera functions from a technical. standpoint including maintaining optimum picture quality while filming, achieving higher caliber sound fidelity, and multi-camera shooting procedures.

Student Learning Outcomes

1. Have a growing understanding of how to make documentary and narrative films.
2. Gain experience in advanced techniques of filmmaking and understand the concepts of: key and fill lighting using natural and studio light; solid interview picture and sound techniques and the use of b-roll and inserts; camera functions of f-stop, shutter speed, ISO and gain, deep and shallow focus, codecs, compression and workflow; basic editing; teamwork, set etiquette and soft skills;
3. Observe the physical and social world and begin to practice the students own ways of documenting and interpreting that world, including in the creation of narrative work.
4. Be able to analyze films and TV shows critically.
5. Have participated as a crew member on a group project.

FDMA 2250. Digital Imaging & Design

Course Description

The creation of a professional quality original media soundtrack is possible for relatively low production/post-production costs. This class is designed to give the student an overview of creating sound for a variety of digital media. Topics include acoustic principles, sound design, audio hardware, recording techniques; and editing, processing, and multi-track mixing, using software applications.

Student Learning Outcomes

Upon successful completion of this course, students will be able to do the following:

1. Record and edit wild sound effects and synced dialogue
2. Discover, upload, and edit on-line music, ambience and sound effect loops
3. Implement audio design theories
4. Create an aesthetic soundtrack which incorporates multiple elements and dimensions
5. Design, edit, process, mix and master a synced multi-track soundtrack
6. Demonstrate capable use of digital audio production and post-production workflow
7. Produce short audio projects which meet media industry technical standards.

FDMA 2253. Advanced WordPress

Course Description

Instruction in working in WordPress's advanced topics, including projects, short codes, custom Cascading Style Sheets (CSS), social media integration, responsive layout design, domain management, among other topics.

Student Learning Outcomes

Upon successful completion of this course, students will be able to do the following:

1. Demonstrate familiarity with portfolio short codes
2. Demonstrate familiarity with post category and tag short codes
3. Demonstrate use and styling of advanced blocks
4. Create custom stylings for WordPress® using CSS.

FDMA 2260. Digital Video Production I

Course Description

This hands-on course focuses on the process required to create video compositions. Students will be studying composition, lighting, recording and sound recording techniques, and various script styles. Student teams will work using electronic field production techniques to create numerous projects. There is an introduction to post-production video effects.

Student Learning Outcomes

1. Introduce video production topics, issues, and possibilities, along with working in a team, field, and studio environment.
    a. Introduce video production history, terminology, analog vs. digital issues, and creative possibilities.
    b. Explain differences in field and studio environments regarding shooting, editing, and producing video.
2. Explain and define technical aspects of video production, including pre-production, production and post-production techniques, hardware/software tools and requirements, and capture/exporting techniques, among other video technology topics.
    a. Describe and define pre-production, production and post-production techniques, including field setup, shooting techniques, camera usage, capture/exporting techniques, editing, and advanced composition techniques.
    b. Ability to learn and use specific software tools related to audio and video editing.
    c. Develop and summarize various technical aspects of video production, such as lighting, hardware needs/usage (camera, tripod, and lens), framing, scene movement, and logging video footage.
3. Foundation of script and storyboards in planning a production including different types of storyboard and scripting formats.
    a. Develop and complete script and storyboard using various styles and formats, as well as emphasizing the importance of writing prior to shooting video.
    b. Interpret and define aspects of video design schemes, including topics such as layout, color, balance, match-on-action, and depth of field.

FDMA 2265. Digital Media Production II

Course Description

This course covers the theory of visual communication, storytelling, aesthetics, and the production of digital video content. Emphasis will be placed on narrative filmmaking, whether it is fiction or documentary film. Emphasis will also be placed on creative expression, personal vision, and productive collaboration.

Student Learning Outcomes

1. "Hands on" experience in writing, shooting, and editing short films. Students should realize a basic use of video cameras, tripods, lighting, editing and sound recording. .
2. Exploration and development through trial and error of your creative potential and powers of expression. You are urged to take risks in order to find and write/create from your own personal vision and develop your own voice.
3. An introduction to pre-visualization techniques for conceiving, scripting, developing and planning a short project.
4. To deliver and receive effective critiques of the work presented in class, and develop critical and analytical ways of thinking and articulation.
5. To develop your sense of professional discipline by meeting deadlines for assignments in the course.
6. To develop confidence, professionalism and enthusiasm in your ability to express your own creative vision and to communicate it with-an audience.

FDMA 2280. Topics in Videomaking

Course Description

These courses strengthen students' skills in video technology while helping them write, direct, and edit video projects that begin to reflect a personal, artistic vision.

Student Learning Outcomes

Not Available

FDMA 2285. Digital Video Production and Editing II

Course Description

Advanced features of digital video, audio/music, and titling production software. Included are color correction, vector scopes, motion effects, and advanced editing techniques used by filmmakers.

Student Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. Intermediate to advanced video editing
2. Create short films and training videos
3. Create TV quality commercials
4. Direct a news broadcast
5. Work as a mentor to students on digital media equipment.

FDMA 2286. Activating Digital Space

Course Description

This class introduces students to the techniques of dramatic narrative and how those techniques can inform a visual grammar where form follows function.

Student Learning Outcomes

1. Students can demonstrate detailed knowledge of dramatic narrative form for film, television, and other digital media.
2. Students can write a monologue between two characters.
3. Students can storyboard a short story for the screen.

FDMA 2287. Digital Design Studio

Course Description
A design studio environment in which students obtain real-world experience while providing service to college and non-profit associations with faculty supervision using a variety of media. Can be used with permission to fulfill cooperative requirement.

Student Learning Outcomes
Students who successfully complete this course will be able to:

1. Demonstrate competency in the use of InDesign software.
2. Create appropriate visual solutions based on target marketing information.
3. Demonstrate competency in the design and production of advertising and promotional materials.
4. Present ideas and concepts effectively and competently.
5. Visually demonstrate design solutions to be used in a portfolio.

FDMA 2290. Advanced Digital Projects

Course Description
Students work on advanced individual projects using the skills and concepts they learned in intermediate-level MART classes including Photoshop®, Web, Animation, Graphics, and Video. Feedback and instruction is provided by student presentations and interaction, and one-to-one contact with the instructor.

Student Learning Outcomes

1. Successfully present a project
2. Complete a multi-media portfolio
3. Work with and learn from peers.

FDMA 2310. History of Cinema I

Course Description
This course surveys the history of cinema - investigating the process by which the original “cinema of attractions” evolved into a globally dominant form of visual storytelling. We will explore the development of cinema both as an art form and as an industry, and consider the technological, economic, cultural factors, as well as many key international movements that helped shape it.

Student Learning Outcomes

1. Gain a greater appreciation for the history of cinema
2. Develop knowledge of the key eras in the history of U.S. cinema
3. Learn the characteristics of major movements in international cinema
4. Understand the various elements that go into telling a story in cinema: screenplay, narrative devices, director, producer, talent, production design, cinematography, editing, sound design
5. Learn how major genres in U.S. cinema have evolved in the past 100+ years
6. Gain a basic understanding of the operations and organization of the Hollywood film industry, from the studio system until today
7. Gain an awareness of the shifts in the film industry that present new opportunities for independent filmmakers
8. Understand the importance of learning about the history of cinema to the process of becoming a filmmaker
9. Strengthen public speaking skills.

FDMA 2311. History of Animation

Course Description
Explores the history of Animation as an art form and industry through readings, screenings, lecture and periodic guest speakers.

Student Learning Outcomes

1. To expand your knowledge of the history of animation and its evolution to the modern day.

2. To expand your ability to view animation critically and to understand its early connections to cartooning as well as its ongoing cultural presence and relevance.
3. To expand your comfort with accessing information and completing assignments both online and independently. Canvas will be utilized for many of our readings and for some response assignments.

FDMA 2312. History of Media Design

Course Description

An introduction to the principles of design history and theory within a chronological framework of historical and emerging media.

Student Learning Outcomes

1. Introduction to visual communication.
    a. Defines design media.
    b. Discuss universal design principles and strengthen student basic design skills.
2. Historical technological development and design.
    a. Prehistoric communication
    b. Beginnings of alphabet and written language
    c. Movable type and the printing press
    d. Industrial revolution
    e. Digital Age
    f. Designers and Trends
3. Personalities and their influence and contributions
4. Identify design styles and discuss the relevance of how design influences:
    a. Idea generation
    b. Trend sources
    c. Influences or appropriation
    d. Propaganda and advertising

FDMA 2315. Documentary Film Production I

Course Description

An introduction to planning and producing a short documentary film. In this workshop-based class, students work individually and in teams.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify and operate digital film production equipment, including cameras, lighting and audio equipment
2. Perform basic production and direction skills
3. Utilize production process model for development and completion of a documentary short
4. Participate constructively in a supportive and thoughtful team process
5. Create and edit a documentary film.

FDMA 2320. Advanced Make-up Artistry

Course Description

Advanced skills for professional application of make-up for film and television. Students learn the advanced concepts of foundation, color, glamour and special effects make-up and participate in hands-on practical application of make-up for models and actors Including prosthetic make-up and air brushing.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate advanced level application of make-up for the motion picture, media and fashion industry.

2. Utilize appropriate industry standards as they apply to makeup.
3. Use advanced makeup techniques including air brushing and prosthetic makeup.

FDMA 2325. Advanced Photoshop®

Course Description

This course expands on the Photoshop® skill set to develop proficiency with selections, masking, channels, filters, color correction, painting tools, vector integration, video, special effects, and compositing techniques. The focus is on the core image-editing tools of Photoshop® that can be universally applied to photography, print, film or the web. The material is covered in production-oriented projects and students develop work suitable for portfolios.

Student Learning Outcomes

1. Create effects using advanced blending techniques
2. Effectively utilize advanced masking techniques
3. Refine Selections with advanced techniques
4. Assess & Adjust color in an image
6. Utilize advanced photo enhancement techniques
7. Alter images using Photoshop® painting techniques
8. Create brush presets
9. Create vector elements with paths
9. Add & manipulate type on a path
10. Create advanced special effects
11. Apply vanishing point & warping
12. Create a video clip
13. Apply color adjustments to video

FDMA 2326. Digital Photography and Imaging II

Course Description

Provide understanding and skills needed for advanced digital capture, editing, optimizing and manipulating photographic images for print, web and multimedia applications. The course will prepare students to make more advanced technical and more refined aesthetic decisions relative to specific photographic applications.

Student Learning Outcomes

The students who successfully complete this class will be able to:

1. Apply proper exposure techniques.
2. Practice effective composition techniques.
3. Demonstrate knowledge of working with Camera RAW files.
4. Demonstrate proper image adjustment and correction techniques.
5. Successfully apply the basics of HDR digital photography.
6. Apply techniques for modifying light.

FDMA 2330. Documentary Film Production II

Course Description

A second-level workshop class in which students work individually and in teams learning and utilizing the necessary skills to plan, produce, shoot and edit a short documentary film. Students will learn the business of documentary filmmaking and begin the processes needed for distribution.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify and operate digital film production equipment, including cameras, lighting and audio equipment
2. Perform production and direction skills

3. Utilize the production process model for development, completion and distribution of a documentary short film
4. Participate constructively in a team process.

FDMA 2340. Editing II

Course Description

A second level class in non-linear video editing. Training includes various non-linear software tools expanding on concepts learned in Editing I. Students will complete individual short editing projects. Students will provide their own removable hard drive.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Make workflow decisions to shape overall production outcomes
2. Use non-linear editing software to make a short film
3. Apply visual effects, color correction and audio tools to media projects
4. Use professional terms when discussing post-production workflow.

FDMA 2345. Editing III

Course Description

Application of editing theory, story structure and aesthetic techniques needed to create effective short films. Students work as individuals and in teams to improve their visual storytelling techniques and understand effective editing choices. Students must have a working knowledge of Final Cut Pro, Adobe® Premiere Pro or Avid.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Edit a small film using styles and techniques from a genre of their choice
2. Perform editorial choices that advance storytelling structure
3. Use traditional and non-traditional film theory in advancing storytelling
4. Implement classic editing techniques in final film.

FDMA 2350. Editing IV

Course Description

Workshop style class where students demonstrate mastery in editing theory, story structure and aesthetic techniques to create effective short films. Students work as individuals and in teams to master their visual storytelling techniques and understand effective editing choices. Students must have a working knowledge of Final Cut Pro, Premiere Pro or Avid.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Apply traditional and non-traditional editing techniques in short films
2. Create motion picture sound design
3. Recognize master editors and their techniques in world cinema
4. Build a media management workflow for professional work environment

FDMA 2355. Creative Web Design

Course Description

This course covers aspects of creative web design. Topics include graphic design, HTML, site management, typography, theory, e-commerce, and web development tools. Projects will be created by identifying a target audience, addressing accessibility issues and adhering to current web design standards.

Student Learning Outcomes

1. Explain and define web design, including a historical overview of the internet, recent advancements and examine current trends. a. Define (HTML) Hypertext Markup Language, (XHTML) Extensible Hypertext

Markup Language, and Cascading Style Sheets. b. Examine the development of the internet and the work of the World Wide Web Consortium (W3C).
2. Analyze techniques for web design based on defining target markets and building sites for the optimum number of end user computer systems. a. Experiment with elements of web design such as graphics, typography, layout, navigation, and RGB color schemes. b. Integrate and adapt techniques and principles from other areas of digital media (print, video, animation) into web design.
3. Foundation of website design focused on issues of future maintenance. a. Assess overall web site compatibility and accessibility on multiple web browsers and various connection speeds. b. Approach site development by setting goals, measures for assessment, defining target audience, defining technical limitations, and planning for future site expansion.

FDMA 2360. Web Design II

Course Description

In this course, students will refine their skills in coding and web graphic design as well as be introduced to methods in constructing sites that adhere to the standards of responsive web design. Students will expand their knowledge of HTML and CSS using a code editor, and they will both analyze existing websites and also construct an interactive website.

Student Learning Outcomes

1. Plan and produce web design mockups.
2. Demonstrate a proficiency in HTML/CSS coding.
3. Utilize basic web scripts.
4. Integrate animation into web design
5. Create fully functional websites using one or more web editors.
6. Make a website “live.”
7. Evaluate web designs for aesthetics and functionality.
8. Demonstrate the utilization of responsive design.

FDMA 2365. Web Design for Small Businesses

Course Description

Create and manage well designed online business, and organized web sites using a Content Management System.

Student Learning Outcomes

1. Learning advanced tools and techniques for creating and maintaining complex Business web sites. We will be using CSS, PHP, HTML, Photoshop®, and WordPress.
2. Design a complete and fully functional online web business.
3. Understand and develop a plan to better manage a web store/business.
4. Review basic design guidelines in preparing a variety of web applications for business.
5. Develop technical skills in using various web-based solutions.
6. Reinforce your knowledge of web design software.
7. Introduce alternate sources of data, communication and financial solutions.

FDMA 2370. Advanced Web Techniques

Course Description

Creating and managing complex web sites using advanced techniques and tools. May be repeated for a maximum of 6 credits. Restricted to: Community Colleges only.

Student Learning Outcomes

By the end of the course, students will be able to:

1. Create webpages using Hypertext Markup Language (HTML) elements and tags
2. Format webpages using Cascading Style Sheets (CSS)

3. Validate webpage code
4. Apply industry-standard webpage design and organization principles
5. Publish a website.

FDMA 2373. Advanced Web Projects

Course Description

An advanced course for those who want to further their knowledge of CSS3 and HTMLS while working in a real-world environment. Students will. develop and complete web projects of their choosing, work with classmates designing and managing assigned projects, and create and present demos. Weekly discussions include best practices and current web design topics.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Integrate advanced knowledge of HTMLS, CSS3, responsive design, and)Query
2. Complete a project outline, proposal, and finished website.
3. Collaborate in a team environment.

FDMA 2375. Typography

Course Description

This course introduces students to the history of typography and its emotive, symbolic and communicative aspects. Students learn how to use type in a creative and aesthetic way and develop an understanding of page composition that incorporates concept and design.

1. Understand the history of type.
2. Use type as a communication tool as well as a design element.
3. Understand the relationship between content and format.
4. Make informative decisions in typeface selection.

FDMA 2381. Storyboarding

Course Description

Examines effective writing principles to create storyboards that communicate the overall picture of a project, timing, scene complexity, emotion and resource requirements. Further, the purpose of this course is to introduce students to the principles of visual storytelling—in film--through the use of the storyboard. In other words, to show how storyboards are a critical “architectural component” of the filmmaking process, used as a blueprint (or guide) to communicate the complex elements of a film story.

Student Learning Outcomes

Students will—

1. Learn to conceive and draw original images.
2. Learn to use images to tell a story.
3. Design, develop, and order images (shots) into storyboarded scenes.
4. Understand how storyboarded sequences are a tool in the process of filmmaking.
5. Understand how the storyboard image is translated from the written page.
6. Build scenes from the scripted sequences into a storyboard.

FDMA 2382. Principles of Story Across the Media

Course Description

The purpose of this course is to help students understand the basic elements of narrative structure (e.g. character, dramatic conflict, theme, etc.) and how these elements may be used effectively in media expression.

Student Learning Outcomes

By the end of this course, students should be able to:

1. Identify the elements of storytelling in scripted text or improvised performance
2. Understand how these elements work together across different media
3. Apply these elements of storytelling in original work
4. Appreciate and master these elements for independent or collaborative work.

FDMA 2383. Writing and Storyboarding

Course Description

Learning good writing principles to create storyboards and scripts that communicate the overall picture of the project, timing, scene complexity, emotion, and resource requirements.

Student Learning Outcomes

1. How to create a concept for a CG project.
2. How to visualize a project, including scripting, storyboards and concept drawings.
3. How to manage a project, including scheduling and budgeting.

FDMA 2410. Audio Production II

Course Description

Students will use skills developed in the Audio Production I course to produce audio projects utilizing a variety of analog and digital audio hardware and software, including continued use of multi-track, computer-based recording and editing systems, as well as exploring more advanced audio techniques and concepts.

Student Learning Outcomes

1. Apply analog and digital audio hardware and software in audio recording.
2. Apply common professional set-up practices of audio production facilities.
3. Produce audio projects, sync sound recordings, and audio dialogue replacement (ADR) demonstrating technical expertise.
4. Perform an audio mix and master for a final professional product.
5. Analyze and compare existing audio productions for quality.

FDMA 2415. TV Production II

Course Description

A continuation of TV Production I to allow students to improve their skills in television production. This course requires participation during on campus event to learn more advanced techniques for video control, special effects, camera operation, editing, composition, lighting, staging, directing, on-camera announcing and interviewing.

Student Learning Outcomes

By the end of the course, students will:

1. Have a general understanding of how a variety of TV shows are made.
2. Gain experience in the basic tasks of TV production.
3. Observe the physical and social world with an understanding of how to film and record it.
4. Be able to analyze TV shows and other media.
5. Be conversant with the concepts of documentation and interpretation.

FDMA 2420. Performance for Film and Media II

Course Description

A second level class that reviews on-camera techniques for performers. Students perform in short film scenes directed by student directors, write and perform short monologues.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate on-camera technique
2. Exhibit professional behavior when taking direction
3. Perform multiple character roles
4. Display professional acting techniques

FDMA 2430. Copyright and Media

Course Description

This workshop format class is designed to provide students, graphic designers and other content creators with essential information on copyright and fair use concepts as they relate to finding and using Internet and other media.

Student Learning Outcomes

1. Demonstrate a basic understanding of copyright laws and issues
2. Search the Internet for public domain media
3. Locate and understand terms of use
4. Know how to obtain permission

FDMA 2440. Copyright, Media and Society

Course Description

Exploration of national and global socio-economics as they apply to copyright, trademark, creative commons, and ethical considerations in the current world of internet media. Topics include the principles of communications, ethics, law, and the internet. Case studies are discussed to review current judicial decisions and the trends that are affecting the entertainment and news industries in the United States.

Student Learning Outcomes

1. Describe the role that social media plays in the global economy.
2. Apply current legal and ethical standards to media.
3. Use and apply creative commons licensing in personal and professional work.
4. Recognize the relationship of the law, arts and entertainment, and news media.
5. Recognize appropriate writing styles for use in internet communication.

FDMA 2450. Graphic Design: Concept Development

Course Description

Development of presentation techniques, orally and visually, of multiple conceptual solutions for a variety of projects. Analysis of the evaluation process for design concepts. development of individual artistic identity.

Student Learning Outcomes

Upon completion of this course, students should be able to:

1. Analyze and critically interpret graphic design choices: I.E. Line, Space, Negative Space, Scale, Position, Layout, etc.
2. Demonstrate a firm understanding of the Graphic Design principles.
3. Explain the process of how the artist/designer made the specific piece and or decisions on final submissions.
4. Recognize and articulate specific graphic design terms and definitions.
5. Articulate personal ideas and thoughts on various artistic information.

FDMA 2460. Applying Social Media Techniques I

Course Description

Students manage personal and business social media platforms and design campaigns that consider demographics, analytics, and efficiency. Students prepare for industry-recognized exams that test their skills for the job market.

Student Learning Outcomes

1. Build social media accounts for professional application

2. Plan, manage, and monitor a social media campaign
3. Produce a professional report to showcase social media efficiency
4. Successfully complete a practice exam for an industry-recognized certification.

FDMA 2470. Applying Social Media Techniques II
Course Description
A capstone course in social media techniques. Students create professional business social media platforms and design campaigns that consider demographics, analytics, and efficiency. Students build a professional portfolio to prepare for the job market.
Student Learning Outcomes
1. Build social media and web accounts for professional application
2. Create and report on a social media campaign
3. Produce a professional report to showcase social media efficiency in a student-created social media campaign
4. Produce and present a professional portfolio for employment.

FDMA 2510. Introduction to Sound Design for Film
Course Description
This course is an introduction to the principles, techniques and applications of sound design and film scoring. Students learn how sound affects storytelling in a film, examine the role of sound from the script to screen, and the professional process of creating a soundtrack. Students learn how to use sound equipment in a production environment and execute basic techniques used to develop a soundtrack.
Student Learning Outcomes
1. Compare the properties and propagation of sound and importance of sound to the storytelling aspect of filmmaking
2. Learn the process of designing a soundtrack for film and recording live audio dialogue for use in post-production editing.
3. Learn methods of capturing sound including live audio recording, dialogue recording, Foley, orchestration and audio dialogue replacement
4. Design a soundtrack for motion media project.

FDMA 2520. Introduction to Cinematography
Course Description
The Director of Photography (or Cinematographer), in close collaboration with the Director and Production Designer, helps determine the look of a film. This course is designed to introduce students to the technical and aesthetic fundamentals of creating, developing, and collaborating on the visual elements of storytelling, using camera framing, lensing, and lighting fundamentals such as shadows, light and color.
Student Learning Outcomes
1. Define and explain the fundamental concepts of cinematography, such as exposure, lighting solutions, and color temperature.
2. Understand how cinematography brings the Director’s vision to reality.
3. Demonstrate proficiency in plotting and executing interior and exterior lighting solutions.

FDMA 2521. Videography
Course Description
The study of the basic production theories of video production with special emphasis in the areas of camera operation, shot composition, shot sequencing, and lighting.
This is an introductory course in video production using standard filmmaking theory and techniques to tell a narrative or documentary story. The course will cover the operation of professional HD video cameras, sound and lighting equipment;

principles of framing and composition; storyboarding; and basic video editing. Filmmaking is not a solitary activity so some of the course assignments will require you to work in groups. It is imperative that you show up on time - both to class and to group shoots. Several films will be viewed in class to help you learn the language of filmmaking. You are also encouraged to check out films on DVD from the library.

Student Learning Outcomes

At the end of this course the student will know

1. How to storyboard, set-up, light, shoot and edit basic scenes that communicate an idea.
2. Will have demonstrated a technical proficiency with the software and hardware.

FDMA 2525. Video Production II

Course Description

An in-depth exploration of digital video production, including camera, lighting and sound production techniques for studio and field production. This class will help the filmmaker visualize and execute a digital film in a real-world team environment.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Use a camera, record audio in the field and studio
2. Gain exposure to alternative, narrative and documentary film structure
3. Acquire production vocabulary and management skills
4. Know film structure (narrative, alternative and documentary)
5. Produce multiple short films.

FDMA 2530. Introduction to 3-D Modeling

Course Description

This course will introduce 3-D modeling methods and current practices. Students will learn preliminary and detailed modeling techniques using industry standard software. Methods will emphasize formal and functional aspects of modeling as they apply to mechanical, organic, and sculpted topology for application in animation, games, and information media.

Student Learning Outcomes

1. Identify the role of a 3-D modeler in a production pipeline within various fields of digital animation.
2. Apply techniques in modeling mechanical and organic objects.
3. Utilize tools available in professional 3-D modeling software.
4. Create simple animations and renders.
5. Present original animations to instructor and classmates for critique.
6. Create a demo reel of work completed during the course.

FDMA 2532. Introduction to 3-D-Printing

Course Description

Introduction to the creation, manipulation and critical interpretation of graphic and photographic artwork. Includes input and output of digital work as it applies to artists. As an entry-level course, it assumes no prior knowledge of the tools and techniques covered.

Student Learning Outcomes

1. To create art using digital imaging tools.
2. To gain an understanding of the context of 3-D printing as it relates to contemporary art practice.
3. To achieve a level of comfort with the tools and techniques needed to create 3-D Prints.
4. To experiment with new ways to connect digital technologies to one’s own creative practice.
5. To complete and output a digitally-manipulated artwork for exhibition purposes.

FDMA 2533. Imaging History and Production

Course Description
This course introduces students to computer graphics technology as it applies to art and design. Students will study the history and theory of the reproduced image while gaining practical experience with raster- and vector-based technologies. Students will further develop their critical thinking skills by engaging in critique of their own work and the work of their peers.

Student Learning Outcomes

1. Recognize different file types and when/how to use them.
2. Navigate, understand, and use basitools in Photoshop®, Illustrator, and InDesign
3. Create print ready documents
4. Produce a printed product

FDMA 2534. 3-D Modeling Sculpture

Course Description
Students in this course learn and practice 3-D modeling as a tool for visualization and critical making. 3-D printing, laser cutting, CNC milling, and other rapid prototyping may be used. 3-D modeling is the main focus of this course to sketch, invent and produce both virtual 3-D renders and physical projects. Study of concepts, aesthetics, procedures, and practice of sculpting on the computer with 3-D modeling tools for the generation of form, environment, and character as related to your conceptual inspirations.

Student Learning Outcomes

1. To capture what is in our imagination and make it real in the world
2. Produce conceptually interesting and formally compelling artwork
3. Understand the principles of 3-D computer modeling and sculpture
4. Have fun and accept learning and creativity as your primary asset on his competitive planet
5. Relate traditional sculpture principles of form, material, and site and utilize 3-D modeling to virtually give rise to installation or sculpture
6. Develop original ideas and concepts in the spirit of a research one university
7. Apply methods of rapid prototyping output from your 3-D models utilizing automated processes such as laser cutting, rapid prototyping and or CNC.
8. Use this knowledge to advance your 3-D Animation and physical computing and game art studies.

FDMA 2535. Digital Illustration

Course Description
Introductory course examining traditional artistic expressions and translating visual art experiences into a digital art medium to enhance visual storytelling. Students acquire basic principles of drawing and painting through hands-on experience manipulating tonal value, composition, form development, light and shadow, color theory, rendering realism, and graphic design.

Student Learning Outcomes

1. Be familiar with the CMI computer system, facilities, equipment and policies.
2. Appropriately utilize the various media technologies available at CMI for digital illustration.
3. Understand the different roles and areas of digital illustration.
4. Understand and apply some basic techniques of digital illustration.
5. Understand and apply some basic processes of creating pleasing images based on knowledge of traditional art principles.
6. Begin to apply some basic strategies for developing and creating aesthetically pleasing images.

FDMA 2540. Introduction to Non Linear Video

Course Description

This course is an introduction to digital video editing using Adobe® Premiere. Students will learn how to create simple and complex video sequences in a non-linear video editing system. Video projects will be optimized for web, eBook, mobile devices, and DVD distribution

Student Learning Outcomes

This course will introduce the following in Adobe® Premiere:

1. Differences with video formats PAL and NTSC (L, T, C), (I)
2. Understanding of digital video Codecs and compression (L, T, C), (I)
3. Discussion of frame rates for video, film and animation (L, T, C), (I, II)
4. Concepts of layering video, audio, text and graphics (L, T, I, A), (II, III)
5. Overview of the work area and how to customize work space (L, T, I, A), (II, III)
6. Typography as it relates to video (L, T, I, A), (II, III)
7. Understanding FCC broadcast safe video levels (L, T, I, A), (I, II)
8. Introduction to timelines and working in time (L, T, I, A), (II, III)
9. Chroma effects how to use blue and green screen techniques. (L, T, I, A), (II, III)
10. How to use the software to sync and unsync audio and video clips. (L, T, I, A), (II, III)
11. Applying transitions between video, audio, text and graphic clips. (L, T, I, A), (II, III)
12. Use techniques to minimize the amount of disk space consumption when digitizing analog and digital footage. (L, T, I, A), (II, III)
13. Integrating layered image files into video compositions. (L, T, I, A), (II, III)
14. Embed markers in video for future use in DVD creation. (L, T, I, A), (II, III)
15. Exporting files to final distribution formats. (L, T, I, A), (II, III)
16. Using scopes to analyze video and color levels. (L, T, I, A), (II, III)

FDMA 2550. Print Media III (Desktop Publishing III)

Course Description

Refinement of skills needed to prepare a variety of documents for print and the service bureau.

Student Learning Outcomes

1. To become more proficient with InDesign in preparing a variety of documents including CD covers, flyer and long documents.
2. To refine design process in laying out various documents.
3. To increase knowledge of paper creation and relevant paper choices for specific projects.
4. To increase knowledge of color and file formats.
5. To prepare files for service bureaus, presentation and critique.
6. To create portfolio-ready pieces.

FDMA 2560. Screenwriting II

Course Description

A second level course exploring the feature length screenplay. Students will learn the techniques of marketing a script, pitching ideas, and finding and working with a Hollywood agent.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Apply the components of film writing to complete a producible screenplay for film or television
2. Explain market and pitch a script or idea
3. Creating a business plan for marketing or producing a script

FDMA 2570. Creative Media Studio

Course Description

A studio environment where students specialize in creating film-festival quality and portfolio-ready projects under the supervision of faculty.

Student Learning Outcomes

1. Students will work together to create portfolio-quality work in a studio environment.
2. Through classroom discussion and reporting the students will collaborate to produce a professional quality "vertical slice" game concept within a defined timeline and financial budget.

FDMA 2610. Directing I

Course Description

Introduction to the creative process of a film director. Students will participate in hands-on workshops and develop stories for motion media, create screenplays and work with actors in short scenes using current technologies in film, television and web-based media production.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Create a screenplay from a story concept
2. Work with performers to tell a story
3. Breakdown a script
4. Use proper terminology to manage a film set.

FDMA 2620. Directing II

Course Description

A second level course in directing techniques used in film, television and web-based productions. Designed for students with some acting and directing training. Students participate in hands-on workshops and create, direct and act in short films using current technologies in film, television and web-based media production.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Use movie set terms in direction and performance
2. Collaborate with a film production crew
3. Perform script breakdown and character analysis
4. Direct and produce a short scene.

FDMA 2625. Animation Dynamics

Course Description

The course covers the structure and physical characteristics of 3-D animated objects.

Student Learning Outcomes

Upon completion of this course, students should be able to:

1. Analyze and critically interpret Animation Dynamics choices: I.E. rigid bodies, soft bodies, partials, rendering, fluid effects, etc.
2. Demonstrate a firm understanding of the Maya program and palette(s).
3. Explain the process of how the artist/designer made the specific piece and or decisions on final submissions.
4. Recognize and articulate specific Maya filters: Particle Clouds, Fluid Effects, Lighting, Glow, etc.
5. Articulate personal ideas and thoughts on various artistic information.

FDMA 2630. Principles of Design II

Course Description

This course builds upon the tools taught in Principles of Design I and dives into their practical application. Students will be introduced to a wide array of real-world design opportunities and explore the scope of what constitutes a Graphic Designer.

Student Learning Outcomes

1. Apply the principles taught in Principles of Design, such as content, composition, client, and context
2. Create a design system
3. Demonstrate knowledge about the graphic design profession
4. Gain confidence through interactions and industry exposure
5. Apply the fundamentals of design

FDMA 2635. Design in the Real World

Course Description

Real world process of planning, developing and designing a client project from cold call to design presentation. Topics include project planning, managing client and content needs, time and scope management. Review of graphic and layout fundamentals, wire-framing, and composition are also covered. Final projects include graphic proposals for a web site or print project. Knowledge of Photoshop® or equivalent graphic program is highly recommended.

Student Learning Outcomes

1. Plan and execute a graphic or web design project.
2. Demonstrate the ability to meet client needs.
3. Design a web page mockup or graphic design proposal for print.
4. Demonstrate the use of wire framing and layouts**.**

FDMA 2640. Introduction to Visual Effects

Course Description

An introduction to the use, history, and production methodologies of visual effects. Fundamental visual effects techniques explored through practical effects, compositing exercise, motion capture technology and visual effect projects.

Student Learning Outcomes

1. Compose shots using forced perspective
2. Analyze and discuss historical and contemporary uses of visual effects in film
3. Demonstrate and apply animation techniques
4. Demonstrate and apply rotoscoping techniques
5. Produce simple composited shots using chroma keying.

FDMA 2710. Beginning 2-D Animation

Course Description

Students will learn the basics of digital 2-D animation by working through a variety of exercises, creating an original storyboard, and animating five or more shots utilizing industry standard software.

Student Learning Outcomes

1. The student will demonstrate an overall knowledge of computers as a tool of the animation artist and be able to produce simple animations using the techniques learned in class.
2. Use major software tools with ease.
3. Manage timelines through key frames.
4. Build storyboards.
5. Demonstrate knowledge of 2-D and animation terminology.
6. Produce actions, set environments and constraints for 2-D animation.
7. Render full animation.

FDMA 2713. 3-D Animation

Course Description

Students will be introduced to 2-D computer animation software involving shape creation and manipulation, and sequence rendering. Students will explore motion graphics and visual effects using appropriate software. Students will also learn the basics of integrating animated images and title sequences with live action.

Student Learning Outcomes

The student will demonstrate an overall knowledge of computers as a tool of the animation artist and be able to produce simple animations using the techniques learned in class. Upon completion of the class students will be able to:

1. Use major software tools with ease
2. Manage timelines through keyframes
3. Build storyboards
4. Demonstrate knowledge of 2-D and animation terminology
5. Produce actions, set environments and constraints for 2-D animation
6. Render full animation

FDMA 2714. Introduction to Animation

Course Description

This course will be entirely focused on laying the foundation of animation around the twelve principles of animation as defined by Disney master animators Frank Thomas and Ollie Johnston.

Student Learning Outcomes

1. Demonstrate in-depth working knowledge of the twelve principles of animation
2. Demonstrate knowledge of the workflows used in major feature-film animation studios and game companies
3. Demonstrate an approach to work in a manner reflecting an actual production environment.

FDMA 2715. Special Effects

Course Description

Creating advanced virtual special effects for both rigid and soft bodies. Using MEL, dynamic principles, mixing nodes, and advanced particle systems. How to drive particles over surfaces, add texture to flow, create surface tensions, and use collision events to drive texture. Study of integrating computer-generated images with real-life video and audio

Student Learning Outcomes

Not Available

FDMA 2720. 3-D Animation

Course Description

Overview of the essentials and principles of 3-D animation; creative methods for using industry standard tools to produce the illusion of movement for storytelling. Topics include key frame and curve animation, kinematics, cycle animation, camera animation, deformers, and constraints**.**

Student Learning Outcomes

1. Clearly describe the role of an animator in cinema, gaming and related fields.
2. Recognize leading animators and their methods.
3. Demonstrate knowledge of advances in contemporary animation.
4. Utilize current industry standard animation tools.
5. Apply fundamental animation processes and techniques.

FDMA 2725. Rigging for 3-D Animation

Course Description

This course will introduce principles and practices of current rigging techniques for 3-D animation. Students will develop fundamental methods necessary to create character rigs. Students will learn aesthetic, technical, and optimization concepts

as they apply to organic and mechanical designs. Topics will include: hierarchies, constraints, deformation rigging, skeleton creation, skinning, forward and inverse kinematics, controls, and body and facial rigging.

Student Learning Outcomes

By the end of the course, the goal is that as a rigging artist you will:

1. Understand what Rigging is and the role it plays in the world of cinema and video games.
2. Be familiar with industry professionals and their techniques and approaches to rigging.
3. Understand and be able to apply the fundamentals of rigging to industry standard applications.
4. Demonstrate ability to rig basic to intermediate machines, bipeds and quadrupeds.

FDMA 2730. Advanced Character Animation

Course Description

Focus on complex rigging techniques as well as utilizing advanced animation functions to blend multiple animations into complex animations.

Student Learning Outcomes

Upon completion, with 80% accuracy, 80% of the students who complete this course, will be able to:

1. Create skeletal riggings for use with a 3-D model
2. Attach riggings to a 3-D model using Smooth and rigid binding and refine the bindings so that they are properly weighted
3. Animate a 3-D model using skeletal and vertex animation techniques

FDMA 2735. Advanced 3-D Animation Workshop A

Course Description

Program capstone: students utilize the skills learned in the program to produce their final animation. Group integrated projects are strongly recommended to emulate a real-work animation studio environment.

Student Learning Outcomes

Upon Successful completion of this course, 75% of students will be able to with 75% accuracy, assessed through projects and quizzes:

1. Define the duties and skills sets required for a career in 3-D Modeling.
2. Understand the Maya interface, the uses for all of the major modes and menus of the interface and be able to describe how to access the tools, actions and the options of those tools and actions.
3. Complete and compile a multi shot animated short.

FDMA 2740. Advanced 3-D Animation Workshop B

Course Description

Program capstone: students utilize the skills learned in the program to produce their final animation. Group integrated projects are strongly recommended to emulate a real-work animation studio environment

Student Learning Outcomes

Upon Successful completion of this course, 75% of students will be able to with 75% accuracy, assessed through projects and quizzes:

1. Define the duties and skills sets required for a career in 3-D Modeling.
2. Understand the Maya interface, the uses for all of the major modes and menus of the interface and be able to describe how to access the tools, actions and the options of those tools and actions.
3. Complete and compile a multi shot animated short.

FDMA 2745. Light, Shade, Render

Course Description

This course will explore the theory and practice of 3-D lighting and rendering methodologies. Techniques covered will implement cameras, lighting sources, textures, surface-mapping and algorithmic rendering to produce stylized and photo realistic images. Topics covered will include direct and indirect lighting, shaders that simulate physical substances and effects, rendering multiple passes and simulating physical lens effects.

Student Learning Outcomes

1. Understand the role of lighting and surfacing to tell a story.
2. Be familiar with leading lighting artist and their approaches.
3. Utilize the software implemented in the entertainment industry.
4. Understand and apply fundamental lighting and rendering techniques.
5. Demonstrate ability to create successfully rendered scenes from concept through production.

FDMA 2747. Advanced Film Lighting

Course Description

Advanced course in film lighting skills for the professional motion picture and television industry. This course covers general electrical concepts, cabling, generators, electrical power stations, and on-set safety. Student focus on both studio and location lighting. Students gain practical experience through use of industry standard equipment, including tungsten, HMI, LED and natural lighting.

Student Learning Outcomes

1. Identify general electrical concepts
2. Demonstrate safe set-up and operation of generators and power stations
3. Demonstrate safe operation of Tungsten, HMI and LED lights
4. Demonstrate concept of studio and location lighting
5. Demonstrate electrical and lighting safety

FDMA 2750. Digital Sculpting

Course Description

Introduce students to the 3-D Sculpting programs which are the industry standard sculpting programs. Students will learn how to create complex high polygon sculpts and normal maps and transfer the models into 3-D studio Max and Autodesk

Student Learning Outcomes

1. Demonstrate communication skills through written critiques and explanations.
2. Students will demonstrate visual communication skills through critiques, written explanations, and storyboarding.
3. Demonstrate a working knowledge of Brush's interface.
4. Demonstrate a working knowledge of Zpheres and how they are best used to create sculpts.
5. Demonstrate a working knowledge of painting a mesh using Spotlight.
6. Demonstrate a working knowledge of retopologizing and exporting the mesh.
7. Demonstrate a working knowledge of integrating the full Zbrush pipeline into Unity and Unreal.

FDMA 2755. Drawing for Animation

Course Description

Introductory study of the human body and animal form in relation to animation. Students learn fundamentals and exaggeration of the figure, as related to proportion, rhythm, mechanics and motion. Areas of focus are basic form, proportion, shape, contour, gesture, anatomy, portraiture, perspective, clothing effects and drawing from observation.

Student Learning Outcomes

Lectures and demonstrations will be given. . Specific learning objectives are listed in each unit. By the end of the course, the goal is that as an artist you will:

1. Students will have an opportunity to gain hands on experience using industry standard state of the art animation software
2. Understand what the basics of drawing the human form.
3. Have a general understanding of human anatomy as needed for the artist.
4. Be able to design the human form from imagination.

FDMA 2760. Personal Character Development

Course Description

Focus on the development of personal character(s), from sketch to render. Develop complete biographies of character, then build, skin and animate with as many personal attributes as possible.

Student Learning Outcomes

Not Available

FDMA 2765. Anatomical Character Design

Course Description

Focus on building anatomy-based 3-D characters. Advanced study in NURBS, subdivisions, and polygon modeling techniques used to create fully functional and realist models.

Student Learning Outcomes

1. Understand the flow of character anatomy.
2. Model polygon, NURBs, and subdivision objects.
3. Gain a better understanding for geometry flow on characters.
4. Gain general knowledge of anatomical character techniques.
5. UV texture an anatomical character correctly.
6. Create anatomical characters more efficiently.
7. Sculpt detail into a character to add to its' realism.

FDMA 2768. Introduction to Game Development

Course Description

In tandem with innovations of modern computing machines, people have been devising ways to "play" with these systems through programming games on these devices. Video games have matured into an expressive medium rooted in using algorithms as the means for constructing interactive experiences. Building these games requires an understanding of the principles of interactive design, computer science, and storytelling.

Student Learning Outcomes

1. Exhibit knowledge of fundamentals of game engine architecture.
2. Demonstrate fundamental skills in game design concepts and game mechanics.
3. Demonstrate an understanding of business and career pathways for game development.
4. Demonstrate ability to use specified industry development tools.

FDMA 2770. Critical Game Studies

Course Description

Focus on creating a complete design document utilizing techniques and standards used in the industry today.

Student Learning Outcomes

1. Develop a comprehensive game design document that adheres to industry standards, incorporating elements such as gameplay mechanics, narrative structure, and user interface design.
2. Critically analyze existing game design documents to identify strengths, weaknesses, and areas for improvement.
3. Apply advanced game design techniques to create innovative and engaging game concepts.
4. Evaluate the ethical and cultural implications of game design choices and their impact on diverse audiences.

5. Collaborate effectively in a team setting to produce a cohesive and well-documented game design project.
6. Present and defend game design concepts and documents to peers and industry professionals, demonstrating clear communication and critical thinking skills.

FDMA 2775. Game Tools and Techniques

Course Description

Focus on the different engines and gaming technologies that power the games of today

Student Learning Outcomes

1. Students will develop rapid prototyping techniques.
2. Through classroom exercises the students will gain competency in industry-standard game creation engines and tools and learn to work together in groups to create rapid prototypes.
3. This includes creating art, sound and music, and creating basic scripts within an engine.

FDMA 2780. Gaming Platform and Standards

Course Description

Focus on the different gaming platforms and their corresponding gaming demographics and standards.

Student Learning Outcomes

1. Break down the different types of bugs found in alpha and beta versions of games.
2. Learning how to write and submit bug reports using current industry requirements.
3. Communicate clearly within a team environment.
4. Learn how each of the major platforms receive game submissions as well as the requirements for each platform.

FDMA 2785. Level Design Concepts

Course Description

Focus on the design and creation of video game levels. Dealing with the challenges and pitfalls of different video game genres.

Student Learning Outcomes

1. Students will develop level design skills.
2. Through classroom exercises the students will gain a comfortable competency with designing levels both on paper and digitally.
3. This includes creating first person shooter levels, third person levels, multiplayer level design, and more.

FDMA 2790. Game Design Concepts

Course Description

Instruction in prototyping and designing individual concepts for video games. Topics include how to craft, demonstrate, and refine multiple projects, including characters and environments. With instructor's approval, design medium(s) are students' choice. Feedback and instruction are provided through lecture, student presentations, peer interactions, and one-on-one interaction with the instructor.

Student Learning Outcomes

1. Create concepts based on overall subject[s] suitable for a personal professional portfolio
2. Create designs based on instructor direction and audience and team feedback
3. Craft, refine, and finalize concepts within the student's selected medium[s] of choice
4. Present levels -of concepts to the class, explaining the steps and thought process that were developed, from start to finish.

FDMA 2820. Producing and Directing the Independent Film

Course Description

The study of pre-production, production and post-production processes needed to produce and direct the independent motion picture. Students will complete a script breakdown, shooting schedule, budget and design a distribution roll-out plan. Students will discuss and analyze contractual, film unions and crew management.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Produce a schedule and budget for a short motion picture
2. Breakdown and evaluate a script
3. Create distribution roll-out plan

FDMA 2823. Film Making in Science

Course Description

Students will examine, study and practice filmmaking as an essential skill in scientist's toolkit. They will: explore how the art and history of filmmaking is similar to practices within the history of science and technology; examine the relationships between data collection, documentation, interpretation and presentation. They will explore the technical nature of film and video and become aware of how dependent film and video are upon developments in science and technology. They will study ways to popularize science to lay persons and how to use film and video as a career building, promotional and fundraising art.

Student Learning Outcomes

1. Students will learn ways to popularize scientific work to lay audiences and funding agencies.
2. Students will study techniques of filmmaking to collect and interpret data.
3. Students will consider varying approaches for varying audiences and purposes.
4. Students will evaluate the effectiveness of their expression and that of others.

Communication:

5. Students will learn ways to popularize scientific work to lay audiences and funding agencies.
6. Students will study techniques of filmmaking to collect and interpret data.
7. Students will consider varying approaches for varying audiences and purposes.
8. Students will evaluate the effectiveness of their expression and that of others.

Critical Thought:

9. Students will evaluate the bias and accuracy of their creations and data collection and those of others, mindful that bias is ever present, even among scientists.
10. Students will grapple with how to be objective at the crossroads of science and art.

Cultural Sustainability:

11. Students will embrace the power and responsibility of media production and learn skills--including respect for other researchers and the search for scientific truth--to help others communicate their opinions and findings.

Information Competency and Research:

12. To document and interpret the world, students will use current technology: such as digital cameras; editing workstations and software; and the basic machinery and technology of filmmaking.

FDMA 2825. Making a Documentary

Course Description

Hands-on documentary production intensive in which students learn development of proposals, shooting fundamentals, ethical considerations, financing/producing, legal considerations and distribution.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Perform basic production and direction skills

2. Create a documentary film proposal
3. Utilize production process model for development of a documentary

FDMA 2830. DFM Forum

Course Description

Meets four times during the semester to facilitate cooperation and communication between students and keep them involved with filmmaking projects. Together with the preproduction and production courses, this course is designed to give all students a program overview and an opportunity to share their work and to learn from the efforts of their colleagues as well as the faculty.

Student Learning Outcomes

Not Available

FDMA 2840. Advanced Film and Television Pre-Production

Course Description

This course is part one of the Film and Television advanced project. This course focuses on the pre-production phase. Students will complete a short screenplay. Also students will do production design, script breakdown, budgeting, casting, and crowd funding. Students will also film an advanced project trailer.

Student Learning Outcomes:

1. Complete a finished screenplay for a short film
2. Develop the production design and pre-visualization for film and media
3. Complete script breakdown for short film
4. Complete final filming budget and casting for short film
5. Develop crowdfunding campaign

FDMA 2845. Advanced Film and Television Production

Course Description:

This course is part two of the Film and Television advanced project. This course focuses on the production phase. Students will complete their Crowd funding and develop a day-by-day filming schedule. Students will also film a short capstone film during this semester and begin the post-production.

Student Learning Outcomes:

1. Understand directing techniques for the short film
2. Understand visual storytelling for film and media
3. Complete a day-by-day filming schedule for film
4. Develop management skills for film and media productions

FDMA 2850. Blogging as a Tool

Course Description

This course is designed to provide students with a fundamental working knowledge of the technical, aesthetic, and conceptual aspects of blogging and how to join the media outlets in our Web 2.0 bubble to further career and education. Students will investigate many aspects of blogging using various tools and software, including WordPress, Tumblr, and others. These tools will be the platforms for further discussing various topics of interest - education in a social media world, the state of the digital communication networks, social networking, RSS feeds, social bookmarking, photo sharing, video sharing, security and, most notably, how to contribute your own content freely yet cautiously. Lectures, demonstrations, online discussions in class and blog postings and participation will introduce various issues associated with the tools, media, and their content. Assigned projects and other online activities will assist in grasping a critical view of our online universe, better preparing the student for further study in higher education and beyond.

Student Learning Outcomes

1. Demonstrate Excel®lent understanding of the foundations of various online communication platforms and contributing thoughtful, meaningful content to its pages.
2. Demonstrate and Excel®lent grasp of using online blogging platforms, managing a blog, and providing meaning online content.
2. Develop a critical appreciation for the state of the digital world today and as it has evolved and be able to use the syntax associated with debating and reviewing it.
3. Demonstrate a good working knowledge of the concepts of visual principles and design in relation to online page layout.
4. Enhance your ability to discuss and defend your work choices in relation to concepts, ideas, techniques, processes, and experiences.
5. Understand the limitations and opportunities offered by these various media tools and apply security principles to navigating them.

FDMA 2855. Social Media Marketing Tools
Course Description
In today's rapidly-evolving media landscape, social media has not only become a fundamental tool for communication, but a must-have skill in a multitude of industries. With the right amount of practice and social media education, students and professionals are empowered with a competitive edge in their studies, careers and communications.
Student Learning Outcomes
1. Understand social media fundamentals
2. Understand basic social media etiquette
3. Create a social media strategy
4. Publish social media updates and engage with a community
5. Apply social media best practices to enhance a personal brand
6. Drive traffic to a blog using social media
7. Create a content marketing calendar
8. Understand social media advertising
9. Manage social media using the HootSuite dashboard
10. Measure site traffic using Google Analytics
11. Create and follow a social media policy

FDMA 2860. Business of Film
Course Description
A study of the business of filmmaking focusing on how to produce an independent film. Students explore budgeting and script breakdown, setting up a Limited Liability Corporation (LLC), taxes, roll-out plans, union and non-union productions, contracts, deal memos and general entertainment law. This course also covers filming permits, production insurance and production agreements.
Student Learning Outcomes
1. Create a budget based on a script breakdown
2. Describe Limited Liability Corporations and taxes
3. Create a production roll-out plan
4. Analyze union versus non-union labor
6. Create contracts and deal memos based on entertainment law
7. Create filming permits, production insurance, and production agreements

FDMA 2990. Practicum
Course Description

Varies
Student Learning Outcomes
Varies

FDMA 2992. Directed Study in Media Arts
Course Description
Varies
Student Learning Outcomes
Varies

FDMA 2993. Workshop
Course Description
This is a series of 1-credit workshops offering specialized and intense advanced skill training and upgrading applications of photography for commercial purposes and training in photographic skills and styles presented by a variety of professional lecturers. May be repeated up to 7 credits. Restricted to Community Colleges only.
Student Learning Outcomes
Varies

FDMA 2994. Portfolio Design & Development
Course Description
Varies
Student Learning Outcomes
Varies

FDMA 2995. Cooperative Experience
Course Description
Work experience that directly relates to a student's major field of study that provides the student an opportunity to explore career paths and apply knowledge and theory learned in the classroom. Students are supervised/evaluated by both the employer and the instructor.
Student Learning Outcomes
Varies

FDMA 2996. Film and Digital Media Arts Topics
Course Description
Specific topics to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

FDMA 2997. Film and Digital Media Arts Independent Study
Course Description
Individual studies directed by consenting faculty with prior approval of department head.
Student Learning Outcomes
Varies

FDMA 2998. Film and Digital Media Arts Internship
Course Description
Varies

Student Learning Outcomes
Varies

FDMA 2999. Capstone
Course Description
Varies
Student Learning Outcomes
Varies

(FALB)

FALB 2110. The Business of Being an Artist
Course Description
This course is designed to provide an introduction for students who may be entrepreneurially-minded and/or desiring a successful career in the arts or as a practicing creative or innovator in any of the many complementary arts professions. Through video lectures, readings, exercises and assignments the course will introduce students to fundamentals of business planning and career development strategies. Students will be guided through a personal/professional strategic planning process as a basis for developing their own career. Students will explore the financial and legal requirements of starting an arts business including an introduction of branding and marketing basics. The course will conclude with students having created their own arts career plan as a platform for entering the creative sector.
Student Learning Outcomes
At the conclusion of this course, students should be able to:

1. Identify basic financial requirements for starting an arts-related business;
2. Develop tools for promoting professional competencies in the arts;
3. Identify components for a successful arts career.

FALB 2120. Making the Promotional Video
Course Description
This course takes a "hands-on" approach to introduce students to contemporary strategies for creating short, eye-catching promotional video content for distribution on social media, websites, or TV. In this class, you will employ writing, design, audio and video production skills to develop a digital marketing campaign for the organization, business, product, cause, or entity of your choice. Videos may be produced in various formats and will be intended for a variety of distribution platforms. Successful projects will require thoughtful planning, execution, and revision. Assignments will consist of writing, presentations, physical production and editing of visual content. You will present your work for screening and analysis in class.
Student Learning Outcomes

1. Evaluate strategies for creating promotional videos
2. Identify key messages that reach and engage your audience
3. Develop tactics to ensure your message gets through
4. Conceive, produce, and edit engaging promotional content

First-year Experience (FYEX)

FYEX 1010. Foundational Math
Course Description
This course is designed to prepare students for college-level mathematics courses by strengthening key mathematical concepts. It addresses the transition from high school to college and incorporates strategies needed for problem solving.

Student Learning Outcomes

1. Students in this class will learn to use algebraic skills in both computational and applied problems in preparation for taking Intermediate Algebra.
2. Students will learn to understand material using standard mathematical terminology and notation when presented either verbally or in writing.
3. Students will improve their skills in describing what they are doing as they solve problems using standard mathematical terminology and notation.
4. Students will practice the habits that exemplify academic responsibility in a self-paced learning environment.

FYEX 1020. Math Learning Strategies

Course Description

This course is designed to help increase awareness of math-based structures in day-to-day life, interpret and evaluate information presented in graphical and visual formats, and use problem-solving tools and concepts to analyze information and arguments.

Student Learning Outcomes

Students who successfully complete Math Learning Strategies: Observation and Application will

1. Increase their own awareness of math-based structures in their day-to-day life,
2. Interpret and evaluate information presented in graphical and visual formats, and
3. Use problem-solving tools and concepts to analyze information and arguments.

FYEX 1030. Critical Text Analysis

Course Description

This course presents the reading process including study reading, critical thinking and analysis. It addresses the transition from high school to college and incorporates strategies needed for problem solving.

Student Learning Outcomes

At the end of this course, students will be able to do the following:

1. Recognize reading as a process.
2. Take effective notes, organize information and summarize text in standard written English
3. Demonstrate ability to write effectively.
4. Develop a strategy to find solutions to a problem.
5. Apply critical thinking techniques and analyze an author's intent

FYEX 1110. First-Year Seminar

Course Description

This course is designed to help students achieve greater success in college and in life. Students will learn many proven strategies for creating greater academic, professional, and personal success. Topics may include career exploration, time management, study and test-taking strategies to adapt to different learning environments, interpersonal relationships, wellness management, financial literacy, and campus and community resources.

Student Learning Outcomes

1. Recognize the ways in which s/he is responsible for her/his own experience in education.
2. Identify, locate, and utilize available campus resources essential for academic success.
3. Create long- and short-term goals associated with student success and career planning.
4. Implement time management techniques to organize the semester's workload.
5. Develop strategies to use individual strengths to succeed and reflect upon coursework and course progress in multiple classes to alter academic behaviors and create deeper meaning and learning.
6. Apply the skills essential for analyzing and solving problems in her/his academic, professional, and personal life, which may include financial literacy and wellness management.

7. Develop and apply essential skills such as reading, taking notes, studying, memorizing, taking tests, and self-management skills necessary for college success.
8. Identify and revise self-defeating patterns of behavior, thought, and emotion as well as unconscious limiting beliefs.
9. Develop supportive relationships with members of the campus community.
10. Develop essential reading, writing, and critical thinking skills used in study and in research.
11. Demonstrate understanding of how to use the computer for academic purposes, including learning management systems, email communications, research databases, degree audit, and other online resources.

FYEX 1111. Introduction to University Studies

Course Description

An introduction to the theory of interdisciplinary studies. The course focuses on exploring common pathways and connections among disciplines. It enables students to develop a personal theory of interdisciplinary studies and culminates in a detailed plan for an individualized major.

Student Learning Outcomes

Not Available

FYEX 1112. The Freshman Year Experience

Course Description

An introduction to the university and its resources; emphasis on development of academic and personal skills that enable freshmen to become successful learners.

Student Learning Outcomes

1. Appreciate the goals, methods, and values of higher education
2. Expand intellectual development and self-direction
3. Establish a faculty mentor relationship
4. Enhance knowledge and practice of collaborative learning principles
5. Establish a familiarity with campus resources and student services
6. Develop public speaking, critical thinking, library research, and study strategies
7. Evaluate talents and interest in relation to selecting a major and career planning
8. Examine and clarify values
9. Acknowledge and enhance respect for diversity

FYEX 1113. Academic Literacy

Course Description

This course introduces specific reading techniques to aid students in developing reading skills in the content areas in order to meet college reading demands. Students move from a literal perspective to an interpretive and critical analysis of textbooks and college-level materials.

Student Learning Outcomes

Upon completion of this course, students should be able to:

1. Develop and apply essential skills such as reading, taking notes, studying, memorizing, taking tests, and self-management skills in multiple classes necessary for college success.
2. Develop essential reading, writing, and critical thinking skills used in study and in research, with emphasis on APA style formatting and citations.
3. Apply the skills essential for analyzing and solving problems in her/his academic, professional, and personal life, which may include financial literacy and wellness management.
4. Recognize the ways in which s/he is responsible for her/his own experience in education.

5. Demonstrate understanding of how to use the computer for academic purposes, including learning management systems, email communications, research databases, degree audit, and other online resources.
6. Identify, locate, and utilize available campus resources essential for academic success.
7. Create long- and short-term goals associated with student success and career planning.
8. Implement time management techniques to organize the semester's workload.
9. Develop strategies to use individual strengths to succeed and reflect upon coursework and course progress in multiple classes to alter academic behaviors and create deeper meaning and learning.
10. Increase knowledge and practice of collaborative learning principles.

FYEX 1114. Experiential Learning Seminar
Course Description
Research Methods. Gain research experience through literature searches, reading papers, and constructing well-posed questions.
Student Learning Outcomes
Not Available

FYEX 1115. Transition from Military to University
Course Description
Making a positive transition from military to civilian life is key to success. This course will cover a variety of topics ranging from time management to critical thinking. This course is designed to assist military and veteran students in becoming more effective learners through self-awareness, effectiveness study & learning strategies, and interpersonal skills. Skills and techniques for managing military to civilian readjustment transition issues are discussed and examined.
Student Learning Outcomes
1. Demonstrate skills necessary to transition from a military to academic environment
2. Analyze acquired military skillsets and connect to academic major and career
3. Understand and demonstrate effective time management, test-taking strategies, stress management, and other key college success skills
4. Identify and utilize campus resources and student services

FYEX 1116. Managing Your Money
Course Description
Principles and strategies for effective money management. Includes financial goal setting, both short and long term. Explores the relationship between career and income earning potential. Explores issues of credit and debt management and prevention of identity theft.
Student Learning Outcomes
1. Demonstrate understanding of the psychology of money and how it relates to personal financial decisions.
2. Create realistic short- and long-term financial goals and a personal budget.
3. Comprehend and manage college finances, including types of financial aid.
4. Appreciate the importance of the Free Application for Federal Student Aid (FAFSA).
5. Describe the financial aspects of career development and how they apply to their own lives, including resume, taxes, salary, benefits.
6. Apply principles of student loan management.
7. Demonstrate use of credit reports in the prevention of identity theft.
8. Identify essential elements of smart spending and borrowing.
9. Recognize debt and repayment costs.
10. Explain the basics of saving and planning for the financial future.
11. Create focused, developed, clear discussion posts and other written work for this class.

FYEX 1117. Financial Literacy Money Matters

Course Description

This course will cover a variety of financial literacy topics focused on practical money management, teaching students budgeting, financial goal setting, understanding college finances (FAFSA/ student loans), managing credit/debt, career-linked financial aspects (taxes, salary), and identifying campus resources for financial wellness.

Student Learning Outcomes

1. Master effective strategies and other skills related to financial literacy.
2. Establish a familiarity with campus resources designed to foster financial literacy and wellness.
3. Exhibit intellectual development and self-direction in relation to financial literacy and wellness.
4. Identify financial literacy skills which best support individual financial well-being.
5. Demonstrate skills and knowledge that allows the student to make informed and effective decisions with all of their financial resources.

FYEX 1120. College Success

Course Description

This is an introduction to college life and surveys topics from policies and procedures to career exploration. This course outlines strategies the student can use to achieve a successful college experience. The emphasis is on the attainment of superior personal and academic skills.

Student Learning Outcomes

By the end of this College Success course, students should be able to:

1. Recognize the importance of success skills in their life.
2. Gain insight into how their own learning is best achieved through a learning skills inventory.
3. Develop a time management system that will allow them to balance all aspects of life and reach the goals which they have set.
4. Improve memory techniques and apply them to all aspects of one's life.
5. Improve reading skills by becoming an active reader.
6. Discuss note taking skills and develop a system that works for them.
7. Discover the art of test taking and improve one's performance on tests.
8. Improve their critical thinking skills in order to enhance learning.
9. Recognize the importance of effective communication and other personal skills like money management and good health.
10. Recognize the value of diversity that comes in many forms throughout academics and life.
11. Increase awareness of available student services at NMJC.
12. Determine their own personal academic/career goals and set a course to achieve them.

FYEX 1130. Academic Skills for Mathematics

Course Description

Emphasis on study skills for success in math, up to the calculus level, tailored to meet individual student needs. Topics include test preparation strategies, efficient time management and practice methods, and introduction to and practice with learning software. Consent of instructor required.

Student Learning Outcomes

Not Available

FYEX 1131. Personal Learning Skills I

Course Description

Individualized programs for self-improvement in skill areas necessary for academic success in the university environment. Each course to bear an appropriate subtitle

Student Learning Outcomes

1. Synthesize the importance of critical thinking through self-reflection and self-exploration.
2. Analyze and apply critical thinking skills using the eight intellectual standards.
3. Describe the common barriers to critical thinking and construct problem solving strategies.
4. Evaluate information and knowledge to determine misinformation and inaccuracies.
5. Demonstrate information literacy by recognizing when information is needed and being able to efficiently locate, accurately evaluate, effectively use, and clearly communicate the information in various formats and mediums.

FYEX 1132. Academic and Personal Effectiveness

Course Description

Learn academic self-analysis skills through the application of study and learning techniques to current course demands. Exposure to a variety of topics which enhance university and life-long learning.

Student Learning Outcomes

1. Students will demonstrate mastery of time management, stress management, test taking, and other skills through completion of activities, quizzes, discussions, and more.
2. Students will be able to identify campus resources, including their services, location, and contact information.
3. Students will exhibit intellectual development and an improved self-direction through participation in the course.
4. Students will be able to identify and adopt those management skills which best support academic and career choices.

FYEX 1133. Academic Reading and Study Skills

Course Description

Introduction to and practice with strategies for effective reading and studying at the college level.

Student Learning Outcomes

1. Use reading strategies to synthesize texts.
2. Identify rhetorical elements of texts.
3. Identify and apply different study methods.
4. Recognize the role of student support services for student success.
5. Identify and practice effective time management skills.
6. Demonstrate proficient computer skills.
7. Write an effective summary.

FYEX 1134. Speed Reading

Course Description

Introduction to strategies and techniques for increasing reading rate and comprehension related to academic areas.

Student Learning Outcomes

1. Demonstrate an understanding of speed-reading strategies and eye movement drills
2. Expand vocabulary and reading comprehension
3. Improve reading rates and develop reading techniques
4. Demonstrate an understanding of skimming techniques and scanning strategies.

FYEX 1140. Career Exploration

Course Description

Survey of careers possible with community college associate degrees. Information on how to make a career choice.

Student Learning Outcomes

1. Desired career and lifestyle.
2. Areas of interest.
3. kills and abilities.
4. Personal values.
5. Programs that match the student's interests, abilities, and values.
6. Three careers that match the student's interests, abilities, values, and personality.

FYEX 1141. Career Explorations and Planning

Course Description

This course is designed to increase the likelihood that individuals will successfully navigate the challenges they face when making college major and related career choices. Restricted to Las Cruces campus only.

Student Learning Outcomes

Not Available

FYEX 1150. Diversity at the University

Course Description

In this course students will engage in discussions about diversity at the university, what it means in today's society and local community, and build on its complexity at the college or university.

Student Learning Outcomes

1. Acknowledge and enhance sensitivity and respect for diversity
2. Recognize and gain insight to diversity issues on college campuses
3. Analyze and interpret information about cultural differences, cultural rules, and cultural biases in their own society or about non-dominant or marginalized groups.
4. Articulate ways in which social identities such as race, class, and gender intersect to
5. influence individual life experiences and/or perspectives on and off campus.
6. Integrate, synthesize, and apply knowledge of other cultures in both a broad and focused context.

FYEX 1160. Tutorial

Course Description

Development of specific skills required for college courses, such as note-taking, listening, and test-taking. To be taken in conjunction with a regular designated college course.

Student Learning Outcomes

Upon completion of this course, the student will be able to exhibit the following behaviors:

1. Demonstrate the ability to organize their time in order to improve study habits.
2. Apply pre-reading strategies to improve reading concentration and comprehension.
3. Demonstrate basic understanding of the systems of the body.
4. Identify techniques to improve personal concentration and comprehension skills.
5. Identify and demonstrate listening skills.
6. Identify effective study and note taking skills.
7. Identify and demonstrate effective test-taking skills.
8. Identify critical thinking skills used in nursing.
9. Demonstrate knowledge of key terms.

FYEX 1170. NMSU Gospel Choir

Course Description

Students will gain performance experience and exposure to urban contemporary gospel music. Open to all majors. May be taken for unlimited credit. Restricted to: Main campus only.

Student Learning Outcomes

1. Comprehended the foundation related to singing in a gospel choir setting.
2. Demonstrate an understanding of the difference between the musical treble and bass clef.
3. Expand vocabulary and reading comprehension of gospel music terminology.
4. Improve the speed and accuracy of music sheet and sight reading

FYEX 1995. Preparing for Cooperative Education & Internship

Course Description

The Cooperative Education Course provides students with a comprehensive overview of career-related topics designed to assist with securing Cooperative Education and Internship employment. Students learn about philosophies and approaches to resumes, cover letters, interviewing, job searching, networking, and professionalism. A primary focus of the course is on experiential learning where students have opportunities to practice and implement course concepts including interviewing, networking, job searching, and document creation. In addition to exploring topics related to Cooperative Education and Internship, the course is designed to provide students with tools and strategies for successfully navigating the transition from student to employee.

Student Learning Outcomes

1. Demonstrate skills related to securing experiential learning experiences.
2. Demonstrate knowledge related to the philosophies and approaches to resumes, cover letters, interviewing, cooperative education and internship search, and networking.
3. Comprehend the importance of experiential learning experiences in relation to career development.
4. Evaluate experiential learning opportunities and demonstrate comprehension of the skills and strategies necessary to transition from student to career.

FYEX 1996. Topics in First Year Experience

Course Description

Covers specific study skills and critical thinking topics. Specific sub-titles to be listed in the Schedule of Classes.

Student Learning Outcomes

Varies

FYEX 2111. Critical Thinking Skills

Course Description

Introduction to critical thinking processes. Develops higher order thinking necessary to evaluate clearly, logically, and accurately one's academic and life experiences. Practical emphases on assertive thinking and perspectives.

Student Learning Outcomes

1. Students will raise vital questions and problems, formulating them clearly and precisely.
2. Students will gather and assess relevant information, using abstract ideas to interpret it effectively, come to well-reasoned conclusions and solutions, and them against relevant criteria and standards.
3. Students will think open-mindedly within alternative systems of thought, recognizing and assessing assumptions, implications, and practical consequences.
4. Students will communicate effectively in figuring out solutions to complex problems.

Fish, Wildlife, Conservation Ecology (FWCE)

FWCE 1110. Introduction to Natural Resources Management

Course Description

This class covers historical and current issues affecting the management of renewable natural resources with an emphasis on water, soil, rangeland, forest, fish, and wildlife resources. An emphasis is placed on the scientific method and critical thinking. In the laboratory students collect and analyze field data on topics covered above and write up each unit as a laboratory report.

Student Learning Outcomes

1. Students should be able to recall, describe and explain the laws, treaties and acts that have led to our current management of natural resources in the United States.
2. Students should recognize or explain what ecological processes are, the importance of ecological processes in maintaining ecosystem function and how human activities change ecological processes and the ecosystems dependent on those processes.
3. In each of the six course and lab modules (water quality, soils, forestry, rangelands, wildlife and fisheries) students should be able to recall, describe and explain basic terminology, fundamental ecological principles and management techniques and challenges.
4. Students should be able to interpret data presented graphically and in tables from class exercises and lectures.
5. Students should be able to solve problems scientifically through field data collection, laboratory analyses and the use of quantitative methods (basic statistics, tables and graphs).
6. Students should be able to communicate results from laboratory exercises (6 lab modules) orally and in writing.
7. Students will learn to apply scientific thinking to real world problems through in class discussion and short essays based on material from case studies presented in class and guest speakers.

FWCE 1120. Contemporary Issues in Wildlife and Natural Resources Management

Course Description

Ecological, socioeconomic, and political issues surrounding the management of our natural resources with an emphasis on fish and wildlife resources.

Student Learning Outcomes

Not Available

FWCE 2110. Principles of Fish and Wildlife Management

Course Description

Basic principles of fish and wildlife management including history, ecology, economics, and policy. Emphasis on wildlife and fisheries. Uses an ecosystem approach integrating living and nonliving resources.

Student Learning Outcomes

1. The goal of this course is to provide a firm foundation in the principles of wildlife and fisheries management.
2. Material will include a background in biological principles geared towards animal populations, characteristics and management of the habitats utilized by fish and wildlife, techniques used to study and manage animals and their habitats, and aspects of the human dimension involved in wildlife and fisheries issues.
3. This course serves as a core requirement for degrees offered in the Department of Fish, Wildlife and Conservation Ecology and as a required course for degrees in other departments such as Rangeland Resources.

Food Science and Technology (FSTE)

FSTE 1110. Introduction to Food Science and Technology

Course Description

An introductory course in the scientific study of the nature and composition of foods and their behavior during all aspects of their conversion from raw materials to consumer food products.

Student Learning Outcomes

At the conclusion of this course, the student will be able to:

1. Define the scope and interdisciplinary nature of food science and technology

2. Describe the chemical nature of foods, including important reactions and functional properties of food component such as water and acids, and the basic analytical procedures used to assess the chemical nature of foods.
3. Describe the microbiological nature of foods, including pathogens, spoilage organisms, foodborne illnesses and fermentation, and methods used to assess food microbiology properties.
4. Describe the color, flavor and texture of foods and the objective and sensory procedures used to evaluate those properties.
5. Discuss food laws and regulations and agencies involved in enforcing those laws.

FSTE 1120. ACES in the Hole Foods I

Course Description

Food production activities related to operation of ACES in the Hole Foods, a student-run food company that will give FSTE majors hands-on experience in all aspects of developing, producing and marketing food products.

Student Learning Outcomes

1. Apply basic scientific principles, procedures, techniques and standards in the production of food products.
2. Apply principles of sanitation and safety to the production of food products.
3. Assist in the development and evaluation of new and/or existing food products made for human consumption.
4. Prepare a resume and portfolio

FSTE 2110. Food Science I

Course Description

The scientific study of the principles involved in the preparation and evaluation of foods.

Student Learning Outcomes

At the conclusion of this course, the student will be able to:

1. Explain basic scientific principles involved in the preparation of high-quality food products.
2. Utilize scientific inquiry in the experimental investigation of factors influencing the chemical, physical and sensory properties of food products.
3. Apply basic scientific principles, procedures, techniques and standards in the preparation of all types of high-quality food products.
4. Use basic methods of quantitative analysis to critically evaluate quality characteristics of food.
5. Use sensory science techniques and terminology to critically evaluate acceptability and quality characteristics of food.
6. Describe high quality characteristics of a variety of food products using appropriate terminology.
7. Apply principles of sanitation and safety to food preparation.

FSTE 2120. ACES in the Hole Foods II

Course Description

Food production activities related to operation of ACES in the Hole Foods, a student-run food company that will give FSTE majors hands-on experience in all aspects of developing, producing and marketing food products.

Student Learning Outcomes

1. Apply basic scientific principles, procedures, techniques and standards in the production of food products.
2. Apply principles of sanitation and safety to the production of food products.
3. Assist in the development and evaluation of new and/or existing food products made for human consumption.
4. Prepare a resume and portfolio.

FSTE 2130. Survey of Food and Agricultural Issues

Course Description

Same as AEEC 2130.

Survey of food and agricultural issues, including geography of food production and consumption; human-agricultural-natural resource relations; agriculture in the United States and abroad; modern agribusiness; food safety; food, agriculture, and natural resources policy; ethical questions; role and impact of technology.

Student Learning Outcomes

1. Understand of global agriculture including production techniques used in various geographical regions, consumption trends, and political and social constraints.
2. Synthesis information about agricultural issues and make informed arguments
3. Articulately discuss modern issues in agriculture
4. Write coherent arguments relative to personal beliefs regarding agricultural issues.

FSTE 2996. Topics in Food Science and Technology

Course Description

Specific topics and credits to be announced in the Schedule of Classes.

Student Learning Outcomes

Student learn objectives vary based on topic.

Forestry (FORS)

FORS 1010. Humans and Ecosystems

Course Description

A survey of environmental and ecological sciences with an introduction to the ways humans interact with and change ecosystems. The course introduces students to ecological and environmental concepts that bear on environmental issues, current practices and management strategies utilized to preserve and sustain ecosystems, and examples of solutions to environmental and natural resource problems.

Student Learning Outcomes

The primary objectives of this course are to:

1. Review and reinforce basics of quantitative reasoning and mathematical analyses and their application to real-world problems. (Mastery of content knowledge and skills, critical and reflective thinking skills)
2. Through hands-on labs and field trips, use a variety of strategies to measure physical objects and employ dimension analysis to solve problems. (Mastery of content knowledge and skills, quantitative reasoning).
3. Critically read and write about a popular press book on a natural resource/environmental management (Mastery of critical and reflective thinking skills, reading and writing)
4. Develop and interpret graphs using spreadsheet software. (Mastery of content knowledge and skills, effective communication skills, critical and reflective thinking skills, effective use of technology)
5. Discuss and evaluate scientific methods and interpret evidence. (Mastery of content knowledge and skills, effective communication skills, critical and reflective thinking skills,)
6. Gather research from scientific journals in the library and on the internet, interpret and present key findings on a particular topic (Effective communication skills, critical and reflective thinking skills, effective use of technology).
7. Apply dimension analysis techniques to evaluate a variety of natural resource problems through weekly problem sets and lab exercises. (Mastery of quantitative reasoning skills)
8. Work effectively in collaborative groups to address current environmental issues (Effective communication skills, critical and reflective thinking skills)
9. Incorporate practice with spreadsheets, word processing and presentation software into class, lab and homework assignments (Effective communication skills, effective use of technology)

FORS 1310. Introduction to Wildland Firefighting I

Course Description

The course provides students entry-level wildland firefighter skills including operational leadership, communications, tactical decision making, situational awareness, the LCES system, wildland fire behavior, fire lines, and factors affecting the start and spread of wildfires. Successful completion of the course leads to US Forest Service Certification S-130, S-190 (Red Card)

Student Learning Outcomes

Students will:

1. Demonstrate an understanding of their responsibilities to work effectively in a team operating in a high-risk work environment;
2. Describe the purpose of the Standard Firefighting Orders and Watch Out Situations;
3. Describe what the Lookouts, Communications, Escape Routes, and Safety Zones (LCES) system is and how it relates to the Standard Firefighting Orders;
4. Describe the standards, tools and equipment, and various methods used in fireline construction;
5. Describe the methods for extinguishing a fire with or without the use of water;
6. Demonstrate the ability to construct fireline to required standards using various methods, tools and equipment, and techniques;
7. Describe the basic terminology used in wildland fire;
8. Identify and discuss the fire triangle;
9. Identify and discuss key characteristics of the primary wildland fire environment components - fuels, weather, and topography;
10. Identify critical fire weather factors that, combined with receptive fuels, may result in extreme fire behavior; and
11. Recognize how alignment of fuels, weather, and topography can increase the potential for extreme fire behavior.

FORS 1510. Introduction to Wildland Firefighting II

Course Description

Builds on Wildland Firefighting 1, this introductory course provides context for incident command systems within initial emergency response. Students examine personal leadership styles and are introduced to the concept of situational leadership, team cohesion, and team management and will develop a basic understanding of National Incident Management System concepts, principles, and components. Includes a career development component (i.e. USAJobs)/Federal resume building.

Student Learning Outcomes

Students will:

1. Demonstrate the ability to use an incident command system to manage an event;
2. Describe the National Response Framework and core roles and responsibilities for responders;
3. Describe how to reduce the threat to public health and safety during wildland fires;
4. Identify responsibilities and demonstrate the ability to apply the principles of operational leadership;
5. Describe how to incorporate and maintain open lines of communication with appropriate personal;
6. Demonstrate the ability to apply tactical decision making;
7. Demonstrate an understanding of fundamental leadership principles; and
8. Understand individual traits and motivation for entering into a leadership role.

FORS 2010. Forestry Field & Safety Practices

Course Description

This course is an intensive summer experience in which various forest types in New Mexico are visited. Forest management practices, harvest systems, and natural catastrophes will be assessed by students for their ecological repercussions. Measurement methods used in forestry will be introduced throughout the session. This course provides training to students in the Occupational Safety and Health Administration’s heavy equipment and field operations regulations, safe practices for field workers, and risk management and liability issues surrounding field work.

Student Learning Outcomes

1. Students will be able to use various types of forestry equipment typically used by practicing professionals.
2. Students will learn, discuss, and practice common safety measures in the field to minimize the potential for injuries and to align with common practices in the profession.
3. Students will be able to apply a variety of ecological forestry methods to assess and measure vegetation and forest stand conditions and use these skills to evaluate possible forest treatments.
4. Students will gain skills and abilities in effective collaboration, specifically working in groups and teams.
5. Students will hone communication skills, including written and oral skills, and improve their quantitative and analytical skills through the analysis of data collected in the field.

FORS 2020. Terrestrial Ecology

Course Description

The ecology of natural and artificial groups of terrestrial organisms used in the production of goods and services is the focus of this course. Topics include biological productivity, vegetation dynamics, biodiversity, range ecosystems, forest ecosystems, and pest populations.

Student Learning Outcomes

1. Identify, define, and disseminate the basic concepts of terrestrial ecology.
2. Discuss and understand the relationships between and among key concepts.
3. Use quantitative reasoning skills to address issues and experiments in terrestrial ecology.
4. Apply the scientific method to test ecological concepts.
5. Incorporate practice with data spreadsheets, word processing, and presentation software into class, lab and homework assignments.
6. Gather research from scientific journals in the library and on the internet, interpret and present key findings on terrestrial ecology.
7. Communicate ecology appropriately in oral and written format to multiple audiences.
8. Integrate the cases of study to daily life and future life.
9. Work effectively in collaborative teams to address current environmental issues.

FORS 2030. Water Resources

Course Description

This course will explore the social, economic, environmental, historical, and technological forces that have led to our current methods of water distribution, management, and policy throughout the world. A strong historical context will be used throughout the course with a focus on New Mexico, Colorado, and the West. While the course will focus on the West, other areas of the U.S. and world will be examined as appropriate.

Student Learning Outcomes

1. Review and analyze within a geographical perspective the formation, use, conservation and management of water resources (mastery of content knowledge and skills, critical and reflective thinking skills).
2. Develop a working knowledge of the hydrologic, water quality, legal, economic, political and societal factors that determine water availability, hazards, use, demand and allocation (mastery of content knowledge and skills, reading and writing).
3. Critically discuss the basic principles of water resources management, including surface and groundwater hydrology, water quality and water law (mastery of content knowledge and skills, qualitative and quantitative reasoning).
4. Acquire experience in accessing and interpreting hydrological data and using this data to apply this in-depth knowledge of hydrology and water resources to solve a series of problems associated with the science, management, socioeconomics, and politics of water (mastery of content knowledge and skills, effective communication skills, critical and reflective thinking, effective use of technology).

5. Become competent in analyzing regions of water resources conflicts, and discuss underlying issues related to conflicts through class presentations and discussions (mastery of content knowledge and skills, effective communication skills, critical and reflective thinking skills).
6. Improve report writing skills and communicate results of class assignments to various audiences including classroom peers and local NRM practitioners' (effective communication skills, effective use of technology, critical and reflective thinking).

FORS 2310. Technical Skills in Fire Management I

Course Description

Provides knowledge and skills to develop fire behavior and prediction knowledge and skills to manage wildland fire including management of potable water delivery systems and firefighter safety and tactical operations in the wildland-urban interface. Designed to prepare the prospective fireline supervisor to undertake safe and effective fire management operations. Students who successfully complete the course will gain USFS S-211, S-290 certifications. First course in a series that collectively serves to develop fire behavior prediction knowledge and skills.

Student Learning Outcomes

1. Students will demonstrate knowledge and skill to design, set up, operate, troubleshoot, and shut down portable water delivery systems.
2. Students will
    a. be able to identify and describe the characteristics of fuels, weather, and topography influencing fire behavior.
    b. describe the interactions of fuels, weather, and topography on fire behavior, fireline tactics, and safety.
    c. describe the causes of extreme fire behavior conditions (long-range spotting, crown fires, fire tornadoes, fire whirls); and
3. Students can interpret, communicate, apply, and document wildland fire behavior and weather information.

FORS 2320. Intro to Geospatial Technology

Course Description

Introduction to Geospatial Technology describes concepts and applications of Geographic Information Systems (GIS), Global Navigation Satellite Systems/Global Positioning Systems (GNSS/GPS) and remote sensing. Hands-on exercises that reinforce basic concepts of geospatial information and its practical applications using Google Earth and ESRI's ArcGIS Online. Participants will also learn how geospatial technology is used in business, industry, and government. This course is designed to give students the skills and knowledge they need to apply geospatial technology to their other studies and builds a foundation for continued study in the geospatial sciences.

Student Learning Outcomes

1. List and define the major technological systems that the geospatial industry relies upon (Geographic Information Systems, Global Navigation Satellite Systems, Remote Sensing) and their components. [Student Outcomes Trait: Mastery of content knowledge and skills]
2. Explain the characteristics and appropriate uses of common coordinate systems, projections, datums, and ellipsoids. [Student Outcomes Trait: Mastery of content knowledge and skills]
3. Identify how features are modeled and represented in geographic information systems. [Student Outcomes Trait: Mastery of content knowledge and skills]
4. Identify the basic concepts of spatial analysis. [Student Outcomes Trait: Mastery of content knowledge and skills]
5. Solve spatial problems and prepare cartographic outputs. [Student Outcomes Trait: Use of technology, Critical and reflective thinking]
6. Summarize basic concepts of remote sensing and use of imagery. [Student Outcomes Trait: Mastery of content knowledge and skills]

7. Demonstrate how to display imagery and query basic imagery properties using ArcGIS Online [Student Outcomes Trait: Use of technology]
8. Unit Level Educational Outcomes:
    a. Unit 1: What is Geospatial Technology?
        i. List and define the major technological systems that the geospatial industry relies upon (Geographic Information Systems, Global Navigation Satellite Systems, Remote Sensing) and their components. [Student Outcomes Trait: Mastery of content knowledge and skills]
        ii. Give examples of uses of geospatial technology. [Student Outcomes Trait: Mastery of content knowledge and skills]
        iii. Summarize professional opportunities and careers within the geospatial technology industry. [Student Outcomes Trait: Critical and reflective thinking]
        iv. Identify the major software applications and their uses. [Student Outcomes Trait: Mastery of content knowledge and skills]
        v. Use geospatial technology to explore a location and identify geospatial relationships. [Student Outcomes Trait: Use of technology]
    b. Unit 2: Location Systems and Global Positioning
        i. Explain how the earth is modeled to provide a reference framework for deriving coordinates and measurements. [Student Outcomes Trait: Mastery of content knowledge and skills]
        ii. Explain the characteristics and appropriate uses of common coordinate systems, projections, datums and ellipsoids. [Student Outcomes Trait: Mastery of content knowledge and skills]
        iii. Demonstrate the use of common geospatial coordinate systems, such as geographic (latitude and longitude), UTM and State Plane Coordinates. [Student Outcomes Trait: Mastery of content knowledge and skills]
        iv. Demonstrate how to describe the location of a parcel of land using the Public Land Survey System. [Student Outcomes Trait: Mastery of content knowledge and skills]
        v. List the GNSS systems and identify important concepts of how they work and their uses. [Student Outcomes Trait: Mastery of content knowledge and skills]
        vi. Use a GPS receiver and a webapp to collect GIS data in the field. [Student Outcomes Trait: Use of technology]
    c. Unit 3: Geographic Information Systems
        i. Identify how features are modeled and represented in geographic information systems. [Student Outcomes Trait: Mastery of content knowledge and skills]
        ii. Identify the basic concepts of spatial analysis. [Student Outcomes Trait: Mastery of content knowledge and skills]
        iii. Add and view data in different models for a GIS application. [Student Outcomes Trait: Use of technology]
        iv. Create, query, edit, and maintain geospatial data contained in databases and other formats. [Student Outcomes Trait: Use of technology]
        v. Solve spatial problems and prepare cartographic outputs. [Student Outcomes Trait: Use of technology, Critical and reflective thinking]
    d. Unit 4 Remote Sensing
        i. Summarize basic concepts of remote sensing and use of imagery. [Student Outcomes Trait: Mastery of content knowledge and skills]
        ii. Summarize the basic concepts of the electromagnetic spectrum. [Student Outcomes Trait: Mastery of content knowledge and skills]
        iii. Identify the common characteristics and sources of remotely sensed image data. [Student Outcomes Trait: Mastery of content knowledge and skills]

iv. Demonstrate how to display imagery and query basic imagery properties using ArcGIS Online [Student Outcomes Trait: Use of technology]

FORS 2510. Technical Skills in Fire Management II

Course Description

Provides context for the use of chainsaws and their tactical wildland fire application and fire operations in the wildland-urban interface (WUI). Students who successfully complete the course will gain USFS S-212 and USFS S-215 certification. Designed to prepare the prospective fireline supervisor to undertake safe and effective fire management operations. The second course in a series that collectively serves to develop fire behavior prediction knowledge and skills.

Student Learning Outcomes

1. Be able to define and apply chainsaw safety standards as required by OSHA and agency handbooks, manuals, directives, and owner's manuals;
2. Identify and demonstrate basic chainsaw operation, troubleshooting, maintenance, and safety features;
3. Demonstrate the tactical application of chainsaws in fireline construction and mop up operations;
4. Operate safely and effectively in a wildland urban interface incident using situational awareness, performing structure triage, using pre-planning tools; and
5. Demonstrate basic understanding of fire behavior and using strategy and tactics unique to the WUI environment.

French (FREN)

FREN 1110. French I

Course Description

Intended for students with no previous exposure to French, this course develops basic listening, speaking, reading, and writing skills aiming toward the ACTFL novice-high level. This is an introductory course designed to teach the student to communicate in French in everyday situations and to develop an understanding of French and Francophone cultures through the identification of cultural products and practices, of cultural perspectives, and the ability to function at a survival level in an authentic cultural content. This course will also develop the student's sense of personal and social responsibility through the identification of social issues.

Student Learning Outcomes

1. Students can communicate and exchange information about familiar topics using phrases and simple sentences, sometimes supported by memorized language.
2. Students can usually handle short social interactions in everyday situations by asking and answering simple questions
3. Students can write short messages and notes on familiar topics related to everyday life.
4. Students can often understand words, phrases, and simple sentences related to everyday life.
5. Students can recognize pieces of information and sometimes understand the main topic of what is being said.
6. Students can understand familiar words, phrases, and sentences within short and simple texts related to everyday life.
7. Students can sometimes understand the main idea of what they have read.
8. Students can identify beliefs, behaviors and cultural artifacts of the French-speaking world.
9. In English, students will engage with social issues confronting the French-speaking world to develop their sense of personal and social responsibility.

FREN 1120. French II

Course Description

A continuation of French 1, students will develop a broader foundation in skills gained during the first semester, including understanding, speaking, reading and writing French aiming toward the ACTFL intermediate-low level. This course is

designed to increase student fluency in French as applied to everyday situations. Students will also learn to recognize and understand various French and Francophone products, practices, and perspectives, identifying common cultural patterns, describing basic cultural viewpoints, and further developing their sense of personal and social responsibility through the investigation of cultural issues.

Student Learning Outcomes

1. Students can participate in conversations on a number of familiar topics using simple sentences.
2. Students can handle short social interactions in everyday situations by asking and answering simple questions.
3. Students can write briefly about most familiar topics and present information using a series of simple sentences.
4. Students can understand the main idea in short, simple messages and presentations on familiar topics.
5. Students can understand the main idea of simple conversations that they overhear.
6. Students can understand the main idea of short and simple texts when the topic is familiar.
7. Students can describe and make comparisons between decisions about beliefs, behaviors and cultural artifacts of the French-speaking world.
8. Students will engage with social issues confronting the French-speaking world to continue to develop their sense of personal and social responsibility.

FREN 1130. French Conversation

Course Description

This course is to provide students with practice in speaking French at a beginning level. It is designed to give students basic conversational skills while reviewing previously studied structures and vocabulary. The main focus is to provide students with the confidence and language necessary to get along in French-speaking environment, as well as expose them, in a more in-depth way, to various aspects of Francophone culture.

Student Learning Outcomes

The following are based on the national standards for foreign language learners:

1. COMMUNICATION: Communication in languages other than English
   1.1 Students engage in conversations, provide and obtain information, express emotions, and exchange ideas.
   1.2 Students understand and interpret written and spoken language on a variety of topics.
   1.3 Students present information, concepts, and ideas to an audience of listeners or readers on a variety of topics.
2. CULTURES: Gain knowledge and understanding of other cultures
   2.1 Students demonstrate an understanding of the relationship between the practices, products, and perspectives of the culture studied.
3. CONNECTIONS: Connect with other disciplines and acquire information
   3.1 Students reinforce and further their knowledge of other disciplines through the foreign language.
   3.2 Students acquire information and recognize the distinctive viewpoints that are only available through the foreign language and its cultures.
4. COMPARISONS: Develop insight into the nature of language and culture
   4.1 Students demonstrate an understanding of the nature of language through comparisons of French, and French-speaking communities, and their own.
   4.2 Students demonstrate understanding of the concept of culture through comparisons of the cultures studied and their own.
5. COMMUNITIES: Participate in multilingual communities at home and around the world
   5.1 Students begin to show evidence of their ability to use French to participate in various communities.

FREN 1130L. French Language Lab

Course Description

Not Available

Student Learning Outcomes

Not Available

FREN 1140. Intensive French I

Course Description

This is an intensive accelerated combination of FR1 and FR2.

Student Learning Outcomes

1. Converse and write on topics related to immediate personal needs, greetings, farewells, introductions, personal data, likes and dislikes, obligations and desires, daily routines, the home, working, basic food, body, health, weather, professions, the media, studies, travel, and so on.
2. Comprehend both artificial and authentic written and aural texts of short to moderate length on familiar topics.
3. Use a basic core vocabulary of about 2,000 words.
4. Use essential grammar concepts.
5. Attain an ACTFL proficiency level of at least Novice-high in all four skills: speaking, listening, reading, writing
6. Identify key concepts, persons, and places important to French speakers.
7. Explain basic concepts and facts of everyday French life and social patterns.

FREN 1150. Accelerated Elementary French

Course Description

This is an intensive accelerated combination of FR1 and FR2.

Student Learning Outcomes

Not Available

FREN 2110. French III

Course Description

In this third semester course, students will continue to develop a broader foundation in skills gained during the first year, including understanding, speaking, reading and writing French aiming toward the ACTFL intermediate-mid level. This course is designed to teach the student to communicate in a more sustained way in areas of personal interest and in everyday situations. Students will engage in and analyze various French and Francophone products, practices, and perspectives, as well as continue to develop their sense of personal and social responsibility through comparison and contrast of cultural perspectives.

Student Learning Outcomes

1. Students can participate in conversations on familiar topics using sentences and series of sentences.
2. Students can engage in short social interactions in everyday situations by asking and answering a variety of questions. Students can usually say what they want to say about themselves and their everyday life.
3. Students can write on a wide variety of familiar topics using connected sentences.
4. Students can understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies.
5. Students can understand the main idea of conversations that they overhear.
6. Students can understand the main idea of texts related to everyday life and personal interests or studies.
7. Students can analyze beliefs, behaviors and cultural artifacts of the French-speaking world, and discuss the nature and value of French and Francophone products, practices, and perspectives.
8. Students will engage with social issues confronting the French-speaking world to continue to develop their sense of personal and social responsibility.

FREN 2120. French IV

Course Description

In this fourth semester course, students will continue to broaden and refine skills gained during previous semesters, including understanding, speaking, reading and writing French aiming at the ACTFL intermediate-high level. This course is designed to teach the student to communicate in a more sustained way in situations that go beyond the everyday. Students will evaluate various French and Francophone products, practices, and create ways to demonstrate their sense of personal and social responsibility through participation in cultural interaction.

Student Learning Outcomes

1. Students can participate with ease and confidence in conversations on familiar topics. They can usually describe people, places, and things. They can usually talk about events and experiences in various time frames.
2. Students can handle social interactions in everyday situations, sometimes even when there is an unexpected complication.
3. Students can write about topics related to school, work, and community in a generally organized way. They can write some simple paragraphs about events and experiences in various time frames.
4. Students can easily understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies.
5. Students can usually understand a few details of what I overhear in conversations, even when something unexpected is expressed. The student can sometimes follow what they hear about events and experiences in various time frames.
6. Students can understand the main idea of texts with topics related to everyday life, personal interests, and studies, as well as sometimes follow stories and descriptions about events and experiences in various time frames.
7. Students can analyze beliefs, behaviors and cultural artifacts of the French-speaking world, and recognize and discuss the representations and controversies of French and Francophone products, practices, and perspectives.

FREN 2130. Introduction to French Literature

Course Description

Not Available

Student Learning Outcomes

Not Available

FREN 2135. Frontier and Border Crossings in the French-Speaking World

Course Description:

An exploration of frontiers and borders in the French-speaking world: geographical, linguistic, cultural, and symbolic.

Student Learning Outcomes:

1. Articulate the diversity of boundaries (geographical, literal, gender, cultural, symbolic) and the role they play in negotiating cultural identities in the Francophone world.
2. Critically analyze and communicate orally and in writing the nuances of frontiers, border crossings, and their expressions in the course texts.
3. Describe, through the study of French and Francophone borders and frontiers, how cultural contexts and human practices influence individuals and societies.
4. Apply the knowledge and skills gained though the study of boundaries in the francophone world to analogous settings and to students' personal academic goals.
5. Demonstrate information literacy and technological skills in researching and presenting themes related to the readings and to the films screened
6. Reflect on the effects of geographical, social, linguistic, and symbolic boundaries and crossings as expressed in the course content on individuals.

FREN 2140. Intensive Intermediate French

Course Description
An intensive accelerated combination of FR3 and FR4.
Student Learning Outcomes
Not Available

FREN 2993. Workshop in French
Course Description
Varies
Student Learning Outcomes
Varies

FREN 2996. Topics in French
Course Description
Varies
Student Learning Outcomes
Varies

Future Studies (FUTR)

FUTR 1110. Introduction to Future Studies
Course Description
Introduces an interdisciplinary approach to thinking about and planning for futures. Includes basic concepts and methods for building scenarios of possible futures.
Student Learning Outcomes

1. Describe the field of Futures Studies.
2. Define and explain basic concepts of Futures Studies and futures thinking.
3. Explain how signals and drivers of change are clues to possible futures.
4. Develop scenarios of possible futures of real-life problems or topics.

Genetics (GENE)

GENE 1110. Experimental Systems in Genetics
Course Description
Survey of molecular, biochemical, organismal, and computer science based approaches to investigate how genes determine important traits. Historical development and topics of current interest will be discussed.
Student Learning Outcomes

1. To give the students a historical perspective on the field of genetics.
2. To familiarize the students to introductory concepts and vocabulary to the field of genetics.
3. Introduce experimental systems within the field of genetics and to give perspective to current genetic research.
4. As this course is designed for beginning students as an overview of faculty and research labs on campus. The students majoring in genetics are encouraged to meet with faculty and to explore opportunities available to them on campus

Geography (GEOG)

GEOG 1110. Physical Geography
Course Description

This course introduces the physical elements of world geography through the study of climate and weather, vegetation, soils, plate tectonics, and the various types of landforms as well as the environmental cycles and the distributions of these components and their significance to humans.

Student Learning Outcomes

1. Define, describe, illustrate, distinguish among or explain the use of maps, map scale, globes, map projections, and remote sensing.
2. Define, describe, illustrate, distinguish among or explain the various elements of the earth's atmosphere, earth's relation to the sun, incoming solar radiation, the ozone layer, the primary temperature controls, and the unequal heating of land and water.
3. Define, describe, illustrate, distinguish among or explain the weather makers (air temperature, air pressure, humidity, clouds, precipitation, visibility, and wind [including pressure gradient, the Coriolis force, and friction]).
4. Define, describe, illustrate, distinguish among or explain air masses, pressure systems, the various fronts and associated types of storms, weather symbols, monsoons, the various forms of precipitation, along with causes and effects of lightning.
5. Define, describe, illustrate or explain the hydrologic cycle, the characteristics and influences of the oceans and continents on the weather, the Southern Oscillation (i.e., El Nino), the effects of land/water distribution, and climates and their global distribution.
6. Define, describe, illustrate or explain the biosphere, including organisms (flora and fauna), food chains, ecosystems and relationships. Define, describe, illustrate or explain soils in terms of soil-forming processes, components, properties, and classification.
7. Define, describe, illustrate or explain the structure of the earth, the internal processes, weathering and mass wasting, fluvial processes, characteristics and processes of arid regions, processes of coastal and Karst topographical regions, the processes and characteristics of glaciation (mountainous and continental).
8. Define, describe, illustrate, distinguish among or explain specific impacts by humans on weather, climate, and on the ecosystem at large.
9. Perform tests and collect data to analyze and classify weather, climate and landforms characteristics, processes, and impacts both quantitatively and quantitatively. This includes reading and extracting basic information from maps, diagrams, remote sensing devices, graphs, and tables.
10. Apply critical thinking skills such as inductive, deductive, and mathematical reasoning to solve problems using the scientific method. This includes interpreting maps, graphs and photos.
11. Recognize and discuss the effect of human activity on climate, climate change, the greenhouse effect, and on landforms at large.
12. Synthesize information from external, current sources and personal observations and discuss their relationships to class material.

GEOG 1110L. Physical Geography Lab

Course Description

This laboratory course introduces the physical elements of world geography and the study of climate and weather, vegetation, soils, plate tectonics, various landforms, the environmental cycles and the spatial distributions of these components through the use of maps, aerial photographs, and laboratory specimens. Students explore the earth's biophysical environment and learn to identify and describe the physical geographic patterns that exist across earth's surface and about the processes that help create these patterns.

Student Learning Outcomes

1. Describe basic meteorological processes such as climate and weather patterns.
2. Describe the processes operating in the development of landforms.
3. Interpret and use topographic maps in the lab and field.
4. Identify and describe various components of the Earth's environmental spheres.

5. Identify and analyze the physical, chemical and biological processes that continue to shape the surface of the Earth.
6. Identify primary atmospheric, geologic, hydrological, and biological patterns of the earth's surface.
7. Identify the primary physical processes that produce spatial variation on the earth's surface.
8. Gain a basic understanding of map projections, including their limitations and capabilities.
9. Describe the rock, hydrologic, and atmospheric cycles and how they impact the geography of the Earth.

GEOG 1115. Maps and GIScience

Course Description

Explore the principles of Geographic Information Science (GIScience) and its applications in solving human, natural, and socio-environmental challenges. Learn to evaluate geospatial data and technologies; analyze their significance, implications, and applications; and communicate insights effectively. Topics include map use, spatial data analysis, Geographic Information Systems (GIS), remote sensing, and Global Navigation Satellite Systems (GNSS).

Student Learning Outcomes

1. Explain key concepts and methods of geographic information science (GIScience).
2. Articulate the significance of geographic information in decision-making processes that address human, natural, and socio-environmental challenges.
3. Evaluate the ethical, socio-environmental, and legal implications of geospatial data, technologies, and applications.
4. Evaluate spatial and aspatial data to assess human, natural, and socio-environmental problems, as well as potential solutions.
5. Communicate effectively in written and oral formats.

GEOG 1115L. Maps and GIScience Laboratory

Course Description

Gain hands-on field and laboratory experience with geospatial tools, including Geographic Information Systems (GIS), remote sensing, and Global Navigation Satellite Systems (GNSS). Manage, collect, analyze, interpret, and visualize spatial data to solve real-world problem, and develop your own GIScience research report.

Student Learning Outcomes

1. Collect spatial and aspatial data using various web and mobile apps.
2. Apply spatial and aspatial quantitative methods for data management, visualization, analysis, interpretation, and spatial problem-solving.
3. Create functional and aesthetically pleasing maps.
4. Develop a GIScience research report.
5. Communicate effectively in written and oral formats.

GEOG 1120. World Regional Geography

Course Description

Overview of the physical geography, natural resources, cultural landscapes, and current problems of the world's major regions. Students will also examine current events at a variety of geographic scales.

Student Learning Outcomes

1. Identify, describe, illustrate, distinguish among or explain the basic concepts of geography, the major world regions, area differences and similarities, the processes that shape geography natural and human, the use of maps, and the key topics of geographical interpretation (e.g., location, world importance, population, political status, resources, etc.).
2. Identify, describe, illustrate, distinguish among or explain the regional groups of Europe, its historical background, its languages and religions, major features, the diversified economy, political structures, and impact on globalization.

3. Identify, describe, illustrate, distinguish among or explain the regional groups of Russia and its satellite nations, its historical background, their languages and religions, major features, their diversified economies, political structures, current problems, and impact on globalization.
4. Identify, describe, illustrate or explain the regional nations of Middle East, their historical background, their languages and religions, the major features, the diversified economies and political structures, the current problems.
5. Identify, describe, illustrate, distinguish among or explain the regional groups of Asia, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.
6. Identify, describe, illustrate, distinguish among or explain the regional groups of the Pacific World, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.
7. Identify, describe, illustrate, distinguish among or explain the regional groups of Africa, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.
8. Identify, describe, illustrate, distinguish among or explain the regional groups of Latin America, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.
9. Identify, describe, illustrate, distinguish among or explain the regional groups of Anglo-America, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.
10. Collect data to analyze or classify the region various historical developments and trends relating to globalization
11. Apply critical thinking skills in predicting future developments and impacts in economics, cultural diversity, and political stability globally.
12. Recognize and discuss current political "hot spots," their causes, and potential results with regards to globalization.
13. Synthesize information the data into a comprehensive worldview.

GEOG 1130. Human Geography

Course Description

This course serves as an introduction to the study of human geography. Human geography examines the dynamic and often complex relationships that exist between people as members of particular cultural groups and the geographical "spaces" and "places" in which they exist over time and in the world today.

Student Learning Outcomes

1. Locate on maps, globes, and other technologies various geo-political spaces and places around the world, including in the United States.
2. Describe the primary concepts, theories, methods and terms prevalent in the field of human geography.
3. Apply core geographic concepts to the spatial patterns demonstrated in real-world scenarios.
4. Identify the relationships that influence human-environment interaction in a specific location at a specific time.
5. Define and utilize key concepts to explain human social and cultural change over time and across geographical space.
6. Explain the geographic context of a current event or conflict.
7. Identify a current event that illustrates a core cultural geographic concept.
8. Think critically, discuss, and write about the relationships of the natural world to human geography.

GEOG 1140. Humans' Role in Changing the Face of the Earth

Course Description

This course is a survey of social and scientific aspects of environmental issues related to the degradation of land, air, and water resources from global, regional and local perspectives.

Student Learning Outcomes

Upon completion of this course students will be able to:

1. Survey major environmental issues facing humankind on global, regional and local scales.
2. Evaluate the scientific method and its role in societies across the globe as it applies to the conflict between environment and society.
3. Explain environmental systems and the services they provide for humans and other organisms.
4. Evaluate economic worldviews and their impact on the environment.
5. Analyze the concept of sustainability and its implications in both urban and rural settings.
6. Develop effective communication skills over major environmental issues.

GEOG 1150. Introduction to Environmental Studies

Course Description

Survey of environmental issues related to the degradation of land, air and water resources.

Student Learning Outcomes

The goals of the course are:

1. To survey the major environmental issues facing humankind.
2. To access the conflict between society and the environment.
3. To evaluate the relationship between environmental degradation and economic development.
4. To analyze potential solutions; and
5. To develop clear and effective communicators skills.

GEOG 1155. Geography of the Southwest

Course Description

An examination of the impact of geography on the cultures and history of the Southwest

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Locate a large number of places and features on a regional map of the Greater Southwest.
2. State an understanding of how geography has molded Southwestern history and culture.
3. Understand the regional economies of the Southwest.

GEOG 1160. Home Planet: Land, Water, Life

Course Description

Not Available

Student Learning Outcomes

1. Identify the basic atmospheric, geological, hydrological, and biological processes that shape Earth's landscapes.
2. Explain physical geographic variation across the Earth's surface over time.
3. Identify and analyze the current and historical physical processes responsible for shaping specific landscapes.
4. Use spatial identification systems and geographic technology to locate specific physical features on Earth's surface.

GEOG 1160L. Home Planet Laboratory

Course Description

This class complements Geography 1160: Home Planet, which introduces the study of the Earth's biophysical environment. In this course, you will learn practical skills professional geographers and others use to identify and describe the processes that change the Earth's surface, and the spatial patterns these processes have produced.

Student Learning Outcomes

1. Identify the primary processes that produce spatial variation on Earth's surface.
2. Predict likely environmental impacts of possible human activities within specific landscapes.

3. Infer the historical physical processes responsible for shaping specific landscapes.
4. Use spatial identification systems and geographic technology to collect and analyze physical geographic information.

GEOG 1165. People and Place

Course Description

By focusing on issues of globalization, this course provides an overview of core concepts from human geography, including systematic analyses of economic, political, and cultural geography.

Student Learning Outcomes

1. Apply core geographic concepts to the spatial patterns demonstrated in a real-world scenario.
2. Identify the relationships that influence human-environment interaction in a specific location at a specific time.
3. Explain the geographic context of a current event or conflict.
4. Identify a current event that illustrates a core geographic concept.

GEOG 1175. World Regional Geography

Course Description

The regional geography of the world. Both physical and human aspects are studied along with current economic and political problems.

Student Learning Outcomes

By the end of the semester, it is my goal for every student in this class to be able to:

1. Identify major environmental and cultural features of the world's regions on a map.
2. Identify and explain patterns of cultural, economic, political and environmental change in the world's regions.
3. Describe the cultural and historical links among two or more regions of the world.
4. Analyze and critique a culturally significant movie or novel that addresses cultural or historical geographies of a region.
5. Explain how globalization processes have impacted diverse peoples and landscapes in at least three of the world's regions.
6. Analyze cultural and environmental conflicts from multiple perspectives.
7. Assess your own historical-geographic position within the web of interconnected world regions.

GEOG 1960. Geography of Food

Course Description

This course will explore the geographic culture of food and its reflection of societies around the world. We will cover the origins of the food we eat, its geographic role in human history, and its cultural importance in societies, as well as the effects of the environment on food, and the impact of our food on the environment. We will look at the state of our food, its production and availability in the world today, in the U.S. vs. the rest of the world, its relevance to the economy, its impact on the environment, its sustainability, and its effect on nutrition.

Student Learning Outcomes

Upon successful completion of the course, students will be able to:

1. Analyze the impact of food history on human history including the geographical components of food origins, trade, and societal influences.
2. Recognize the cultural relevance of food and eating practices in other societies, as well as their own.
3. Identify the implications of changing food production systems and the impacts on food nutrition, availability, economics, and on the environment.
4. Recognize environmental and health effects of different consumption habits
5. Will be more informed consumers.

GEOG 1970. World of Beer

Course Description

This course will explore the complex contemporary and historical geography of beer. It examines the functions of beer and brewing from unique and sometimes overlapping spatial perspectives. At the same time, this course provides an introduction to the discipline of Geography and its many different methods, theories, and technologies. After taking this course, students should have a good understanding of both beer AND geography, preparing them well to take other geography courses or to explore courses about alcohol/food in other disciplines.

One of the most unique features of the course is that it relies on a wide variety of guest lectures from the Department of GES and from the New Mexico brewing community. These speakers will highlight various perspectives that help us understand beer production as an expression of the human-environment relationship.

Student Learning Outcomes

By the end of the semester, it is my goal for every student in this class to be able to:

1. Understand that beer production reflects a fundamental human-environment relationship.
2. Identify cultural and historical links between major regions, as they relate to the production of beer.
3. Identify the fundamental environmental factors in beer production.
4. Appreciate the significance of place in the production and consumption of beer.
5. Explain various cultural, economic, legal, and environmental patterns that have been produced by historic and modern beer production.
6. Understand the role of beer and brewing in the Albuquerque community; and
7. Communicate clearly and effectively about beer and its spatial relationships.

GEOG 1996. Topics in Geography

Varies

Student Learning Outcomes

Varies

GEOG 2110. Introduction to Maps and Geospatial Information

Course Description

This course covers the basic history of map-making and various projections and introduces basic concepts and techniques for the manipulation, analysis, and graphic representation of spatial information. The course also includes the processing, compilation, and symbolization of spatial data and the application of related statistical techniques.

Student Learning Outcomes

Students will learn to, among other things:

1. Have an understanding of geographic information, and why is it important.
2. Learn the different kinds of decisions that make use of geographic information.
3. Develop familiarity with a variety of geospatial data and methods.
4. Learn how to identify the appropriate tool for digital data viewing and analysis.

GEOG 2110L. Maps and GIScience Laboratory

Course Description

Not Available

Student Learning Outcomes

Not Available

GEOG 2115. Information Design in Science and Society

Course Description

How should scientists visually communicate complex information? This course is an introduction to information design in science. In this course, you will learn to communicate scientific data via infographics, and to analyze infographics that others have produced. Infographics are devices that combine visual portrayals of data and written explanations of those data; maps, graphs, and tables are common examples. You will build theoretical knowledge in fields such as data science, graphic design, cartography, and science communication, as well as applied skills using software that can be used to produce infographics. This course builds information literacy and will improve your ability to communicate complex information clearly in an increasingly data-driven society.

Student Learning Outcomes

Students who successfully complete this course will be able to:

1. Explain how infographics can be designed to create narratives, and to produce relationships among facts and between people.
2. Explain how human perception and cultural diversity both affect the capacity of people to understand infographics.
3. Identify effective practices of combined graphic and written communication of scientific data, in different situations and with diverse people.
4. Design effective infographics based on scientific data, using common software applications.
5. Evaluate published infographics to assess

GEOG 2120. Maps and Geospatial Information

Course Description

Not Available

Student Learning Outcomes

Not Available

GEOG 2130. Map Analysis and Analysis

Course Description

Exploration of the cartographic medium. Development of critical map analysis and interpretation skills, and map literacy. Comprised of traditional lecture, labs and map use projects.

Student Learning Outcomes

Students will be able to demonstrate the ability to

1. Use appropriate map categories, symbols, and spatial reference systems to effectively and accurately portray, read, analyze, and interpret geographic data.
2. Accurately measure bearings and distances on maps.
3. Read and analyze terrain and landform maps to then interpret basic physical and cultural spatial patterns portrayed on maps.
4. Use map, compass, and GPS for land navigation.

GEOG 2140. Economic Geography

Course Description

Concentrates on economic patterns. The course introduces several theories of economic activity: general theory of land use, agricultural location theory, plant location theory, central place theory; with emphasis on cultural-economic relationships.

Student Learning Outcomes

1. Explain the free market economy and its place in the global economy (NMMI Obj. 1,2,3,8,10)
2. Demonstrate knowledge of micro and macro-economic issues affecting allocation decisions (NMMI Obj. 2,3)
3. Categorize the factors of production and factor markets; (NMMI Obj. 2)

4. Support the four types of market structures, the conditions necessary for each to exist and the behaviors of each within the market; (NMMI Obj. 2)
5. Define an economic landscape.
6. Explain sectors of the economy and identify locations on the earth's surface and give examples where each sector is important to an economic system.
7. Define, explain and apply central place theory to systems of cities and local tertiary activities.
8. Define and modify von Thuen's land rent model so that it may be used to analyze an urban landscape.
9. Explain the interaction of resources and population on the spatial location of economic activities.

GEOG 2170. Energy, Environment, & Society

Course Description

A look at the social, ethical, and environmental impacts of energy use both now and through history. A survey of renewable energy and conservation and their impact on environmental and social systems.

Student Learning Outcomes

By the end of this course, students will be able to demonstrate knowledge of:

1. the socio-economic issues related to energy production,
2. the political issues related to energy production,
3. the economics of power generation,
4. scientific theory and observations of global warming,
5. individual energy footprint through a personal energy audit.

GEOG 2210C. Introduction to Drone Mapping/Modeling with Laboratory

Course Description

This course introduces the use of unmanned aerial vehicles (UAVs) and drone technology for environmental monitoring, mapping, and modeling. Students will learn UAV operation, flight planning, safety and regulations (FAA Part 107), data acquisition, and geospatial analysis using GIS. Practical labs and field exercises include drone flights, topographic mapping, and generation of orthomosaics, digital elevation models (DEMs), and 3D site models.

Student Learning Outcomes

1. Understand UAV types, capabilities, and limitations in environmental applications.
2. Demonstrate knowledge of FAA regulations, flight planning, and safety protocols.
3. Conduct aerial data collection for environmental sites.
4. Process aerial imagery to generate orthomosaics, DEMS, and 3D site models.
5. Integrate UAV-derived data into GIS for environmental analysis and decision-making.

GEOG 2510. Meteorology

Course Description

An introduction to the composition of the Atmosphere, energy flows, and large-scale weather systems and climate processes. Radiation and climate, role of the oceans, greenhouse effect, atmospheric dynamics, global circulation, thunderstorms, hurricanes, mid-latitude weather systems, weather and climate forecasting.

This course is designed to provide students with a fundamental understanding of basic meteorology, essential background for further studying changes in weather and climate. The topics to be discussed in this course include atmospheric structure, energy transfer, water balance, wind systems, global circulation, air pollution, climate and climate change. Lectures will be supplemented by discussions on live weather conditions and forecasting and severe weather events.

Student Learning Outcomes

Upon successful completion of the course, students will be able to:

1. Analyze, describe, and diagram the basics of major atmospheric processes including energy, pressure, wind, precipitation, air masses, fronts, and storm systems.

2. Perform basic calculations pertinent to these processes (fundamental algebra skills assumed).
3. Describe and diagram how these processes are linked in a system.
4. Analyze, describe and diagram the spatial patterns of weather systems.
5. Describe some of the impacts of weather on human activity.
6. Make use of sophisticated weather information to assist in planning your daily life.
7. Develop a 24-hour forecast based on naked-eye observations.
8. Develop an appreciation for the beauty and power of weather.

GEOG 2993. Workshop in Geography
Course Description
Varies
Student Learning Outcomes
Varies

GEOG 2996. Topics in Geography
Course Description
Specific subjects to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

GEOG 2998. Internship in Geography
Course Description
Varies
Student Learning Outcomes
Varies

Geology (GEOL)

GEOL 1101. Earth Science as a Profession
Course Description
Introduction to field methods, laboratory & field safety, applied and basic research in Earth Sciences, professional development & professional certificates and other topics.
The intent of this course is to introduce Earth Science undergraduates to the department, and the department to the students, to help better integrate undergraduates into the department community. This course will show the students they are at the beginning of a pathway that can lead to a rewarding career in the Earth Sciences. **Student Learning Outcomes**

1. Be aware of diverse potential careers in the Earth Sciences, and be better prepared to be competitive in the job market when they graduate
2. Be able to prepare a CV, and how to obtain important skills that most employers are looking for in a resume.
3. Know how to obtain internships and other work experiences both on and off campus.
4. Know some field basics including how to use a Brunton compass, read a map, how to locate themselves in the field.
6. Know many of the professors in the department, and be aware of the research that is being done by being done by Earth Science faculty, researchers, and graduate students.

GEOL 1110. Physical Geology
Course Description

Physical Geology is an introduction to our dynamic Earth introducing students to the materials that make up Earth (rocks and minerals) and the processes that create and modify the features of our planet. The course will help students learn how mountains are formed, how volcanoes erupt, where earthquakes occur, and how water, wind, and ice can shape the landscape. Students will also develop a basic understanding of the ways humans have altered the planet including our impact on natural resources and global climate change.

Student Learning Outcomes

1. Recall, describe or explain geologic vocabulary.
2. Identify or explain aspects of the geologic time scale and compare the uses and limitations of relative and absolute dating.
3. Recognize or explain the evidence used to support the theory of plate tectonics. Describe or identify how plate tectonics is related to the structure and features of the Earth.
4. Describe the formation of, and describe, compare, and classify minerals.
5. Identify or describe the three main rock types, how each forms in the context of the rock cycle and what each indicates about its environment of formation.
6. Recognize or explain the fundamentals of surface and groundwater hydrology and discuss the impact of human activities on water quality and quantity.
7. Describe or discuss the processes that are responsible for specific geologic hazards (e.g., earthquakes, volcanic eruptions, mass movement, flooding, etc.).
8. Recognize or describe the geologic processes involved in the formation and concentration of geologic resources.

GEOL 1110L. Physical Geology Laboratory

Course Description

Physical Geology Lab is the laboratory component of Physical Geology. Students will learn to identify rocks and minerals in hand samples, work with topographic maps, geologic maps, and geologic cross-sections, and apply stratigraphic principles to explore geologic time.

Student Learning Outcomes

1. Use physical properties to identify mineral specimens.
2. Describe, classify, and identify igneous, sedimentary, and metamorphic rocks and their textures.
3. Utilize the principles of stratigraphy to provide an explanation of the geologic history portrayed in a photograph or cross-section.
4. Explain how contour lines are used to represent topography, use map scales to measure distances on the ground, and construct topographic profiles.
5. Identify landforms from images and topographic maps.
6. Interpret geologic maps and construct geologic cross-sections.
7. Acquire and communicate scientific data, ideas, and interpretations through written, oral, or visual means. Examples may include creating and describing graphs, maps and photos.
8. Apply critical thinking skills such as inductive, deductive, and mathematical reasoning to solve geological problems.

GEOL 1110C. Physical Geology Lecture and Laboratory

Physical Geology is an introduction to our dynamic Earth introducing students to the materials that make up Earth (rocks and minerals) and the processes that create and modify the features of our planet. The course will help students learn how mountains are formed, how volcanoes erupt, where earthquakes occur, and how water, wind, and ice can shape the landscape. Students will also develop a basic understanding of the ways humans have altered the planet including our impact on natural resources and global climate change.

In the laboratory component of Physical Geology students will learn to identify rocks and minerals in hand samples, work with topographic maps, geologic maps, and geologic cross-sections, and apply stratigraphic principles to explore geologic time.

Student Learning Outcomes

1. Recall, describe or explain geologic vocabulary.
2. Identify or explain aspects of the geologic time scale and compare the uses and limitations of relative and absolute dating.
3. Recognize or explain the evidence used to support the theory of plate tectonics. Describe or identify how plate tectonics is related to the structure and features of the Earth.
4. Describe the formation of, and describe, compare, and classify minerals.
5. Identify or describe the three main rock types, how each forms in the context of the rock cycle and what each indicates about its environment of formation.
6. Recognize or explain the fundamentals of surface and groundwater hydrology and discuss the impact of human activities on water quality and quantity.
7. Describe or discuss the processes that are responsible for specific geologic hazards (e.g., earthquakes, volcanic eruptions, mass movement, flooding, etc.).
8. Recognize or describe the geologic processes involved in the formation and concentration of geologic resources.
9. Use physical properties to identify mineral specimens.
10. Describe, classify, and identify igneous, sedimentary, and metamorphic rocks and their textures.
11 .Utilize the principles of stratigraphy to provide an explanation of the geologic history portrayed in a photograph or cross-section.
12. Explain how contour lines are used to represent topography, use map scales to measure distances on the ground, and construct topographic profiles.
13. Identify landforms from images and topographic maps.
14. Interpret geologic maps and construct geologic cross-sections.
15. Acquire and communicate scientific data, ideas, and interpretations through written, oral, or visual means. Examples may include creating and describing graphs, maps and photos.
16. Apply critical thinking skills such as inductive, deductive, and mathematical reasoning to solve geological problems.

GEOL 1115. Earth Resources

Course Description

This course explores the history of resource usage through time and the economics, extraction, processing and use of Earth resources. A systematic review of fossil fuel, metallic, and nonmetallic resource formation and usage is a central theme. At the end of this course students will understand how resources have impacted the history and development of civilization from ancient times to today. Students will also understand the processes by which different types of resources are formed, extracted, processed, and utilized by modern society.

Student Learning Outcomes

1. Recall, describe or explain geologic vocabulary related to resources.
2. Describe aspects of resource usage from ancient to modern times.
3. Recognize or describe the basic processes involved in the formation of different types of resources including how they are classified.
4. Recall, describe or differentiate methods of resource extraction and processing.

GEOL 1115L. Earth Resources Laboratory

Course Description

This laboratory course is an introduction to mineral resource identification and data analysis. The course begins with developing the basic techniques of mineral and rock identification. Students will then explore energy units and conversions, the identification of energy resources and how exploration data is used in the search of petroleum resources. Subsequent labs will explore the identification and use of a wide variety of metallic and nonmetallic resources. An important component of this lab is the analysis of resource data (reserves and production).

Student Learning Outcomes

1. Implement the use of physical properties to identify minerals, rocks and energy resources.
2. Use mathematical reasoning to solve problems using energy units and mineral composition.
3. Interpret stratigraphic data to construct a geologic cross-section and locate petroleum traps.
4. Describe the primary uses of various resources.
5. Examine, organize and compare mineral resource data and report the results.
6. Construct and describe graphs using mineral resource data.
7. Compare and contrast information about resource reserves and production.

GEOL 1115C. Earth Resources/Earth Resources Laboratory

Course Description

Combined course GEOL 1115 and GEOL 1115L

Student Learning Outcomes

Not Available

GEOL 1120. Environmental Geology

Course Description

This course is a survey of environmental geology with an introduction to problems of pollution, population, human relations to the environment, resource use, geologic hazards and environmental problems. The course covers the major components of the Earth system, i.e. atmosphere, lithosphere, hydrosphere, and biosphere, and how they are related. Environmental Geology addresses the mechanisms that drive these Earth processes, how different parts of the Earth are connected, how matter and energy flow through our environment, and how humans fit into the environmental systems. Emphasis is placed on the use of the scientific method and the development of critical thinking skills in understanding environmental issues.

Student Learning Outcomes

1. Apply the scientific method to the field of environmental geology and differentiate between facts and opinions.
2. Recognize or describe natural cycles, for example the rock cycle, hydrologic cycle, and carbon cycle.
3. Discuss and explain the role humans play in environmental problems and in solutions to those problems; relate environmental geology to your life and its portrayal in the media.
4. Recognize, discuss or explain geologic hazards and their impact on humans and how these impacts can be minimized.
5. Recognize or explain a holistic approach to sustainability (mineral, energy, water and soil resources) on local to global scales while minimizing negative impacts on the environment.
6. Recognize, discuss or explain global environmental issues, including climate change, and the varied responses to these issues.

GEOL 1120L. Environmental Geology Laboratory

Course Description

Environmental Geology Laboratory is the lab component of Environmental Geology. This course is an introduction to geologic materials and processes as applied to the human environment. Included are practical exercises with rocks, minerals, topographic and geologic maps, and water, mineral and energy resources. Hazards associated with natural processes will be evaluated.

Student Learning Outcomes

1. Apply the scientific method to the field of environmental geology.
2. Identify or describe stream processes and features as part of the hydrologic cycle.
3. Describe, classify, or identify minerals.
4. Describe, classify, or identify igneous, sedimentary, and metamorphic rocks.
5. Identify and discuss the importance of Earth resources.

6. Obtain measurements and make calculations that lead to the graphical display and interpretation of data.
7. Communicate (written and/or oral) interpretations of quantitative and graphical data to evaluate environmental problems.
8. Interpret features on topographic maps.

GEOL 1122. Introduction to Environmental Science

Course Description

Introduction to Environmental Science presents an overview of Earth's environmental problems as a result of human interactions with the natural world and discusses possible solutions. The topics explored in this class include: environmental interrelationships, philosophical and economic issues, principles of ecology, sources and use of energy, impact of human activities on natural ecosystems, and the major types of pollution.

Student Learning Outcomes

1. The student will understand the step-by-step process of the scientific method; understand the relationship between environmental science as well as other social and scientific disciplines; and understand sustainability science as demonstrated by scoring 70% or more on a faculty prepared assignment. The student will:
    a. Define the terms hypothesis, theory, law, and scientific method.
    b. Identify and explain the components of the Berkeley scientific process.
    c. Identify the relationship between environmental science and other social and scientific disciplines such as: philosophy, geology, geography, anthropology, biology, political science, ecology, economics, and physics.
2. The student will understand the chemistry, energy, of the environment; as well as the structure of the Earth's atmosphere and structure as demonstrated by scoring 70% or more on a faculty prepared assignment. The student will:
    a. Identify the chemical symbols of common elements.
    b. Explain how the isotopes of an element differ from each other.
    c. Describe the chemical properties of water and how they are important to organisms and ecosystems; and describe the pH scale.
    d. Distinguish between elements, atoms, and molecules.
    e. Distinguish between kinetic and potential energy in a system.
    f. Identify the characteristics of the three main layers of Earth.
3. The student will identify issues related to popular perceptions about population biology, including mutations, unregulated population growth, and evolution in natural as demonstrated by scoring 70% or more on a faculty prepared assignment. The student will:
    a. Explain Darwin's theory of evolution by natural selection.
    b. Compare the three forms of natural selection—stabilizing, directional, and disruptive.
    c. Define carrying capacity.
    d. Explain how birth rate, death rate, immigration and migration affect the population growth rate.
4. The student will understand human population growth as demonstrated by scoring 70% or more on a faculty prepared lab assignment. The student will:
    a. Describe the characteristics and dynamics of populations.
    b. Describe the consequences of human population growth.
5. The student will understand interactions among organisms that compete for shared resources as well as the concept of the "web of life" as demonstrated by scoring 70% or more on a faculty prepared lab assignment. The student will:
    a. Describe the two methods by which organisms compete with each other, (exploitation and interference) and give examples of each.
    b. Describe the differences between Herbivores, predators and parasites.
    c. Describe the pyramid of energy and the "web of life".

6. The student will describe fundamental ecosystem principles that are essential to the biogeochemical cycles of the Earth (Rock Cycle, Hydrologic Cycle, Carbon Cycle, Nitrogen Cycle, Phosphorus Cycle and Sulfur Cycle) as demonstrated by scoring 70% or more on a faculty prepared lab assignment.
7. The student will understand the history, causes, and consequences of global warming as demonstrated by scoring 70% or more on a faculty prepared lab. The student will:
    a. Identify the main greenhouse gases and describe their role in heating Earth's atmosphere.
    b. Compare the effect of different levels of human action on future levels of greenhouse gas emissions.
    c. Compare the melting glaciers and ice sheets to the rising of sea levels.
8. The student will understand the Earth's biomes as demonstrated by scoring 70% or more on a faculty prepared lab assignment. The student will:
    a. Identify the locations of the tropical, temperate, and polar zones
    b. Classify Earth's biomes into one of the three climatic zones and identify the patterns of air circulation associated with each climatic zone.
    c. Contrast the characteristics of maritime and continental climates and explain the cause of these differences
9. The student will understand biodiversity and the importance of conservation as demonstrated by scoring 70% or more on a faculty prepared lab assignment. The student will:
    a. Describe the differences between landscape, community and population biodiversity.
    b. Describe the treats to biodiversity, including: habitat loss, overharvesting, introduction of invasive species, pollution, and climate change.
10. The student will understand the global water budget as demonstrated by scoring 70% or more on a faculty prepared lab assignment. The student will:
    a. Identify the major fluxes and pools in the global water budget and their relative sizes.
    b. Define evapotranspiration and explain how hydrologists can estimate the rate of evapotranspiration in a watershed.
    c. Identify environmental factors that affect regional water.
    d. Identify how human use of water impacts aquatic ecosystems.
11. The student will understand the economic and environmental advantages and disadvantages associated with the use of electric power, coal, oil, natural gas, and nuclear power as demonstrated by scoring 70% or more on a faculty prepared lab assignment. The student will:
    a. List advantages and disadvantages of various nonrenewable energy sources.
    b. Describe the benefits and risks of nuclear energy.
12. The student will understand the economic and environmental benefits and challenges associated with energy conservation and with the use of the major sources of renewable energy as demonstrated by scoring 70% or more on a faculty prepared lab assignment. The student will:
    a. List advantages and disadvantages of various renewable energy sources.
    b. Compare the overall environmental impacts of nonrenewable energy sources with those of renewable energy sources.
13. The student will be able to describe the kinds and sources of water pollution and the methods of water management.as demonstrated by scoring 70% or more on a faculty prepared lab assignment. The student will:
    a. Describe the five primary air pollutants and outline expected environmental changes by global warming.
    b. Describe the methods of waste disposal and how to reduce solid waste.
    c. Describe the risks of hazardous wastes.
14. The student will design and execute a research project based on accepted standards in the field. The student will:
    a. Write a statement outlining the problem that will be researched.
    b. Write a statement identifying the goals of the research project.
    c. Present a plan for the research project including tasks to be undertaken, identifying clear assignments for each team member, and giving a timetable with definite deadline for each task.

d. Gathering an appropriate amount of high-quality data to address the problem of the research project.
e. Analyze the data using method appropriate to the nature of the data.
f. Interpret the data and present a coherent conclusion.

GEOL 1125. The Planets

Course Description

A study of the eight planets in our solar system, with emphasis on geologic and atmospheric processes. Topics include the study of faults and tectonic features, impact craters, evolution and internal structures, atmospheres, meteorites, comets, asteroids, and analysis of spacecraft images.

Student Learning Outcomes

1. Understand and practice the scientific method -- make observations, form hypothesis, test hypothesis, accept, modify, or reject hypothesis, communicate information, and develop theory.
2. Develop skills for observing and interpreting features of the Solar System.
3. Comprehend the processes responsible for formation of the planets.
4. Build scientific writing skills. These Student Learning Outcomes relate the NMHU Core Curriculum Traits as follows: Mastery of content knowledge and skills are demonstrated through successful completion of in-class activities, homework assignments, laboratory exercises, and examinations. Effective verbal communication skills are demonstrated through active participation in classroom dialogue and in-class activities and effective written communication skills are demonstrated through homework assignments, laboratory reports, and a term paper. Critical and reflective thinking demonstrated through applying geologic principles and knowledge to explain various observed natural phenomena occurring on planetary bodies and within the Solar System.

GEOL 1130. Dinosaurs and Their World

Course Description

Dinosaurs and Their World is a survey of the fossil record, evolution, paleobiology and extinction of dinosaurs, and the animals with which they shared the Earth.

Student Learning Outcomes

1. Demonstrate a basic understanding of stratigraphy, sedimentology, taphonomy, fossils, and fossil collecting.
2. Describe aspects of the Mesozoic Era including plate tectonic settings, paleo environments, atmospheric/oceanic circulation systems, and paleoclimates.
3. Define “dinosaur” and list key evolutionary traits.
4. Summarize, analyze or critique research concerning the question of whether dinosaurs were warm- or cold-blooded.
5. Explain the difference between the major dinosaur groups.
6. Summarize the origin and early evolution of birds.
7. Analyze, compare or critique hypotheses surrounding the end-Cretaceous mass extinction.
8. Analyze or discuss the media representation of dinosaurs and compare with factual information presented in class.

GEOL 1140. Geological Disasters

Course Description

This course will incorporate an overview of the geological processes that result in natural disasters and the input humans have on the amplification or mitigation of these natural disasters. We will examine past catastrophes and discuss the probability of such disasters occurring again. Hazards investigated will include, but not be limited to earthquakes, volcanoes, tsunami, hurricanes, floods, landslides, and astronomical events such as meteor and comet collisions with Earth. We will investigate the data obtained from recent disasters and explore the costs in human and economic terms.

Student Learning Outcomes

Discuss the relationship between plate tectonics and geological processes that result in disasters.

1. Identify or discuss the impacts of major earthquakes.

2. Identify or discuss the impacts of major volcanic eruptions.
3. Identify or discuss the impacts of major landslides.
4. Identify or discuss the impacts of major floods.
5. Identify or describe mass extinctions and the processes that may have been responsible for them.
6 .Discuss the ways in which humans can increase or decrease the impacts of geological disasters.

GEOL 1150. Introduction to Rocks and Minerals

Course Description

This course is an introduction to the characteristics and the formation of the three main types of rocks, the rock-forming minerals, and important ore minerals. An outline of Plate Tectonics (Continental Drift) will give students the basis to understand how many of these rocks and minerals form. In laboratory exercises, students will gain practice in describing and identifying hand-specimens of the main types of rocks and minerals.

Student Learning Outcomes

1. The student Identify the main rock-forming minerals from each mineral group as demonstrated by scoring a total of 70% or more on the relevant laboratory exercise component. Studying minerals, the student will:
    a. Identify the main silicate minerals in hand specimens.
    b. Describe the environments in which these minerals form.
    c. Identify the rock types in which these minerals are found.
    d. Identify the main carbonate minerals in hand specimens.
    e. Describe the environments in which these minerals form.
    f. Identify the rock types in which these minerals are found.
    g. Identify the main sulphide minerals in hand specimens.
    h. Describe the environments in which these minerals form.
    i. Identify the rock types in which these minerals are found.
    j. Identify the main sulphate minerals in hand specimens.
    k. Describe the environments in which these minerals form.
    l. Identify the rock types in which these minerals are found.
    m. Identify the main halide minerals in hand specimens.
    n. Describe the environments in which these minerals form.
    o. Identify the rock types in which these minerals are found.
    p. Identify the main oxide minerals in hand specimens.
    q. Describe the environments in which these minerals form.
    r. Identify the rock types in which these minerals are found.
    s. Identify the main native elements in hand specimens.
    t. Describe the environments in which these minerals form.
    u. Identify the rock types in which these minerals are found.
2. The student will understand the structure, composition, and genesis of rocks by identifying the principal igneous, sedimentary, and metamorphic rocks, as demonstrated by scoring a total of 70% or more on the relevant laboratory exercise components.
3. Studying rocks, the student will:
    a. Define the principal igneous processes and features, identify the most common igneous rocks and their constituting minerals in hand specimens, and discuss their origin and interpretation.
    b. Describe the principles of sedimentary processes and features, identify the most common sedimentary rocks in hand specimens, and discuss their origin and interpretation.
    c. Describe the principles of metamorphic processes and features, identify the most common metamorphic rocks and constituting minerals in hand specimens, and discuss their origin and interpretation.

GEOL 1155. Introduction to Museum Science

Course Description

This course presents an overview of museum organization and function with a particular emphasis on natural history museums. Major themes will be the basic functions, organization and management of a museum, the main divisions of a museum and their functions, the collection, conservation and curation of natural history specimens and the theory and construction of exhibits.

Student Learning Outcomes

1. The student will demonstrate an understanding of the basic functions, organization and management of a museum, and the main divisions of a museum and its functions, as demonstrated by 70% of the students scoring 70% or higher in assignment(s) given by the instructor. Students of the history and diversity of museums will:
    a. Describe the principal terms of museums.
    b. Describe the principal definitions of museums.
    c. Describe the history of museums.
    d. Describe the characteristics of modern museums.
    e. Outline organization and support of museums.
2. The student will demonstrate an understanding of the collection, conservation and curation of natural history specimens, as demonstrated by 70% of the students scoring 70% or higher in assignment(s) given by the instructor. Students of the collection, preparation and curation of natural history specimens will:
    a. Describe the main methods of collection of natural history specimens.
    b. Identify and apply the principal methods for the preparation of natural history specimens.
    c. List the principles of collections management.
    d. Describe and apply the main methods of conservation of natural history specimens.
    e. Define the theory and practice of museum registration.
    f. List the principles of use and security.
3. The student will demonstrate an understanding of the theory and construction of exhibits, as demonstrated by 70% of the students scoring 70% or higher in assignment(s) given by the instructor. Students of exhibits will:
    a. Describe the philosophy of exhibits.
    b. Identify the main aesthetic features of exhibit design.
    c. List the most important features of exhibits with regard to visual and physical accessibility.
    d. Explain the principles of exhibit construction.
    e. Identify the principles of permanent and temporary exhibits.
    f. Describe the role and practice of education in exhibits.
4. Students of the museum architecture will identify the main components and uses of the museum architecture.
5. Students of historic museums and site preservation will describe the principles of designation and preservation.
6. Students of laws and future of museums will:
    a. Outline the principal components of museum legislature.
    b. Describe modern trends and the future of museums.

GEOL 1160. Introduction to Field Paleontology

Course Description

This course introduces the basic field and laboratory techniques utilized in study of fossils (paleontology). Students gain extensive practical experience of collecting and processing fossils with an emphasis on vertebrate fossils. Laboratory and curatorial work will be conducted at the Mesalands Community College's Dinosaur Museum.

Student Learning Outcomes

1. Studying introduction to field paleontology, the student will:
    a. Describe the history of collecting fossils.
    b. Identify the main types of fossils.

c. List the principal ways of classifying fossils.
d. Explain the basic tenets of taphonomy.
e. Describe the methodology of biostratigraphy.

2. The student will demonstrate competency in the basic field techniques of excavating, jacketing, and screen washing specimens as evidenced by performing tasks in a faculty-monitored field project with 100% 'acceptable' result or better, as scored by applicable rubrics. Studying basic field techniques in paleontology, the student will
    a. Describe the main excavation methods.
    b. Construct a plaster jacket.
    c. Describe the use of hoists and pulleys.
    d. Identify the main forms of mechanized excavation.
    e. Explain the principles of screen washing.
3. The student will demonstrate competency in data recording at a paleontological site by accurately recording information on two fossils on Specimen Field Cards during collection. Studying recording paleontological data, the student will:
    a. Explain the collection of map data.
    b. Describe the collection of stratigraphic data.
    c. Identify the principles of collecting taphonomic data.
4. The student will demonstrate competency in the basic laboratory methods in paleontology as evidenced by performing tasks in a faculty-monitored laboratory project with 100% 'acceptable' result or better, as scored by applicable rubrics. Studying basic laboratory methods in paleontology, the student will:
    a. List the main manual preparation tools.
    b. Operate an airscribe.
    c. Describe the principles of the use of the air abrasive.
    d. Explain how to prepare a plaster jacket.
    e. Explain how to sort screen wash.
5. The student will know the principal curatorial methods, as demonstrated by performing tasks in a faculty-monitored collections project with 100% 'acceptable' result or better, as scored by applicable rubrics. Studying the principal curatorial methods, the student will:
    a. Describe the numbering of specimens. Explain the principles of cataloguing.
    b. List the main factors involved in storage.

GEOL 1170. Spaceship Earth

Course Description

Study of Earth as an immense system composed of a gigantic rocky mass, a planet dominating ocean, an active atmosphere, and an abundance of life. Consideration of subsystems interacting across time and space. Discussion of possible mechanisms that may control this mega system including controversial topics, e.g. co- evolution, homeostatic feedback mechanisms, and the Gaia Hypothesis.

Student Learning Outcomes

Not Available

GEOL 1180. Introduction to Petroleum Geology

Catalog Description

This course will study various aspects of petroleum geology and fossil fuels. Content will include formation and classification of regional sedimentary rocks, geologic history of various regions, and formation, detection, and extraction of oil, natural gas, and coal. This class includes a field trip.

Student Learning Outcomes

1. Describe the formation and classification of sedimentary rocks linked to hydrocarbon formation and storage.

2. Understand the geologic history the local region and what led to hydrocarbon and coal deposits.
3. Understand the formation, exploration, and extraction of hydrocarbon resources.
4. Understand the formation, classification, and extraction of coal.
5. Understand the geologic cross-section for well placement.
6. Recognize and classify clastic sedimentary rocks.
7. Identify local sandstones that serve as reservoir rocks.
8. Describe the types and structures of various hydrocarbons.
9. Explain the viscosity and volatility of hydrocarbons.
10. Understand the hypotheses of the formation and evolution of hydrocarbons.
11. Describe the characteristics of reservoir rocks, including porosity and permeability.
12. Recognize the various types of hydrocarbon traps.
13. Recognize the tools used in oil and natural gas exploration and recovery.
14. Describe alternative reserves of hydrocarbons.
15. Explain the formation of coal.
16. Identify the grades of coal, including samples from local formations.
17. Understand the formation and extraction of coalbed methane.
18. Describe the world's capacity for production of oil, and the volume of remaining reserves.
19. Explain environmental issues regarding fossil fuel resources.
20. Understand geologic cross-sections and the legal description process.

GEOL 1185. Water in the Rise and Fall of Civilizations

Course Description

A survey of how water resources have nurtured the rise of civilizations and how changes in, or misuse of, these resources have led to their demise. The impact of hydrologic extremes such as floods and droughts on social sustainability will also be examined. Case studies from the ancient to the modern world will be considered in the context of the underlying hydrological processes and their environmental and social ramifications.

Student Learning Outcomes

Not Available

GEOL 1210C. Introduction to Hydrology Lecture and Laboratory

Course Description

Introduces principles of hydrology with emphasis on surface water and groundwater processes, watershed dynamics, and hydrologic measurement techniques. Students will gain practical experience in monitoring precipitation, stream flow, and groundwater levels.

Student Learning Outcomes

1. Describe the hydrologic cycle and associated processes.
2. Apply methods to measure stream flow, soil moisture, and groundwater.
3. Use hydrologic models to analyze flow and transport.
4. Evaluate human impacts on hydrologic systems.

GEOL 1310. Paleontology Field Expedition

Course Description

This class is conducted in cooperation with the Cottonwood Gulch Foundation, Albuquerque, and designed for students between 15 and 19 in age. Students will live at a scientific base camp in the wilderness while excavating fossils and learning about ancient environments and their inhabitants. The course introduces the basic field techniques utilized in study of fossils (paleontology) and rocks (geology). Students will gain extensive practical experience of collecting and processing fossils, with an emphasis on vertebrate fossils. They will also engage in a variety of independent field and research projects, such as

prospecting techniques for fossils, studying preservation of fossils, studying rocks and interpreting their formation, or constructing and interpreting maps.

Student Learning Outcomes

1. Studying the introductory concept modules in field paleontology, the student will:
    a. Explain the processes that result in the principal types of fossil preservation and identify these types in the field.
    b. List the basic principles of taphonomy.
    c. List the basic principles of classification.
2. The student will demonstrate competency in prospecting for fossils as evidenced by performing tasks in a faculty-monitored field project with 100% 'acceptable' result or better, as scored by applicable rubrics. Studying prospecting for, the student will
    a. List and correctly use prospecting materials and equipment.
    b. Identify fossil bone and distinguish them from petrified wood and sedimentary structures in the field.
    c. Locate fossils in the field by applying the basic principles of prospecting.
    d. Collect surface fossils.
3. The student will demonstrate competency in the basic field techniques of excavating, stabilizing and safely collecting specimens as evidenced by performing tasks in a faculty-monitored field project with 100% 'acceptable' result or better, as scored by applicable rubrics. Studying excavation techniques in paleontology, the student will
    a. List and correctly apply safety measures in the field.
    b. Explain the use of field materials and use the appropriate manual excavation tools with 'Excel®lent' or 'acceptable' results.
    c. Demonstrate the main excavation methods with 'Excel®lent' or 'acceptable' results.
    d. Protect specimens for removal from the field, including stabilization of fragile fossils and construction of plaster jackets with 'Excel®lent' or 'acceptable' results.
    e. Remove specimens safely from the field.
4. The student will demonstrate competency in data recording at a paleontological site by accurately recording information on three fossils on Specimen Field Cards during collection. Studying recording paleontological data, the student will:
    a. Explain the collection of basic field data and keep field notes.
    b. List the data included in topographical and geological maps and use both map types for orientation in the field.
    c. Use GPS to record locality data.
    d. Identify and collect stratigraphic data in the field.
    e. Identify and collect taphonomic data in the field.
    f. Create visual documentation of specimens (photographs, sketches) with 'acceptable' information content and construct or modify quarry charts in the field.
5. The student will know the principal anatomical features of the major fossils occurring in the study area as demonstrated by correctly identifying at least 3 characteristic features of a given specimen or a fossil. Studying the anatomy and functional aspects of the dominant vertebrates and invertebrates in the field area, the student will:
    a. Name the body regions of tetrapods and identify landmark osteological features for a given skeletal element.
    b. Correctly identify vertebrate specimens (osteological element, taxonomic group) in the field area by listing three characteristic features.
    c. Correctly identify invertebrate specimens in the field area by listing three characteristic features.
    d. Correctly identify plant fossil specimens in the field area by listing three characteristic features.
6. Studying stratigraphy and depositional environments in the field, the student will
    a. Identify common fossil-bearing sedimentary rocks in the field area.

b. Identify common sedimentary structures in the field area.
c. Identify features indicative of the depositional environment of a given strata in the field area.
d. Explain the principles of lithostratigraphy and biostratigraphy, and apply the methods in the field area in a faculty-monitored project.

GEOL 1320. Paleontology Field Discovery

Course Description

This course provides a week-long experience of excavating fossils and processing them in a museum. Student will prospect for and learn to excavate dinosaur-age vertebrates in the Quay County area. Basic laboratory methods and preparing field specimens will be studied in the Natural Science Laboratory at Mesalands Community College's Dinosaur Museum. Students will learn about the local rocks and age determination, and they will also study the major groups of fossil vertebrates found in this area.

Student Learning Outcomes

1. Studying paleontological concept modules, the student will:
    a. Explain the principal taphonomic processes.
    b. Name the body regions of tetrapods and identify landmark osteological features for a given skeletal element.
    c. List the basic principles of phylogenetic reconstructions and outline the phylogenetic relationships of Triassic archosauriforms.
2. The student will demonstrate competency in data recording at a paleontological site by accurately recording information on two fossils on Specimen Field Cards during collection.
3. Studying recording paleontological data, the student will:
    a. Explain the collection of basic field data and keep field notes.
    b. Create and maintain locality files.
    c. Identify and collect stratigraphic data in the field.
    d. Identify and collect taphonomic data in the field.
    e. Create visual documentation of specimens (photographs, sketches) with 'acceptable' information content and construct or modify quarry charts in the field.
4. The student will demonstrate competency in the basic field techniques of locating, excavating, stabilizing and safely collecting specimens as evidenced by performing tasks in a faculty-monitored field project with 100% 'acceptable' result or better, as scored by applicable rubrics.
5. Studying basic techniques in paleontology, the student will
    a. List and correctly apply safety measures in the field.
    b. Explain the use of field materials and use the appropriate manual excavation tools with 'Excel®lent' or 'acceptable' results.
    c. Demonstrate the main excavation methods with 'Excel®lent' or 'acceptable' results.
    d. Protect specimens for removal from the field, including stabilization of fragile fossils and construction of plaster jackets with 'Excel®lent' or 'acceptable' results.
    e. Remove specimens safely from the field.
6. The student will demonstrate competency in the basic laboratory techniques in paleontology as evidenced by performing tasks in a faculty-monitored laboratory project with 100% 'acceptable' result or better, as scored by applicable rubrics.
7. Studying basic laboratory methods in paleontology, the student will:
    a. List and correctly apply safety measures in the laboratory.
    b. Record preparation data on Specimen Laboratory Cards and process field data.
    c. Use the appropriate manual preparation tool in a laboratory project with 'Excel®lent' or 'acceptable' results.
    d. Use a power-operated preparation tool in a laboratory project with 'Excel®lent' or 'acceptable' results.

e. Use the appropriate air-pressure-operated preparation tool in a laboratory project with 'Excel®lent' or 'acceptable' results.
f. List the advantages and disadvantages of various consolidants and adhesives, and use consolidants and adhesives to assemble a fossil specimen with 'Excel®lent' or 'acceptable' results.
g. Demonstrate at least one preparation method.

8. Studying stratigraphy and depositional environments in the field, the student will
    a. Identify common fossil-bearing sedimentary rocks and sedimentary structures in the field area.
    b. Identify features indicative of the depositional environment of a given strata in the field area.
    c. Explain the principles of lithostratigraphy and apply the method by correlating strata in the field area in a faculty-monitored project.
    d. Explain the principles of biostratigraphy and apply the method in the field area in a faculty-monitored project.
9. The student will know the principal anatomical features of the major fossils occurring in the study area as demonstrated by correctly identifying at least 3 characteristic features of a given specimen or a fossil.
10. Studying the anatomy and functional aspects of the dominant vertebrates and invertebrates in the field area, the student will:
    a. List three characteristic features and correctly identify trace fossil specimens in the field area.
    b. List three characteristic features and correctly identify plant fossil specimens in the field area.
    c. List three characteristic features and correctly identify invertebrate specimens in the field area.
    d. List five characteristic features and correctly identify phytosaur specimens in the field area.
    e. List five characteristic features and correctly identify aetosaur specimens in the field area.
    f. List three characteristic features and correctly identify rauisuchid, poposauroid, and crocodylomorph specimens in the field area.
    g. List five characteristic features and correctly identify dinosaur specimens in the field area.
    h. List three characteristic features and correctly identify metoposaur and basal archosauromorph specimens in the field area.

GEOL 1330. Paleontology Field Exploration

Course Description

This course presents a seven-day overview of the basic field, laboratory and museum methods used in the study of fossils. Students will follow the whole process from searching for a fossil and excavating it from the ground, through cleaning and stabilizing it, to cataloging it in Mesalands Community College's Dinosaur Museum. Included are a trip to a site rich in dinosaur footprints, and hands-on experience in molding and casting fossils.

Student Learning Outcomes

1. Studying introduction to paleontology, the student will:
    a. Identify common fossil-bearing sedimentary rocks and recognize their depositional environments.
    b. Identify common types of fossils.
    c. Classify fossils to Phylum and Class level.
    d. Explain taphonomic processes.
    e. Describe the principles of biostratigraphy.
2. The student will demonstrate competency in the basic field techniques in paleontology as evidenced by performing tasks in a faculty-monitored field project with 100% 'acceptable' result or better, as scored by applicable rubrics. Studying basic field techniques in paleontology, the student will
    a. Explain how and where to locate fossils.
    b. Demonstrate excavation methods.
    c. Protect specimens for removal from the field.
    d. Remove specimens safely from the field.

3. The student will demonstrate competency in data recording at a paleontological site by accurately recording information on two fossils on Specimen Field Cards during collection. Studying recording paleontological data, the student will:
    a. Explain the collection of basic field data.
    b. Describe the collection of taphonomic data.
    c. Identify the principles of constructing quarry charts.
4. The student will demonstrate competency in the basic laboratory methods in paleontology as evidenced by performing tasks in a faculty-monitored laboratory project with 100% 'acceptable' result or better, as scored by applicable rubrics. Studying basic laboratory methods in paleontology, the student will:
    a. List and use the main manual preparation tools.
    b. List and use some mechanical preparation tools.
    c. Explain how to make and open a plaster jacket.
    d. Demonstrate the construction of a mold and cast.
5. The student will know the principal curatorial methods, as demonstrated by performing tasks in a faculty-monitored collections project with 100% 'acceptable' result or better, as scored by applicable rubrics. Studying the principal curatorial methods, the student will:
    a. Demonstrate competency in cataloguing specimens.
    b. Create locality files.
    c. Safely curate and store specimens.

GEOL 1990. Triassic Vertebrate Practicum

Course Description

This course provides an introduction to excavating fossils and processing them in a laboratory setting. Student will prospect for and learn to excavate vertebrate fossils from the Upper Triassic in eastern New Mexico. Basic laboratory and preparation methods for field specimens will be practiced in the Natural Science Laboratories at Mesalands Community College's Dinosaur Museum. Students will explore aspects of the anatomy, systematics, evolutionary relationships, and paleobiology of the principal groups of Late Triassic vertebrates.

Student Learning Outcomes

1. The student will demonstrate competency in the basic field techniques of locating, excavating, stabilizing and safely collecting specimens as evidenced by performing tasks in a faculty-monitored field project with 100% 'acceptable' result or better, as scored by applicable rubrics. Studying basic techniques in paleontology, the student will
    a. List and correctly apply safety measures in the field.
    b. Explain the use of field materials and use the appropriate manual excavation tools with 'Excel®lent' or 'acceptable' results.
    c. Demonstrate the main excavation methods with 'Excel®lent' or 'acceptable' results.
    d. Protect specimens for removal from the field, including stabilization of fragile fossils and construction of plaster jackets with 'Excel®lent' or 'acceptable' results.
    e. Remove specimens safely from the field.
2. The student will demonstrate competency in the basic laboratory techniques in paleontology as evidenced by performing tasks in a faculty-monitored laboratory project with 100% 'acceptable' result or better, as scored by applicable rubrics. Studying basic laboratory methods in paleontology, the student will:
    a. List and correctly apply safety measures in the laboratory.
    b. Record preparation data on Specimen Laboratory Cards and process field data.
    c. Use the appropriate manual preparation tool in a laboratory project with 'Excel®lent' or 'acceptable' results.
    d. Use a power-operated preparation tool in a laboratory project with 'Excel®lent' or 'acceptable' results.
    e. Use the appropriate air-pressure-operated preparation tool in a laboratory project with 'Excel®lent' or 'acceptable' results.

f. List the advantages and disadvantages of various consolidants and adhesives, and use consolidants and adhesives to assemble a fossil specimen with 'Excel®lent' or 'acceptable' results.
g. Demonstrate at least one preparation method.

3. The student will know the principal anatomical features of the major groups of Triassic vertebrates occurring in the study area as demonstrated by correctly identifying at least 3 characteristic features of a given specimen or a fossil. Studying the relationships, anatomy and functional aspects of the dominant Triassic vertebrates, the student will:
    a. List three characteristic features and correctly identify metoposaur specimens.
    b. List five characteristic features and correctly identify phytosaur specimens.
    c. List five characteristic features and correctly identify aetosaur specimens.
    d. List three characteristic features and correctly identify rauisuchid, specimens.
    e. List three characteristic features and correctly identify poposauroid specimens.
    f. List three characteristic features and correctly identify crocodylomorph specimens.
    g. List five characteristic features and correctly identify dinosauriform specimens.
    h. Outline the phylogenetic relationships of Triassic archosauriforms.

GEOL 1996. Topics in Geology
Course Description
Varies
Student Learning Outcomes
Varies

GEOL 1998. Internship in Geology
Course Description
Varies
Student Learning Outcomes
Varies

GEOL 2110. Historical Geology
Course Description
This course reviews the major geological and biological processes and events over the Earth's 4.6-billion-year history. Students will learn about the formation of the Earth and its development through time including changes in the lithosphere, atmosphere, hydrosphere, and biosphere. The interrelationships between the physical aspects of Earth history and biological origins, evolution of species, and causes of extinctions will be explored.
Student Learning Outcomes
1. List the major principles of stratigraphy and biostratigraphy and discuss their significance.
2. Recognize or explain how sedimentary rocks can be used to interpret ancient environments.
3. Recognize or explain how plate tectonics has affected the distribution of life, climate, and sea level.
4. Describe the process of Darwinian evolution.
5. Demonstrate a basic knowledge of biodiversity.
6. Recognize and explain taphonomy and the biases inherent in the fossil record.
7. Discuss the major mass extinctions recorded by fossil evidence including potential causes and organisms affected.
8. Compare relative versus absolute time and explain how geologists determine the ages of rocks, fossils, and the Earth.
9. Discuss the development of the geologic time scale.
10. Recognize or explain the history of life on Earth during major time periods and describe major biological innovations through time.
11. Recognize or explain the physical geologic evolution of Earth over time.

GEOL 2110L. Historical Geology Laboratory

Course Description

Historical Geology Laboratory is the laboratory component of Historical Geology. This course applies geologic principles and techniques to reconstruct the history of Earth. Students will explore key concepts of geologic time and stratigraphy, identify fossils and use fossils to make stratigraphic correlations. Students will employ actualism to determine past depositional environments.

Student Learning Outcomes

1. Explain or discuss geologic time and how the geologic time scale was developed.
2. Recognize or explain how geologic time is measured.
3. Describe and use the basic principles of stratigraphy and explain how stratigraphy can be used to interpret sedimentary environments.
4. Describe and use the basics of paleontology and how fossils can be used to interpret ancient sedimentary environments.
5. Identify fossils in hand samples and explain how organisms are preserved in the fossil record.
6. Identify, explain, or interpret geologic structures on geologic maps.
7. Reconstruct the history of geologic events using geologic maps and cross-sections.
8. Construct cross-sections, fence diagrams, and isopach maps from stratigraphic sections and thickness data.

GEOL 2110C. Historical Geology Lecture and Laboratory

Course Description

Not Available

Student Learning Outcomes

Not Available

GEOL 2120. Introduction to Oceanography

Course Description

This course covers aspects of geology, chemistry, physics, climatology, environmental science, and biology as they apply to the oceans. Oceanography explores the ocean in the Earth system with special emphasis on the flow and transformation of weather and energy into and out of the ocean, the physical and chemical properties of seawater, ocean circulation, marine life and its adaptations, interactions between the ocean and the other components of the Earth system, and the human/societal impacts on and response to those interactions. This course provides the foundation needed for students to intelligently participate in important societal discussions that involve environmental issues.

Student Learning Outcomes

1. Recognize, describe or explain vocabulary, principles and methods relative to the science of oceanography.
2. Recognize, describe or compare Earth's components, especially the physical and chemical properties of seawater, marine sediments, and ocean life.
3. Recognize, describe, or explain the interrelationships of oceans with other Earth systems and the influences of physical processes on the ocean floor and coastal features.
4. Evaluate and interpret basic information from maps, diagrams, remotely sensed images, graphs and tables.
5. Apply critical thinking skills to solve problems.
6. Recognize or discuss the effects of human activity on marine environments and ecosystems.

GEOL 2125. Environmental Physical and Chemical Processes

Course Description

You will study basic general, analytical, organic, and polymer chemistry from an environmental perspective: the pollutants of air, water, and land; the rudiments of toxicology, and an introduction to green chemistry. You will learn about chemical processes in industry and nature, physical transport, risk, and aspects of human impacts and policy.

Student Learning Outcomes

1. Have a basic understanding of environmental chemistry of water, air, and soils.
2. Understand and remember major principles of stratospheric chemistry, in particular ozone and the impacts of associated with air pollution
3. Understand and remember physical processes occurring at multiple scales (local, landscape, and global) that impact environmental chemistry
4. Understand and remember the chemistry of ground-level air pollution
5. Understand concepts in energy and climate change—with emphasis on the greenhouse effect
6. Understand concepts in water chemistry and water pollution, including topics in purification of water
7. Understand concepts in solid state chemistry—with emphasis on determination of soil and sediment contamination, disposal and minimization
8. The student will learn to evaluate diverse information for analysis of data relevant to the biological and physical sciences especially in natural resource management
9. The student will demonstrate how to access different sources of data, demonstrate the process of creating data, and discuss the fundamental concepts of data quality.
10. Be able to use computer software (for a publication, presentation, or research project, etc.)

GEOL 2125L. Environmental Physical and Chemical Processes Laboratory

Course Description

You will study basic general, analytical, organic, and polymer chemistry from an environmental perspective: the pollutants of air, water, and land; the rudiments of toxicology, and an introduction to green chemistry. You will learn about chemical processes in industry and nature, physical transport, risk, and aspects of human impacts and policy.

Student Learning Outcomes

1. Have a basic understanding of environmental chemistry of water, air, and soils.
2. Understand laboratory safety principles for analysis of water, soil and air samples
3. Understand use of spectrometer, colorimeter, and titration equipment
4. Understand and remember major principles of stratospheric chemistry, in particular ozone and the impacts of associated with air pollution
5. Understand and remember physical processes occurring at multiple scales (local, landscape, and global) that impact environmental chemistry
6. Understand and remember the chemistry of ground-level air pollution
7. Understand concepts in energy and climate change—with emphasis on the greenhouse effect
8. Understand concepts in water chemistry and water pollution, including topics in purification of water
9. Understand concepts in solid state chemistry—with emphasis on determination of soil and sediment contamination, disposal and minimization
10. The student will learn to evaluate diverse information for analysis of data relevant to the biological and physical sciences especially in natural resource management
11. The student will demonstrate how to access different sources of data, demonstrate the process of creating data, and discuss the fundamental concepts of data quality.
12. Be able to use computer software (for a publication, presentation, or research project, etc.)

GEOL 2130. Introduction to Meteorology

Course Description

Introduction to Earth's atmosphere and the dynamic world of weather as it happens. Working with current meteorological data delivered via the Internet and coordinated with learning investigations keyed to the current weather; and via study of select archives.

Student Learning Outcomes

1. Recall, describe, or explain the various elements of the Earth's atmosphere, Earth's relation to the sun, incoming solar radiation, the ozone layer, the primary temperature controls, and the unequal heating of land and water.
2. Recall, describe, or explain weather variables and parameters.
3. Recall, describe, or explain air masses, pressure systems, the various fronts and associated types of storms, weather symbols, monsoons, the various forms of precipitation, along with causes and effects of lightning.
4. Recall, describe, or explain the hydrologic cycle, the characteristics and influences of the oceans and continents on the weather, the Southern Oscillation (i.e., El Nino), and the effects of land/water distribution.
5. Recall, describe, or explain specific impacts by humans on weather, climate, and on the ecosystem at large.
6. Evaluate and interpret information from maps, diagrams, remote sensing devices, graphs, and tables.
7. Apply critical thinking skills such as inductive, deductive, and mathematical reasoning to solve problems using the scientific method.
8. Recognize and discuss the effect of human activity on climate, climate change and the greenhouse effect.
9. Synthesize information from external, current sources and personal observations and discuss their relationships to class material.

GEOL 2140. Geology of New Mexico

Course Description

This course is a tour of the geologic history and natural places of New Mexico. Students will explore the materials (rocks and minerals) that make up New Mexico and the processes that created and continue to shape our state. Students will learn about mountains, rivers and seas that have come and gone, and New Mexico's rich fossil heritage. Students will discover where and why volcanoes erupted, and where natural resources are found and extracted.

Student Learning Outcomes

1. Identify or describe New Mexico's physiographic provinces.
2. Reconstruct and interpret New Mexico's geologic history using geologic maps.
3. Identify and describe New Mexico's orogenic provinces and explain the state's orogenic history.
4. List, describe, or explain major periods of igneous activity in New Mexico's history.
5. Describe how magma types relate to rock types, plutonic bodies, volcanic landforms, and eruptive processes.
6. Describe when, where, and why ancient seas covered portions of New Mexico and explain what the sedimentary rock record tells us about these seas and their inhabitants.
7. Identify or interpret unconformities and their significance.
8. Explain the changes in New Mexico's flora and fauna over time as revealed in the fossil record.
9. Recognize or describe the geologic processes involved in the formation and concentration of our natural resources.

GEOL 2145. History of Life

Course Description

This course presents an overview of the evolution and diversity of life on Earth. Students will study the main features of the evolution of the principal organisms on Earth (including plants, animals and microorganisms) and the evolution of ecosystems.

Student Learning Outcomes

1. The student will understand the relevant geological background for this course as demonstrated by scoring 70% or more on a faculty prepared examination. Studying the geological background, the student will:
    a. Describe the formation of the Solar System.
    b. Identify the stages hypothesized for the origin of life.

c. Describe the diversification of life into three Domains.
d. Describe the Precambrian evolution of the oceans and the atmosphere.
e. List the features and interpret geological and faunistic evidence for terrestrial and marine paleo environments.

2. The student will understand the basic paleontological concepts as demonstrated by scoring 70% or more on a faculty prepared examination. Studying paleo biological concepts, the student will:
    a. Describe the nature of the fossil record.
    b. Explain the fundamental taphonomic processes.
    c. Characterize species concepts and variation within and between species.
    d. Identify and apply the principles of Systematics.
    e. Describe the evidence for and the processes of evolution.
    f. Describe the evidence for and the processes of extinction.
    g. Describe the principles and uses of biogeography.
    h. Describe the principles and uses of biostratigraphy.
    i. List the principles of functional morphology.
    j. List the principles of paleoecology.
3. The student will describe the anatomy and interpret the paleobiology, paleoecology, and fossil record of the following groups, as demonstrated by scoring a total of 70% or more on 5 relevant laboratory exercises or assignments. Studying the Domains Bacteria and Archaea, the student will:
    a. Identify the origins and diversity of these Domains.
    b. Describe the fossil record of these Domains.
    c. Domain Eukarya.
4. Studying the Kingdom Protista, the student will:
    a. Interpret the paleobiology, paleoecology and fossil record of Sarcodines (Foraminifera and Radiolaria), and identify specimens typical for the group.
    b. Interpret the paleobiology, paleoecology and fossil record of Chrysophyta (Diatoms, Coccoliths, and Silicoflagellates), and identify specimens typical for the group.
    c. Interpret the paleobiology, paleoecology and fossil record of Pyrrophyta (Dinoflagellates), and identify specimens typical for the group.
    d. Interpret the paleobiology, paleoecology and fossil record of acritarches, and identify specimens typical for the group.
5. Studying the Kingdom Plantae, the student will:
    a. Describe the origin of plants.
    b. Interpret the paleobiology, paleoecology and fossil record of early land plants, and identify specimens typical for the group.
    c. Interpret the paleobiology, paleoecology and fossil record of gymnosperms, and identify specimens typical for the group.
    d. Interpret the paleobiology, paleoecology and fossil record of angiosperms, and identify specimens typical for the group.
6. Studying the Kingdom Fungi, the student will:
    a. Describe the origin of fungi.
    b. Interpret the paleobiology, paleoecology and fossil record of fungi, and identify specimens typical for the group.
7. Studying invertebrates, the student will:
    a. Describe the origin of animals
    b. Interpret the paleobiology, paleoecology and fossil record of archaeocyathans, and identify specimens typical for the group.

c. Interpret the paleobiology, paleoecology and fossil record of porifers, and identify specimens typical for the group.
d. Interpret the paleobiology, paleoecology and fossil record of cnidarians, and identify specimens typical for the group.
e. Interpret the paleobiology, paleoecology and fossil record of bryozoa, and identify specimens typical for the group.
f. Interpret the paleobiology, paleoecology and fossil record of brachiopods, and identify specimens typical for the group.
g. Interpret the paleobiology, paleoecology and fossil record of arthropods, and identify specimens typical for the group.
h. Interpret the paleobiology, paleoecology and fossil record of molluscs, and identify specimens typical for the group.
i. Interpret the paleobiology, paleoecology and fossil record of echinoderms, and identify specimens typical for the group.

8. Studying vertebrates, the student will:
    a. Describe the origins and fossil record of chordates, and identify specimens typical for the group.
    b. Outline the origins of vertebrates.
    c. Interpret the paleobiology, paleoecology and fossil record of fish, and identify specimens typical for the group.
    d. Interpret the paleobiology, paleoecology and fossil record of amphibians, and identify specimens typical for the group.
    e. Interpret the paleobiology, paleoecology and fossil record of sauropsids, and identify specimens typical for the group.
    f. Interpret the paleobiology, paleoecology and fossil record of synapsids, and identify specimens typical for the group.
9. Studying trace fossils, the student will:
    a. Identify the main types of invertebrate trace fossils.
    b. Identify the main types of vertebrate trace fossils.

GEOL 2150. Geobiology
Course Description
Consideration of life and its impact on the Earth System over the course of Earth history including its preserved geochemical and fossil remains, study of the observable geological effects of life processes and in turn the impact of geological, hydrological, and atmospheric effects on the origins and subsequent evolution of life. Field trips.
Student Learning Outcomes
Not Available

GEOL 2155. Theory and Praxis of Museum Science
Course Description
This course presents a broad spectrum of theories and practices used by museum professionals. The major theme of the course is to introduce students to useful methods for care, preparation, and conservation of museum collections. The course also considers the importance of knowledge of federal and international laws that govern museums; professional ethics; the importance of collection management; exhibitions and interpretation; and museum curatorship. All topics include practical assignments conducted in conjunction with Mesalands Community College's Dinosaur Museum and Natural Sciences Laboratory.
Student Learning Outcomes

1. The student will demonstrate an understanding of the basic functions, organization and management of a museum, and the main divisions of a museum and its functions, as demonstrated by 70% of the students scoring 70% or higher in assignment(s) given by the instructor. Students of the history and diversity of museums will:
    a. Describe the principal terms of museums.
    b. Describe the principal definitions of museums.
    c. Describe the history of museums.
    d. Describe the characteristics of modern museums.
    e. Outline organization and support of museums.
2. The student will demonstrate an understanding of the collection, conservation and curation of natural history specimens, as demonstrated by 70% of the students scoring 70% or higher in assignment(s) given by the instructor. Students of the collection, preparation and curation of natural history specimens will:
    a. Describe the main methods of collection of natural history specimens.
    b. Identify and apply the principal methods for the preparation of natural history specimens.
    c. List the principles of collections management.
    d. Describe and apply the main methods of conservation of natural history specimens.
    e. Define the theory and practice of museum registration.
    f. List the principles of use and security.
3. The student will demonstrate an understanding of the theory and construction of exhibits, as demonstrated by 70% of the students scoring 70% or higher in assignment(s) given by the instructor. Students of exhibits will:
    a. Describe the philosophy of exhibits.
    b. Identify the main aesthetic features of exhibit design.
    c. List the most important features of exhibits with regard to visual and physical accessibility.
    d. Explain the principles of exhibit construction.
    e. Identify the principles of permanent and temporary exhibits.
    f. Describe the role and practice of education in exhibits.
4. Students of the museum architecture will identify the main components and uses of the museum architecture.
5. Students of historic museums and site preservation will describe the principles of designation and preservation.
6. Students of laws and future of museums will:
    a. Outline the principal components of museum legislature.
    b. Describe modern trends and the future of museums.

GEOL 2160. Introduction to Mineralogy

Course Description

An introduction to minerals, including identification in hand samples and thin sections, crystal structures, physical properties, chemical compositions, occurrences and uses. Lab will focus on mineral identification by physical and optical properties.

Student Learning Outcomes

Upon successful completion of the course, the student will have:

1. Practical ability to identify with confidence minerals in hand samples focusing on rock-forming minerals including the silicates and others (carbonates, sulfates, phosphates, oxides, sulfides, etc.).
2. Gained a solid understanding of the building blocks of minerals and how they affect their chemical and physical properties.
3. Skill to identify symmetry and forms in crystals (i.e., crystallography) and understand how they relate to their structure and properties.
4. Gained an overview of mineral occurrences, formation conditions, classification and industrial uses.
5. Basic understanding of the chemical composition of minerals and how it relates to the formation of earth materials and different geologic rock types.

6. Basic skills to identify silicate minerals in thin sections using an optical microscope.

GEOL 2160L. Introduction to mineralogy Laboratory

Course Description

Laboratory to accompany GEOL 2160L. Lab will focus on mineral identification by physical and optical properties

Student Learning Outcomes

Upon successful completion of the course, the student will have:

1. Practical ability to identify with confidence minerals in hand samples focusing on rock-forming minerals including the silicates and others (carbonates, sulfates, phosphates, oxides, sulfides, etc.).
2. Gained a solid understanding of the building blocks of minerals and how they affect their chemical and physical properties.
3. Skill to identify symmetry and forms in crystals (i.e., crystallography) and understand how they related to their structure and properties.
4. Gained an overview of mineral occurrences, formation conditions, classification and industrial uses.
5. Basic understanding of the chemical composition of minerals and how it relates to the formation of earth materials and different geologic rock types.
6. Basic skills to identify silicate minerals in thin sections using an optical microscope.

GEOL 2210. Geology of Southwestern New Mexico and Western Texas

Course Description

This course will introduce students to some of the basic elements of geology and vertebrate paleontology. Students will receive an orientation followed by a field trip through southwestern New Mexico and western Texas. Geological topics examined on the field trip will include Karst phenomena at Carlsbad Caverns, the structure, sedimentology and paleontology of a Permian reef complex (Guadalupe Mountains), Precambrian through Mesozoic sedimentology and stratigraphy of the El Paso area, an introduction into dinosaur tracks, the structure of an intrusion (Cerro de Cristo Rey) and maar volcanology at Kilbourne Hole.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Students of Karst geology (Carlsbad Caverns) will:
    a. Outline the formation of Karst caves and list the peculiarities in the formation of Carlsbad Caverns.
    b. Identify and explain the formation of stalagmites, stalactites, columns, drapes, and the types of dripstones found in Carlsbad Caverns.
2. Students of the anatomy of a Permian reef complex (Guadalupe Mountains) will:
    a. List the Upper Permian formations and outline the paleogeography in the of southwestern New Mexico.
    b. Describe the sedimentological and topographical features of lagunal, reef crest, reef body, and reef slope deposits.
    c. Identify and describe Permian reef-building organisms and associated shallow marina faunas.
3. Students of andesitic intrusion into Cretaceous sediments (Cerro de Cristo Rey) will:
    a. Identify and characterize an andesitic plutonic rock.
    b. List the characteristic features of different plutonic bodies.
    c. Characterize and explain the metamorphic processes that form hornfels.
4. Students of introduction to dinosaur footprints and tracks will:
    a. Describe the types of preservation of vertebrate footprints.
    b. Describe the consistency of the sediment and draw conclusions on the depositional environment on the basis of Cretaceous dinosaur track preservation.
    c. Describe features of and identify dinosaur footprints on the basis of print morphology.
5. Students of dinosaur eggs will:

a. Outline the succession of discoveries and interpretations of dinosaur egg finds.
b. Describe the basic shapes and features of the ultrastructure of various dinosaur eggs and identify the egg layer.
c. Outline conclusions on dinosaur behavior on the basis of evidence from nests.
d. List allometric and isometric growth patterns in dinosaur embryos and hatchlings.

6. Students of maar volcanology (Kilbourne Hole) will:
    a. Describe vesicular basalts and explain the origin of their texture and chemical composition.
    b. Characterize features of pyroclastic surge deposits and describe the processes involved in pyroclastic eruptions.
    c. Characterize and explain the significance of xenolithic mantle material
7. Students of Precambrian and Paleozoic beds of the Franklin Mountains will:
    a. List and characterize the main stratigraphic units present in the Franklin Mountains.
    b. Describe and explain the formation of the Proterozoic plutonic rocks (Red Bluff Granite, felsic dikes) and contact metamorphic limestones and shales (Castner Marble).
    c. Describe and explain the deposition of Paleozoic sedimentary rocks (Bliss Sandstone, Fusselman Dolomite).
    d. Characterize the post-Paleozoic tectonic events that shaped the landscape of West Texas and describe the resulting geologic structures.

GEOL 2220. Triassic Vertebrates from the American Southwest

Course Description

Students are introduced to the principal fossil vertebrate groups from the Late Triassic by means of original material and replicas plus scientific publications, and they will explore their anatomy, systematics, evolutionary relationships, and paleobiology. Students will also learn about age correlations of strata based on physical properties of rocks and based on fossils. The course may include field and museum excursions.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Studying principles of systematics the student will:
    a. Explain the basic rules of biological nomenclature.
    b. List the formal requirements of a valid taxonomic description.
    c. Illustrate and discuss the above rules and requirements using examples among Triassic vertebrates.
2. Studying anatomy, phylogeny and functional analysis of Late Triassic vertebrates the student will:
    a. Characterize the main anatomical features, outline the phylogenetic relationships and describe aspects of the functional anatomy of Late Triassic ganoid fishes and lungfishes.
    b. Characterize the main anatomical features, outline the phylogenetic relationships and describe aspects of the functional anatomy of Late Triassic metoposaurs.
    c. Characterize the main anatomical features, outline the phylogenetic relationships and describe aspects of the functional anatomy of Late Triassic procolophonids.
    d. Characterize the main anatomical features, outline the phylogenetic relationships and describe aspects of the functional anatomy of Late Triassic prolacertiforms and drepanosaurids.
    e. Characterize the main anatomical features, outline the phylogenetic relationships and describe aspects of the functional anatomy of phytosaurs.
    f. Characterize the main anatomical features, outline the phylogenetic relationships and describe aspects of the functional anatomy of aetosaurs.
    g. Characterize the main anatomical features, outline the phylogenetic relationships and describe aspects of the functional anatomy of rauisuchids.
    h. Characterize the main anatomical features, outline the phylogenetic relationships and describe aspects of the functional anatomy of poposaurids and chatterjeeids.

i. Characterize the main anatomical features, outline the phylogenetic relationships and describe aspects of the functional anatomy of Late Triassic sphenosuchians.
j. Characterize the main anatomical features, outline the phylogenetic relationships and describe aspects of the functional anatomy of Late Triassic dinosaurs.
k. Characterize the main anatomical features, outline the phylogenetic relationships and describe aspects of the functional anatomy of Late Triassic synapsids.
l. Characterize the main anatomical features and discuss the phylogenetic relationships of selected Late Triassic vertebrates of uncertain relationships.

3. Studying the phylogeny of archosaurs the student will:
    a. Outline the principles of the cladistic method.
    b. Outline the phylogenetic relationships among Triassic archosaurs and list features in support of the phylogenetic hypotheses.
4. Studying the lithostratigraphy of the Triassic in the Southwest the student will:
    a. List and employ the principles of stratigraphic correlations.
    b. Name and characterize the five major lithostratigraphic units of the Upper Triassic in New Mexico and name the correlatives in the American Southwest.
5. Studying the biostratigraphy of the Triassic in the Southwest the student will:
    a. Explain the principles of biostratigraphy.
    b. Characterize the suggested Land vertebrate faunachrons of the Upper Triassic.
    c. Discuss critically the values and theoretical and practical problems associated with the postulated continental Triassic biostratigraphy based on vertebrate fossils.

GEOL 2230. Dinosaurs of Colorado

Course Description

This course will introduce students to some of the basic elements of geology and dinosaur paleontology, in the classroom and on a four day trip through southwest Colorado. The field trip will include visits to dinosaur quarries, footprint sites, and paleontology museums.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Students of the Mesozoic geology of southwestern Colorado will:
    a. Understand the tectonic setting and sedimentary environments during the Triassic.
    b. Understand the tectonic setting and sedimentary environments during the Jurassic.
    c. Understand the tectonic setting and sedimentary environments during the Cretaceous.
2. Students of the role of dinosaurs in Mesozoic terrestrial vertebrate communities will:
    a. Identify the principle terrestrial vertebrates and types of dinosaurs during the Triassic in the southwestern USA.
    b. Identify the principle terrestrial vertebrates and types of dinosaurs during the Jurassic in the southwestern USA.
    c. Identify the principle terrestrial vertebrates and types of dinosaurs during the Cretaceous in the southwestern USA.
3. Students of terrestrial taphonomy will:
    a. Understand the preservation potential of different terrestrial vertebrates.
    b. Describe the principal depositional environments in which terrestrial vertebrates are likely to be preserved.

GEOL 2240. Dawn of the Age of Dinosaurs – Triassic Geology and Life in the Texas Panhandle

Course Description

This course will introduce students to some of the basic elements of geology, stratigraphy, and vertebrate paleontology. Students will receive a pre-trip lecture/orientation followed by a four day trip through east-central New Mexico and the Texas panhandle. The field trip will include visits to geological sites at Palo Duro Canyon State Park, several fossil quarries and an oil field in the Post area, archeological sites, the Grace Museum (Abilene), and the Museum of Texas Tech University (Lubbock).

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Students of the stratigraphy and depositional environment in the Permo-Triassic of east-central New Mexico and Texas will:
    a. Outline the stratigraphy and depositional environments of the Permian.
    b. Describe the stratigraphic units of the Triassic.
    c. Describe the types of sediments and depositional environments in the Triassic.
2. Students of the morphology and ecology of Triassic vertebrates will:
    a. List features and their ecological interpretations of metoposaurs.
    b. List features and their ecological interpretations of small non-archosaurian reptiles.
    c. List features and their ecological interpretations of phytosaurs.
    d. List features and their ecological interpretations of aetosaurs.
    e. List features and their ecological interpretations of rauisuchids.
    f. List features and their ecological interpretations of poposaurids.
    g. List features and their ecological interpretations of dinosaurs.
3. Students of terrestrial taphonomy will:
    a. Understand the preservation potential of different terrestrial vertebrates.
    b. Describe the principal depositional environments in which terrestrial vertebrates are likely to be preserved.

GEOL 2250. Volcanoes and Dinosaurs in Northeastern New Mexico and Colorado

Course Description

This course will introduce students to some of the basic elements of geology and vertebrate paleontology. Students will receive an orientation followed by a field trip through northeastern New Mexico and southern Colorado. Geological and paleontological topics examined on the field trip will include morphology and volcanology of a cinder cone (Capulin Mountain), an introduction into dinosaur tracks and visits of mega footprint sites (Mosquero, Dinosaur Ridge), the K-T boundary of the Raton basin, and visits to paleontology and natural history museums in central Colorado.

Student Learning Outcomes

Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

1. Students of cinder cone morphology and volcanology will:
    a. List the types of volcanoes.
    b. Describe the morphology of cinder cones.
    c. Identify and explain the formation of lavas and volcanic rocks associated with cinder cones.
2. Students of the Cretaceous-Paleogene (Tertiary) K-T extinction event will:
    a. Outline the characteristics of mass extinctions and the magnitude of the K-T extinction event.
    b. List and describe evidence for an impact at the K-T boundary.
    c. Discuss pros and cons of the impact versus the volcano theory of the K-T extinction event.
3. Students of introduction to dinosaur footprints and tracks will:
    a. Describe the types of preservation of vertebrate footprints.
    b. Describe the consistency of the sediment and draw conclusions on the depositional environment on the basis of Cretaceous dinosaur track preservation.
    c. Describe features of and identify dinosaur footprints on the basis of print morphology.
    d. Interpret paleontological evidence gathered from Mega track sites.

4. Students of the survey of Jurassic dinosaur groups will:
    a. Describe and interpret the anatomy of the principal forms of predatory dinosaurs.
    b. Describe and interpret the anatomy of the principal forms of sauropodomorph dinosaurs.
    c. Describe and interpret the anatomy of the principal forms of ornithopod dinosaurs.
    d. Describe and interpret the anatomy of the principal forms of thyreophoran dinosaurs.

GEOL 2260. Geology of the American Southwest

Course Description

This course familiarizes the student with an overview of the geology of the southwestern United States. Students learn about the geological processes that led to the development of the American Southwest and also about the fossil record of this region.

Student Learning Outcomes

1. Studying the principles of geology, the student will:
    a. Describe the structure of the Earth.
    b. Identify the principal kinds of rocks and minerals.
    c. Explain the main surficial processes.
    d. List the principles of stratigraphy and sedimentology.
    e. Explain the main features of volcanoes and earthquakes.
    f. Describe the main features and kinds of fossils.
    g. Explain the process of metamorphism.
    h. List the methodologies utilized in study of geologic time.
2. The student will understand the basic structure of Precambrian rocks and strata in the Southwest as demonstrated by scoring 70% or more on a faculty prepared examination, and by scoring a total of 70% or more on a relevant laboratory exercise component.
    a. Studying the Precambrian, the student will:
    b. Describe Precambrian tectonics.
    c. Explain patterns of Precambrian sedimentation.
    d. Describe Precambrian rocks of the Grand Canyon.
    e. Identify Precambrian rocks in New Mexico.
3. The student will understand the basic structure of Paleozoic rocks, strata, and fossils in the Southwest as demonstrated by scoring 70% or more on a faculty prepared examination, and by scoring a total of 70% or more on a relevant laboratory exercise component.
    a. Studying the Paleozoic, the student will:
    b. Describe Paleozoic paleogeography and tectonics.
    c. List and describe the main components of Paleozoic life.
    d. Describe the main features of Early Paleozoic oceans.
    e. Describe the main features of the Permian reefs.
    f. Describe the main features of Paleozoic red beds.
4. The student will understand the basic structure of Mesozoic rocks, strata, and fossils in the Southwest as demonstrated by scoring 70% or more on a faculty prepared examination, and by scoring a total of 70% or more on a relevant laboratory exercise component.
    a. Studying the Mesozoic, the student will:
    b. List the main features of Mesozoic paleogeography and tectonics.
    c. List and describe the main components of Mesozoic life.
    d. Identify the principal features of Triassic seas and red beds.
    e. Describe the main features of Mesozoic deserts.
    f. Identify the main features of post-Triassic seas.

g. List the main features of Cretaceous swamps and river environments.

5. The student will understand the basic structure of Cenozoic rocks, strata, and fossils in the Southwest as demonstrated by scoring 70% or more on a faculty prepared examination, and by scoring a total of 70% or more on a relevant laboratory exercise component.
    a. Studying the Cenozoic, the student will:
    b. Explain the origin and process of the Rocky Mountain orogeny.
    c. List the types of intermontane basins.
    d. List and describe the main features of Paleogene and Neogene life.
    e. Explain the processes and timing of rifting and volcanoes.
    f. Explain the principal features of Neogene environments.

GEOL 2310. The Dynamic Earth

Course Description

Introduction to earth systems. Geology and the solid earth, geologic time and earth history, water and the world oceans, atmosphere and weather, the solar system. Community Colleges only.

Student Learning Outcomes

1. To understand how scientific knowledge is created and evolves in the Earth sciences.
2. To construct opinions based on limited geologic facts, scientific theories and various models of the Earth.
3. To evaluate what scales of measurement should be used when making observations of nature and situations in everyday life.
4. To identify the core facts related to describing the oceans and atmosphere (e.g., rock types, plate boundaries, types of clouds).

GEOL 2320. Earth Surface Processes and Landforms

Course Description

A study of the interactions between the atmosphere and the internal heat of the Earth which result in the development of landscapes observable at the Earth's surface today. Topics will include atmospheric circulation, climate, fluvial processes, and the record of paleoclimate contained in the landscape.

Student Learning Outcomes

Students will become familiar with the main processes acting on the surface of the Earth (e.g., weathering, erosion, sedimentation, and soil formation), the driving forces for these processes (including climatic and tectonic events), and their influence on both landscape features and geological deposits.

GEOL 2330. Sedimentology, Stratigraphy, and Structural Geology for Petroleum Engineers

Course Description

Overview of sedimentology, stratigraphy, and structural geology, emphasizing material relevant to petroleum engineers and other petroleum industry careers. Topics include sediment types, sediment transport, deposition, diagenesis and lithification, controls on porosity and permeability; fault and fold types and classification; structural controls on sedimentary deposition; basic structural and stratigraphic traps; fault-zone structure and fluid flow; and elements of low-temperature geochronology.

Student Learning Outcomes

1. Describe sedimentary rocks, textures, structures and classifications; their resource potential, controls on porosity and permeability, and the geological history needed for formation of oil and gas.
2. Describe geologic contact types, introductory structural geology, including 3D geometry of lines and planes as used in geology, basic geologic map interpretation, cross-section construction, classifications of faults and folds, architecture and development of extensional and contractional orogens, structural controls on sedimentary basins, effects of faulting on permeability and porosity.

3. Explain processes required for existence of petroleum systems, basic types of conventional hydrocarbon traps.
4. Explain the basis of isotopic dating methods and basics of their application.

GEOL 2340. Introduction to Whole Earth Structure and Composition

Course Description

Introduction to geophysical and geochemical methods used to study the deep Earth. Formation, composition and internal structure of the Earth, plate tectonics, gravitational and magnetic fields, heat flow and thermal history, earthquakes, and interaction of Earth systems with emphasis on the crust, mantle and core. Introduction to mantle convection, geochemical reservoirs, and mantle plumes. Field trips.

Student Learning Outcomes

By the end of this course, students will be able to:

1. Understand the methods used in studying the Earth's interior
2. Understand the composition and structure of the crust, mantle, and core.
3. Understand how plate tectonics works and characterize major tectonic settings on Earth.
4. Understand the origin of Earth's magnetic field and how that field is manifest at Earth's surface.

GEOL 2410. Mineralogy

Course Description

A study of elementary crystallography. Topics covered include description, chemistry, determination, and occurrence of minerals that form common rocks and ore deposits. This class includes a field trip.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Understand mineral properties and occurrences, including classification, optical mineralogy, and crystallization.
2. Understand basic crystallography, including three-dimensional symmetry and atomic structure.
3. Identify and describe the major rock- and ore-forming minerals.
4. Discuss the importance of minerals, bonding, and major elements used in formation of minerals.
5. Discuss crystallization, including imperfections like defects, compositional zoning, and twinning.
6. Identify minerals using basic properties such as luster, color, streak, fracture, cleavage, hardness, specific gravity, and etc.
7. Understand the interaction of light and crystals
8. Discuss composition of igneous rocks, crystallization of magmas, and recognize major silicate minerals found in igneous rocks.
9. Discuss weathering, transportation, deposition, lithification, and precipitation of the major sedimentary minerals.
10. Discuss the formation of metamorphic rocks, including changes in composition and crystal form of metamorphic minerals.
11. Describe the formation of typical ore deposits and other economic minerals.
12. Describe crystal morphology and symmetry, including crystal forms and Miller indices.
13. Identify and describe the basic silicate subclasses (e.g., framework, sheet, chain, ring, paired tetrahedral, and isolated tetrahedral silicates).
14. Identify and describe other common rock- and ore-forming minerals (e.g., sulfides, halides, oxides, hydroxides, carbonates, etc.)

GEOL 2410L. Mineralogy Lab

A laboratory-based introduction to mineral identification and classification. Students practice observing and recording physical and optical properties, applying crystallographic techniques, and using standard mineralogy tools to analyze hand samples and thin sections. Emphasis is placed on relating mineral properties and associations to rock-forming processes. Required Lab for GEOL-2410

Student Learning Outcomes

1. Observe and record physical properties of minerals (e.g., luster, color, streak, hardness, cleavage, fracture, specific gravity) and use these properties to identify unknown samples.
2. Use a petrographic microscope to examine and identify minerals based on optical properties, including birefringence, extinction, pleochroism, interference colors, and relief.
3. Apply crystallographic techniques such as analyzing crystal morphology, symmetry, and Miller indices to describe mineral forms.
4. Classify and distinguish silicate subclasses and non-silicate mineral groups through hands-on identification of representative samples.
5. Interpret mineral associations in hand samples and thin sections to infer rock-forming processes (igneous, sedimentary, metamorphic, or hydrothermal).
6. Use standard mineralogy tools and reference resources (e.g., hand lens, streak plates, hardness kits, petrographic microscopes, mineral ID charts/databases).

GEOL 2420. Petrology

Catalog Description

The origin, classification, and identification of igneous, sedimentary, and metamorphic rocks. This class includes a field trip.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Understand the structure, texture, composition, classification, and formation of igneous rocks, including both volcanic and plutonic forms.
2. Understand the structure, texture, composition, and classification of sedimentary rocks, including weathering, transport, deposition, provenance, diagenesis, and types of sedimentary environments.
3. Understand metamorphism and metamorphic texture, composition, and classification of metamorphic rocks.
4. Differentiate structures in extrusive vs. intrusive igneous rocks
5. Recognize an identify textures in igneous rocks
6. Recognize major igneous minerals, and classify igneous rocks based on their composition
7. Use igneous phase diagrams and the phase rule
8. Identify and describe igneous rocks using appropriate rock names
9. Recognize and describe sedimentary structures and textures
10. Recognize major sedimentary minerals for both clastic and chemical rocks
11. Describe the products of weathering, the transportation of sediments, and diagenesis
12. Describe the major continental, transitional, and marine environments, along with their characteristic sedimentary deposits
13. Identify and describe sedimentary rocks using appropriate rock names
14. Describe the agents and types of metamorphism, including pressure, temperature, and chemically active fluids
15. Recognize metamorphic textures and structures
16. Recognize major metamorphic minerals, and apply the metamorphic facies concept
17. Use metamorphic phase diagrams
18. Describe metamorphic environments and identify and describe their characteristic metamorphic rocks

GEOL 2420L. Petrology Laboratory

Course Description

This lab course focuses on the identification and classification of igneous and metamorphic rocks in hand sample and thin section. Students apply petrographic techniques, interpret phase diagrams, and analyze mineralogical and textural features. Laboratory reports emphasize professional-quality descriptions that integrate observational and analytical data. Required Lab for GEOL-2420.

Student Learning Outcomes

1. Identify and classify igneous rocks in hand sample and thin section based on mineralogy, composition, and texture.
2. Identify and classify metamorphic rocks in hand sample and thin section based on mineral assemblages, textures, and structures.
3. Recognize and describe diagnostic igneous and metamorphic textures and structures using both hand sample and petrographic microscope.
4. Apply petrographic techniques (e.g., optical mineralogy, mineral proportions, fabric analysis) to describe and interpret igneous and metamorphic rocks.
5. Interpret phase diagrams and experimental data in the context of observed rock samples.
6. Construct detailed rock descriptions and classifications that integrate mineralogical, textural, and petrographic observations into professional-quality lab reports.

GEOL 2430. Volcanoes!

Course Description

Types of volcanoes and eruption products, role of volcanism in planetary evolution, volcanoes as sources of geothermal energy and mineral deposits, volcanic hazards and disasters, environmental effects of volcanic eruptions.

Student Learning Outcomes

Not Available

GEOL 2510. Introduction to Computational Methods of Geosciences

Catalog Description

An introduction to modern computational methods, techniques, and best practices as they apply to the geosciences. The course will be organized around several case studies in which students apply computational tools to understand fundamental Earth processes that are relevant to the department curriculum and industry.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Develop basic computing skills, such as how to set up spreadsheets and python programs to store, analyze and visualize various Earth science. Data.
2. Proficiency with using these tools to solve simple problems and research-related tasks.
3. Utilize best practices when writing software, including documentation and version control.

GEOL 2910. Research in Natural Sciences I

Course Description

The purpose of this course is to give students exposure to authentic laboratory environments and the practical application of the scientific method. Students will design and conduct a research project and present the results in a professional venue. Research topics may be selected from any area of STEM-H (Science, Technology, Engineering, Mathematics and Health). GEOL 2910 also includes study of scientific literature, applying the case study method in scientific research, practical use of software for research and presentation (Photoshop®, PowerPoint, Excel®), studying of topics relevant to the area of study, and practicing oral and written presentations.

Student Learning Outcomes

1. The student will understand the step-by-step process of the scientific method as demonstrated by scoring 70% or more on a faculty prepared assignment. Studying the scientific method, the student will:
    a. Define the terms hypothesis, theory, law, and scientific principle and give two examples of each.
    b. Identify and explain the four components of the Berkeley model of the scientific process in an example of a given scientific research project.

2. The student will understand the structure and components of a scientific article as demonstrated by presenting an abstract, material and method section, descriptive section, conclusion and reference list in a poster based on accepted standards in the field. Studying scientific writing, the student will:
    a. List the structural components of a scientific article and describe the content of each component.
    b. Evaluate the completeness and correctness of the structural components of a given scientific article.
    c. Correctly cite in-text and construct a reference list according to a given standard.
    d. Identify and present evidence for plagiarism in a given example.
    e. Outline the steps from manuscript to published article.
3. The student will understand the scientific process by correctly identifying the steps in a given case study.
4. The student will design and execute a research project based on accepted standards in the field. Studying designing and conducting a research project, the student will:
    a. Write a statement outlining the problem that will be researched.
    b. Write a statement identifying the goals of the research project.
    c. Present a plan for the research project including tasks to be undertaken, identifying clear assignments for each team member, and giving a timetable with definite deadline for each task.
    d. Gathering an appropriate amount of high-quality data to address the problem of the research project.
    e. Analyze the data using method appropriate to the nature of the data.
    f. Interpret the data and present a coherent conclusion.
5. The student will design and execute a research project based on accepted standards in the field. Studying communicating research, the student will: a. Produce an informative illustration which includes photos, drawings, or graphs with annotations using the software Photoshop®.
    a. Present, list, or process data using the software Excel®.
    b. Construct a poster of the research project using the software PowerPoint and present the results at a scientific venue.
    c. Construct a PowerPoint presentation and communicate his research orally in class or at a scientific venue.

GEOL 2920. Research in Natural Sciences II

Course Description

This course is the second part of a research course designed to give students exposure to authentic laboratory environments and the practical application of the scientific method. Students will continue to conduct and finalize a research project, prepare a written or oral presentation, and present the results in a professional venue. Course also includes basic statistics, study of topics integral or related to the area of study, application of computer programs relevant to the area of study and the medium of presentation and practicing oral or written presentations.

Student Learning Outcomes

1. The student will execute a research project based on accepted standards in the field. Studying conducting a research project, the student will:
    a. Write a statement outlining the problem that will be researched.
    b. Write a statement identifying the goals of the research project.
    c. Present a plan for the research project including tasks to be undertaken, identifying clear assignments for each team member, and giving a timetable with definite deadline for each task.
    d. Gathering an appropriate amount of high-quality data to address the problem of the research project.
    e. Analyze the data using methods appropriate to the nature of the data.
    f. Interpret the data and present a coherent conclusion.
2. The student will demonstrate proficiency in relevant software by scoring at least 70% in a faculty-prepared practical exercise. Studying the application of software packages for research, the student will:
    g. Demonstrate literacy with the basic capabilities of the GIS software, as evidenced by a score of 70% or better on a faculty assigned exercise.

h. Be able to set up, conduct, and interpret the results of a parsimony analysis using PAUP and associated software packages, as evidenced by a score of 70% or better on a faculty assigned exercise.

3. The student will demonstrate proficiency in relevant scientific concepts by scoring at least 70% in a faculty-prepared assignment. Studying scientific concepts relevant to the research project, the student will:
    i. Use basic statistics on a given set of data as relevant to the research project.
    j. Use computer modeling on a given set of data, as relevant to the research project.
    k. Describe the principles and limitations of a phylogenetic analysis.
    l. List the basic principles of taxonomy and zoological nomenclature.
    m. List the main anatomical features of selected osteological remains, as relevant to the research project.
    n. The student will demonstrate proficiency in written/visual, and well as oral communication by scoring at least "proficient" in all categories of a writing and oral communication rubric when presenting research. Studying communication research, the student will:
    o. Construct a poster of the research project using the software PowerPoint and present the results at a scientific venue.
    p. Construct a PowerPoint presentation and communicate his research orally in class or at a scientific venue.

GEOL 2990. Earth Science Practicum

Course Description

This course provides instruction and practice in computational methods used to solve Earth science problems. This course introduces simple ways to describe physical processes mathematically and approximate them numerically. Students will utilize spreadsheet, mapping, and graphics programs, and in the process get to review basic math and statistics.

Student Learning Outcomes

The Student Learning Outcomes of the Earth and Environmental Science program are that students will be able to:

1. Understand and apply the facts and concepts central to Earth science (e.g., geological processes and materials, Earth history, application of quantitative physics and chemistry to Earth processes).
2. Demonstrate a working knowledge of the skills and methods necessary to collect, analyze and report data relevant to the discipline (e.g., rock identification, field mapping, geophysical methods).
3. Conceptualize, abstract and solve both qualitative and quantitative problems in the discipline.
4. Integrate and synthesize disparate geoscientific information into a coherent understanding. All four of these Student Learning Outcomes will be addressed in this class with content focused principally on developing experience with tools to collect, analyze, and report data.

GEOL 2991. Directed Study in Geoscience

Course Description

Varies

Student Learning Outcomes

Varies

GEOL 2992. Directed Study in Geology

Course Description

Varies

Student Learning Outcomes

Varies

GEOL 2993. Workshop in Geology

Course Description

Varies

Student Learning Outcomes
Varies

GEOL 2996. Topics in Geology
Course Description
Specific subjects to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

GEOL 2997. Independent Study in Geology
Course Description
Varies
Student Learning Outcomes
Varies

GEOL 2998. Internship
Course Description
Varies
Student Learning Outcomes
Varies

GEOL 2999. Programmatic Capstone
Course Description
In this course, students will demonstrate proficiency and attainment of the programmatic outcomes for their chosen field of study.
Student Learning Outcomes
Varies

German (GRMN)

GRMN 1110. German I
Course Description
Intended for students with no previous exposure to German, this course develops basic listening, speaking, reading, and writing skills aiming toward the ACTFL novice-mid level. This is an introductory course designed to teach the student to communicate in German in everyday situations and to develop an understanding of German cultures through the identification of cultural products and practices, of cultural perspectives, and the ability to function at a survival level in an authentic cultural content. This course will also develop the student's sense of personal and social responsibility through the identification of social issues.
Student Learning Outcomes
1. Students can communicate on very familiar topics using a variety of words and phrases that they have practiced and memorized.
2. Students can write lists and memorized phrases on familiar topics.
3. Students can recognize some familiar words and phrases when they hear them spoken.
4. Students can recognize some letters or characters.
5. Students can understand some learned or memorized words and phrases when they read.
6. Students can identify beliefs, behaviors and cultural artifacts of the German-speaking world.

7. In English, students will engage with social issues confronting the German-speaking world to develop their sense of personal and social responsibility.

GRMN 1120. German II

Course Description

A continuation of German 1, students will develop a broader foundation in skills gained during the first semester, including understanding, speaking, reading and writing German aiming toward the ACTFL novice-high level. This course is designed to increase student fluency in German as applied to everyday situations. Students will also learn to recognize and understand various German products, practices, and perspectives, identifying common cultural patterns, describing basic cultural viewpoints, and further developing their sense of personal and social responsibility through the investigation of cultural issues.

Student Learning Outcomes

1. Students can communicate and exchange information about familiar topics using phrases and simple sentences, sometimes supported by memorized language.
2. Students can usually handle short social interactions in everyday situations by asking and answering simple questions.
3. Students can write short messages and notes on familiar topics related to everyday life.
4. Students can often understand words, phrases, and simple sentences related to everyday life.
5. Students can recognize pieces of information and sometimes understand the main topic of what is being said.
6. Students can understand familiar words, phrases, and sentences within short and simple texts related to everyday life.
7. Students can sometimes understand the main idea of what they have read.
8. Students can describe and make comparisons between decisions about beliefs, behaviors and cultural artifacts of the German-speaking world.
9. Students will engage with social issues confronting the German-speaking world to continue to develop their sense of personal and social responsibility.

GRMN 1130L. German Language Lab

Course Description

Not Available

Student Learning Outcomes

Not Available

GRMN 1140. Conversational German

Course Description

Not Available

Student Learning Outcomes

Not Available

GRMN 2110. German III

Course Description

In this third semester course, students will continue to develop a broader foundation in skills gained during the first two semesters, including understanding, speaking, reading and writing German aiming toward the ACTFL intermediate-low level. This course is designed to teach the student to communicate in a more sustained way in areas of personal interest and in everyday situations. Students will engage in and analyze various German products, practices, and perspectives, as well as continue to develop their sense of personal and social responsibility through comparison and contrast of cultural perspectives.

Student Learning Outcomes

1. Students can participate in conversations on a number of familiar topics using simple sentences.
2. Students can handle short social interactions in everyday situations by asking and answering simple questions.
3. Students can write briefly about most familiar topics and present information using a series of simple sentences.
4. Students can understand the main idea in short, simple messages and presentations on familiar topics.
5. Students can understand the main idea of simple conversations that they overhear.
6. Students can understand the main idea of short and simple texts when the topic is familiar.
7. Students can analyze beliefs, behaviors and cultural artifacts of the German-speaking world, and discuss the nature and value of German products, practices, and perspectives.
8. Students will engage with social issues confronting the German-speaking world to continue to develop their sense of personal and social responsibility.

GRMN 2120. German IV

Course Description

In this fourth semester course, students will continue to broaden and refine skills gained during previous semesters, including understanding, speaking, reading and writing German aiming at the ACTFL intermediate-mid level. This course is designed to teach the student to communicate in a more sustained way in situations that go beyond the everyday. Students will evaluate various German products, practices, and create ways to demonstrate their sense of personal and social responsibility through participation in cultural interaction.

Student Learning Outcomes

1. Students can participate in conversations on familiar topics using sentences and series of sentences.
2. Students can engage in short social interactions in everyday situations by asking and answering a variety of questions. Students can usually say what they want to say about themselves and their everyday life.
3. Students can write on a wide variety of familiar topics using connected sentences.
4. Students can understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies.
5. Students can understand the main idea of conversations that they overhear.
6. Students can understand the main idea of texts related to everyday life and personal interests or studies.
7. Students can analyze beliefs, behaviors and cultural artifacts of the German-speaking world, and recognize and discuss the representations and controversies of German products, practices, and perspectives.
8. Students will engage with social issues confronting the German-speaking world to create ways to demonstrate their sense of personal and social responsibility.

GRMN 2140. Intermediate German Conversation

Course Description

An intermediate German conversation course designed to achieve two primary goals: 1) to provide students of German additional experience speaking and listening, and 2) to offer an overview of current social, cultural and political topics relevant in Germany today.

Student Learning Outcomes

1. Students will recognize and use common word patterns and idiomatic expressions in German.
2. Students will communicate and comprehend narratives and descriptions of a factual nature in German.
3. Students will be able to communicate effectively in conversational situations in German.
4. Students will be able to distinguish the salient features of the cultures associated with German in historical and contemporary contexts.

GRMN 2227. Sickness, Insanity and Transgression in German Literature and Film

Course Description

In this course students will explore the concepts of physical and psychological health and happiness by analyzing the ways in which sickness, insanity and social transgression appear in a range of cultural records from the late 19th and early 20th centuries in Germany. We will review these concepts by looking at a range of cultural records, including literary texts, medical, psychological and contemporary scientific writings and films.

Student Learning Outcomes

1. Students will explore and discuss how diverse societies and cultures create social meaning in a historical context, and relate that to contemporary contexts.
2. Students will explore and explain the role played by different forms of cultural expression in the creation of communities of inclusion and exclusion.
3. Students will analyze cultural artifacts and design ways of understanding diverse human experiences in a historical context, and relate these to contemporary contexts.
4. Students will organize and write essays of cultural criticism, supporting arguments with appropriate quotations from primary and secondary texts, and using digital resources for their research.

GRMN 2993. Workshop in German

Course Description

Varies

Student Learning Outcomes

Varies

GRMN 2996. Topics in German

Course Description

Varies

Student Learning Outcomes

Varies

Greek (GREK)

GREK 1110. Greek I

Course Description

This course serves as an introduction to the fundamentals of the historic Greek language and culture. The aims of this course are to acquire basic skills in reading, writing, and comprehension in order to read authentic Greek texts with the help of a dictionary. Students will also study the history of the Greek language, texts, and culture.

Student Learning Outcomes

By the end of this course, students will:

1. Have a basic sense of the history of the Greek language
2. Have a basic understanding of Greek grammar
3. Have learned a basic vocabulary of Greek words
4. Be able to use a lexicon to find appropriate meanings of Greek words within basic authentic Greek texts
5. Be able to read (aloud) and understand short, basic passages from authentic Greek texts
6. Be able to translate short, basic passages from authentic Greek texts
7. Be able to analyze the grammar and syntax of short, basic passages from authentic Greek texts
8. Be able to write short and basic sentences in Greek that are grammatically correct
9. Be able to discuss cultural behavior or issues related to the Hellenic world.

GREK 1120. Greek II

Course Description

This course continues the study of the historic Greek language and culture. The aims of this course are to continue to build basic skills in reading, writing, and comprehension in order to read authentic Greek texts with the help of a dictionary. Students will also continue to study the historical factors behind the developments of the Hellenic world and its texts.

Student Learning Outcomes

1. Build upon a basic knowledge of Greek grammar.
2. Build upon a basic-level Greek vocabulary.
3. Read and understand short, basic, and authentic Greek texts.
4. Accurately translate short, basic, and authentic Greek texts.
5. Develop knowledge of grammar and vocabulary to analyze authentic Greek texts.
6. Obtain an enhanced understanding of the historical development of the Greek language.
7. Identify patterns of cultural behavior or customs in the Hellenic world.
8. Be able to discuss a variety of issues related to the Hellenic culture.

GREK 2110. Greek III

Course Description

This course is the continuation of Greek II. The aims of this course are to develop skills in reading, writing, and comprehension in Greek. These include the grammar and vocabulary needed in order to read and understand authentic Greek texts with the help of a dictionary.

Student Learning Outcomes

Upon completion of the course,

1. Students should have a deeper understanding of Greek grammar
2. Students should have learned a wider vocabulary of Greek words
3. Students should be able to read (aloud), with understanding, passages from authentic Greek texts of moderate difficulty
4. Students should be able to translate accurately and analyze Greek sentences and passages from authentic Greek texts of moderate difficulty
5. Students should be familiar with the use of lexica and other aids for the study of Greek texts
6. Students should be able to discuss the cultural setting of selected Greek words

GREK 2120. Greek IV

Course Description

This course is the continuation of Greek III. The aims of this course are to develop skills in reading, writing, and comprehension in Greek. These include the grammar, vocabulary, and exegetical tools needed in order to read and understand Greek texts of moderate difficulty and complexity.

Student Learning Outcomes

Upon completion of the course,

1. students should have a deeper understanding of selected Greek texts relating to Western Civilization
2. students should have learned a wider vocabulary of Greek words
3. students should be able to read (aloud), with understanding, selected Greek texts of moderate complexity and difficulty
4. students should be able to translate and analyze Greek sentences and passages from selected Greek texts of moderate complexity and difficulty
5. students should be familiar with, and able to use effectively, lexica and other resources for the study of the Greek language and texts.
6. students should be able to write and/or word-process grammatically correct sentences in Greek
7. students should be able to discuss the cultural setting of selected Greek words and texts

GREK 2993. Workshop in Greek
Course Description
Varies

GREK 2996. Topics in Greek
Course Description
Varies

Health Education (HLED)

HLED 1110. American Heart Association Heartsaver® First Aid & CPR/AED
Course Description
A video-based, instructor-led course that teaches students critical skills needed to respond to and manage an emergency until emergency medical services arrives. Skills covered in this course include first aid; choking relief in adults, children, and infants; and what to do for sudden cardiac arrest in adults, children, and infants. Upon successful completion of the course, students will become eligible for AHA Heartsaver® First Aid & CPR/AED certification.
Student Learning Outcomes
1. Demonstrate the skills necessary to efficiently perform one (1) and two (2) rescuer CPR for adult, child, and infant victims of cardiac arrest at the Basic Life Support level.
2. Demonstrate the skills necessary to safely and effectively operate an automated external defibrillator (AED).
3. Demonstrate the skills necessary to intervene and care for an adult, child, or infant choking victim and be able to administer first-aid to this population.

HLED 1111. CPR First Aid and Safety
Course Description
This 2-week course is designed to prepare students with no or limited medical background experience and serves as the initial introduction and training in the areas of: BLS CPR training for the Health Care Provider, Heartsaver First Aid, Bloodborne Pathogens, Infection Control, Health Information Privacy and Accountability Act (HIPAA), and Fire Safety. This class prepares students for clinicals and work in the community setting. This is a 1 (one) credit hour course and is financial aid eligible.
Student Learning Outcomes
1. Demonstrate the skills necessary to efficiently perform 1 and 2-rescuer CPR for adult, child, and infant victims of cardiac arrest at the Basic Life Support level with all skills contained therein
2. Demonstrate the skills necessary to safely and effectively operate an automated external defibrillator (AED)
3. Demonstrate the skills necessary to intervene and care for an adult, child, or infant choking victim
4. Apply fundaments knowledge of the basics of First Aid per the American Heart Association's Heartsaver First Aid course:
    a. First Aid Basics
    b. Medical Emergencies
    c. Injury Emergencies
    d. Environmental Emergencies

HLED 1112. Community First Aid and CPR
Course Description
A video-based, instructor-led course that teaches students how to recognize and manage a sudden accident or illness until emergency medical services arrive. Skills covered in this course include basic first aid, cardiopulmonary resuscitation, and automated defibrillation. Upon successful completion of the course, students will receive certification in each skill area.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to ...

1. Possess the ability to recognize and react appropriately to an emergency situation.
2. To understand a citizen's role in the emergency response system.
3. Identify signs and symptoms of a breathing emergency and how to provide appropriate care.
4. Recognize the signs and symptoms of a cardiac emergency and how to provide appropriate care.
5. Identify signs and symptoms of shock and how to minimize its effects.
6. Identify signs and symptoms of sudden illness and know the proper method of care.
7. Demonstrate proficiency in the techniques of providing CPR to infant, child, and adult victims.
8. Demonstrate the ability to utilize an automated external defibrillator for an infant, child, or adult victim.
9. To meet the minimum standards for certification as established by the certifying organization.

HLED 1113. First Aid/CPR

Course Description

Not Available

Student Learning Outcomes

Not Available

HLED 1115. American Heart Association CPR

Course Description

The gross anatomy and physiology of the heart, electrical pathway, and respiratory system are discussed in preparation for CPR. Includes primary assessment and evaluation of the C-A-B sequence. Successful completion of this course will result in American Heart Association CPR certification.

Student Learning Outcomes

To train participants to save lives of victims in cardiac arrest through delivery of high-quality CPR.

HLED 1116. Survey of Health, Wellness and Public Safety

Course Description

This course will introduce the students to the programs in the School of Health, Wellness &Public Safety. Students will explore related careers through research, guest speakers and hands-on experiences in laboratory settings. Strategies to enhance college success will be explored and critical thinking will be emphasized throughout the course/

Student Learning Outcomes

1. Demonstrate familiarity with the various programs of study offered in the School of Health, Wellness & Public Safety.
2. Demonstrate familiarity with the various programs of study offered in the School of Health, Wellness & Public Safety.
3. Identify and articulate individual learning styles. Identify and apply strategies to enhance college success.
4. Research career options and identify the educational requirements and technical skills needed for success in the workplace.
5. Develop and apply critical thinking skills through experiential learning exercises.

HLED 1117. Clinical Preparation

Course Description

Designed to prepare students for their clinical experience in the health discipline they have chosen to study. The course will provide training in CPR, Blood Borne Pathogen, HIPAA, Fire Safety and First Aid. Be advised that CPR certification must be renewed every 2 years. Bloodborne Pathogen and HIPAA certifications must be renewed annually.

Student Learning Outcomes

1. Demonstrate the skills necessary to efficiently perform 1 and 2-rescuer CPR for adult, child, and infant victims of cardiac arrest at the Basic Life Support level with all skills contained therein
2. Demonstrate the skills necessary to safely and effectively operate an automated external defibrillator (AED)
3. Demonstrate the skills necessary to intervene and care for an adult, child, or infant choking victim
4. Apply fundaments knowledge of the basics of First Aid per the American Heart Association's Heartsaver First Aid course:
    a. First Aid Basics
    b. Medical Emergencies
    c. Injury Emergencies
    d. Environmental Emergencies

HLED 1120. American Red Cross First Aid & CPR/AED

Course Description

Introduces students to the fundamentals, techniques and practices of standard First Aid, Safety and CPR/AED. Upon successful completion of the course, students will become eligible for ARC or AHA certification.

Student Learning Outcomes

1. Demonstrate proficiency in providing CPR for adults, children, and infants.
2. Demonstrate proficiency in providing airway intervention for adults, children, and infants experiencing a choking episode in a conscious and unconscious victim.
3. Demonstrate ability to recognize and respond appropriately to life-threatening emergencies.
4. Demonstrate how to protect the victim and yourself in an emergency using personal protective equipment.
5. Demonstrate the proper use of an Automated External Defibrillator (AED).
6. Interpret potentially dangerous situations and respond accordingly.

HLED 1130. Concepts of Health & Wellness

Course Description

Introduces the student to the "Seven Dimensions of Wellness" (physical, emotional, intellectual, interpersonal, spiritual, environmental, and financial). This course addresses topics including fitness, exercise, nutrition, stress management and chronic lifestyle-related diseases.

Student Learning Outcomes

1. Demonstrate the ability to make evidence-based decisions regarding health and wellness practices.
2. Demonstrate the ability to engage in various forms of health-related fitness activities and discuss appropriate modifications to such activities to account for individual differences.
3. Evaluate their current behavior and differentiate between health enhancing and health limiting behaviors.
4. List some approaches to successful stress management.
5. Demonstrate knowledge of appropriate behavior change strategies.
6. Demonstrate knowledge of the "Seven Dimensions of Wellness" (physical, emotional, intellectual, interpersonal, spiritual, environmental, and financial).
7. Identify nutritional requirements and components of a healthy diet.

HLED 1132. Fundamentals of Physical Well Being

Course Description

Concepts of physical well-being; encouragement of a variety of lifetime physical activities; cognitive components of physical fitness, nutrition,
Concepts of physical well-being; encouragement of a variety of lifetime physical activities; cognitive components of physical fitness, nutrition,

stress management, disease prevention and other health-related topics.

Student Learning Outcomes

1. Understand physical health from the perspectives of both the internal body and the external body
2. Gain knowledge of nutrition, mental, and environmental health
3. Discuss the significance of physical well-being with others and provide knowledge on different health modalities
4. Getting information and implementation about the health event
5. Discuss how physical activity is related to overall health and wellness (mental, emotional, social, physical, and environmental health).

HLED 1135. Fitness and Wellness Double number use – NMHED to correct

Course Description

An introduction to current physical activity guidelines emphasizing activities that improve the five health- related components of fitness. Current principles and guidelines of fitness and nutrition are used as the foundation for designing exercise programs to meet the student's unique fitness and wellness needs.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe the most current physical activity guidelines
2. Interpret individual fitness assessment and apply the results to personal fitness goals
3. Identify and explain the six fitness principles
4. Execute a safe and effective exercise regimen
5. Demonstrate an understanding of basic nutrition as it relates to the dietary guidelines

HLED 1135. Concepts in Physical Education Double number use – NMHED to correct

Course Description

This course offers an examination of the interdisciplinary approach to the science and study of human movement. Students will receive an orientation to the wide array of fields related to physical education and exercise science. This course will explore the history, educational pathways, requirements, career opportunities, professional affiliations, certifications, and current issues and challenges within the field.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to ...

1. Develop a knowledge and understanding of various health, wellness, and fitness concepts.
2. Develop an understanding of the importance of physical education and exercise science as it relates to the prevention of obesity and chronic disease.
3. Establish workout strategies that promote measures of health such as cardiorespiratory endurance,
2. muscular strength and flexibility, balance, coordination, and personal wellbeing.
3. Recognize the benefits of physical activity and the importance to overall health and wellness.
4. Realize the impact of participation and achievement in physical activity in developing confidence, pride, and self-identity.
5. Gain an appreciation for activities that have carry over value to leisure time activities.

HLED 1140. Water Safety Instruction

Course Description

Will train students in the Water Safety Instruction program of the American Red Cross (ARC). Students will gain knowledge in teaching people how to be safe in, on or around water and teaching individuals of different ages and abilities how to swim. At the successful completion of the required skills test and written exam, students will receive and ARC Water Safety Instruction certificate.

Student Learning Outcomes

1. Demonstrate all ARC swimming strokes.
2. Explain and demonstrate water safety skills.
3. Plan, organize and execute a swimming class.
4. Demonstrate knowledge of safety and liability issues around the aquatics environment.

HLED 1150. Lifeguarding
Course Description
Provides knowledge and skills to prevent, recognize and respond to aquatic emergencies and to provide professional-level care for breathing and cardiac emergencies, injuries and sudden illnesses until emergency medical services personnel take over. At the successful completion of the required skills and written exams, students will receive an American Red Cross (ARC) Lifeguard Certification, which includes certifications in Lifeguarding, First Aid, CPR and AED.
Student Learning Outcomes
1. Demonstrate effective lifeguard skills and pass written exam.
2. Demonstrate effective victim recognition skills and pass written exam.
3. Demonstrate ARC CPR/ AED/ First Aid skills and pass written exam.

HLED 1155. Lifeguard Recertification
Course Description
Will give currently American Red Cross (ARC) certified lifeguards a review of current ARC certification content and will train students to successfully complete the knowledge and skill evaluations required for ARC recertification. At the successful completion of the required skills and written exam, students will receive an ARC Lifeguard Training certificate, which will include the certifications of ARC First Aid at the workplace and ARC CPR for the professional rescuer.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Demonstrate effective lifeguard skills
2. Demonstrate effective victim rescue skills
3. Demonstrate ARC CPR/AED skills and pass written exam.
4. Demonstrate ARC First Aid skills and pass written exam.

HLED 1160. Stress Management
Course Description
Introduces students to the pathophysiology of stress. Emphasis will be placed on the detrimental effects of stress on the body, as well as on the impact of stress-eating on the body. A variety of stress management techniques will be explored to promote enhanced well-being.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Define the physiological effects of stress on the body
2. Define the effects of stress on the immune system
3. Explain the causes and effects of stress-eating
4. Apply stress management techniques to enhance emotional, Intellectual, social and environmental wellness

HLED 1170. Fitness Concepts for Special Populations
Course Description
This course is designed to provide knowledge and skills needed to work with individuals with a variety of disabilities and the effects these disabilities have on their performance in physical education.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:

1. Explain the federal law mandating services for students with disabilities.
2. Describe the characteristics of individuals with disabilities or with special needs.
3. Identify the benefits of physical education for individuals with special populations,
4. Explain how to apply appropriate activities such as; cardiovascular endurance, strength and muscular endurance, and flexibility programs for individuals with special needs.
5. Define and explain the concept of inclusion
6. Differentiate the developmental levels of functioning from which to plan physical activities for individuals with special needs.
7. Distinguish between the indicated and contraindicated activities for a variety of disabling conditions.
8. Explain the importance and value of a positive self-concept and emotional well-being related to the diversity of special populations.
9. Write an appropriate individual educational program (IEP) with someone with special needs.
10. Describe and explain the public issues, organizations and opportunities concerning those with special needs.

HLED 1180. Introduction to Personal Training
Course Description
The purpose of this course is to instruct and improve students' knowledge on how to develop the skills and knowledge necessary to be a Personal Trainer; to begin preparation to take and pass a Personal Trainers Certification; and to develop the ability to critically think through and apply information acquired to make rational decisions associated to fitness training.
Student Learning Outcomes
Upon successful completion of the course, the student will be able to…

1. Demonstrate through examination the scientific principles involved in weight training
2. Demonstrate through examination the scientific principles involved in cardiovascular training
3. Demonstrate through examination how to develop exercise prescriptions for a vast array of clients
4. Demonstrate through examination proper techniques on all areas of fitness
5. Demonstrate through examination how to maximize client's potential
6. Demonstrate through examination how to teach clients lifelong behaviors required to maintain a healthy lifestyle

HLED 1210. Babysitter's Training Certification
Course Description
Provides youth who are planning to babysit with the knowledge and skills necessary to safely and responsibly give care for children and infants. This class will help students develop leadership skills and learn how to develop a babysitting business, keep themselves and others safe and help children behave. At the successful completion of the required skills and written exam, students will receive the American Red Cross (ARC) Babysitter's Training certificate, which includes ARC Infant/ Child First Aid and CPR.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:

1. List good babysitting. business practices and demonstrate professional work behavior
2. Demonstrate knowledge on how to care for infants and children
3. Recognize an emergency
4. Demonstrate ARC CPR skills for infant and children and. pass written exam.
5. Demonstrate ARC First Aid skills for infants and children and pass written exam.

HLED 1220. Personal Health Management
Course Description

An introduction to the major areas of information that help humans achieve, maintain, and promote positive health. Topics covered include nutrition, mental and physical health, drugs, human sexuality, prevention and control of diseases and injury, nutrition, and societal and environmental impacts on health.

Student Learning Outcomes

1. Describe and understand the dimensions of well ness
2. Develop a personal plan and skills for being healthy for life
3. Describe and understand stress, sources of stress, the relationship between stress and disease, and techniques for managing stress
4. Define and understand aspects of psychological health, psychological disorders, and psychological health strategies
5. Understand and describe various aspects of intimate relationships
6. Identify and understand male and female sexual and reproductive anatomy as well as the aspects of sexual function and behavior
7. Understand fertility, pregnancy, and childbirth
8. Identify and understand various methods of contraception
9. Identify and describe various aspects of the abortion issue
10. Identify and describe signs, symptoms, transmission and prevention of STIs
11. Describe and understand aspects of drug use and abuse
12. Understand the nature of alcohol and tobacco, problems associated with alcohol and tobacco abuse, benefits of alcohol, and effects on health
13. Describe and understand the components of a healthy diet and a personal healthy diet plan
14. Describe and understand aspects of physical fitness
15. Identify major risk factors and preventive measures for disease
16. Identify common diseases and prevention
17. Identify and describe aspects of the body's immune system and various sources of disease
18. Understand how to protect yourself from unintentional injuries and violence
19. Recognize and describe environmental health concerns
20. Think critically about the relationship between personal health and societal/environmental factors.

HLED 1225. Weight Management and Exercise

Course Description

A class designed to assist in body fat loss through adequate nutrition, physical activity, and behavior modification. Emphasis is placed on developing an exercise routine for weight management using a step counter/pedometer. Healthy ways to increase lean body mass will be explored.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe the ACSM physical activity guidelines and associated health benefits
2. Explain the impact of diet and exercise on weight management
3. Apply principles of behavior modification to weight management
4. Recall general dietary guidelines as they relate to personal nutrition
5. Effectively use a step counter/ pedometer to track physical activity
6. Explain the causes and effects or emotional eating
7. Describe ways to increase lean body mass

HLED 1510. Medical Terminology

Course Description

Prefixes, suffixes, and root words of Greek and/or Latin origin frequently used in medical terminology. Word part combination practices, pronunciation, spelling and common medical abbreviations.

Student Learning Outcomes
Not Available

HLED 1996. Topics in Health Education
Varies
Student Learning Outcomes
Varies

HLED 2110. Principles of Coaching
Course Description
Explores methods and principles of coaching individual and team sports at the secondary and postsecondary levels, including discipline techniques, curriculum planning, ethics, motivation, budget management, and public relations. The course provides an understanding of a comprehensive coaching program.
Student Learning Outcomes
1. Demonstrate mastery of skills such as budget planning, scheduling, equipment care, and transportation.
2. Describe coaching styles and principles of a positive coaching philosophy.
3. Identify coaching objectives related to player development.
4. Identify the principles of reinforcement and motivation.
5. Identify the importance of risk management, self-management, and team management.
6. Identify various challenges related to coaching and how to minimize them.

HLED 2120. Techniques of Coaching Basketball
Course Description
This course will cover all aspects of coaching ranging from coaching philosophy to player development. Detailed lists of the sections covered in this class are located in the calendar portion of the syllabus. This course is designed to build a foundation in the understanding of coaching at all levels.
Student Learning Outcomes
Upon finishing this class every student will have gained knowledge in the field of coaching basketball. This involves understanding different aspects of coaching and the processes in which successful coach's implement.

HLED 2125. Officiating of Sport
Course Description
Theories of sports officiating including rules, regulations, training and evaluation.
Student Learning Outcomes
At the conclusion of the course the student should have an appreciation of the purpose and scope of a successful sports official.

HLED 2130. Consumer Health Education
Course Description
Acquire the knowledge and skills related to consumer health. Learn how to choose wisely from the menu of health products and services that affect you and your family's health.
Student Learning Outcomes
1 Identify and describe consumer health issues
2. Develop an understanding of the importance of fitness and nutrition and how to choose their consumer resources carefully related to these topics.
3. Be able to identify and evaluate sources of consumer health information.
4. Describe how consumers can make informed decisions concerning health products and services.

5. Identify consumer laws, agencies, and strategies that protect the consumer.

HLED 2131. IM Instruction in Lifestyle Change

Course Description

Health-risk appraisals and their application to lifestyle change. Topics include weight control, stress management and the principles of exercise adherence. Emphasis is on techniques in behavior modification, motivation, teaching and counseling, and behavior as lifestyles change.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Instruct an individual using behavior modification
2. Devise strategies to promote exercise initiation and exercise adherence
3. Apply behavior modification techniques and motivational strategies to instruction in lifestyle change
4. Demonstrate instructional and counseling techniques appropriate for use in lifestyle change programs

HLED 2135. Basic Care and Prevention of Athletic Injuries

Course Description

Student will be able to identify injury and illness risk factors associated with participation in competitive athletics and learn to plan and implement all components of a comprehensive injury and illness prevention program. Students will learn the most common athletic injuries in sport and appropriate timelines for return to play. Students will get a hands-on experience in the basic skills required to prevent injuries in an athletic environment.

Student Learning Outcomes

1. Introduction to the basic components of a comprehensive athletic injury/illness prevention program.
2. Gain understanding of the body's response to trauma
3. Learn about the causes and types of common athletic injuries.
4. Discuss the legal implications of dealing with athletic injuries.
5. Introduce basic injury assessment techniques.
6. Demonstrate proper techniques and applications of taping and strapping.
7. Identify proper management of environmental sports conditions.

HLED 2140. Fitness for Health and Sport (Not on CCNS HSRC tab or on Processing Tracking Log)

Course Description

A study of fitness needs for health enhancement and sport participation. Restricted to: P E,SP M,KIN,S ED majors.

Student Learning Outcomes

1. Recognize the importance of incorporating positive fitness/wellness habits within one's lifestyle in terms of enhancing longevity, disease prevention, and overall quality of life.
2. Examine various physiological benefits and adaptations to such factors as muscular strength, muscular endurance, cardiovascular fitness, flexibility, and body composition when certain stimuli are applied to each. Assessment of these characteristics will be witnessed primarily in practical experiences within the course's laboratory settings.
3. Identify current trends and/or health patterns within society in regard to scientific findings, declination in health habits, and increases in health ailments.
4. Compare various nutritional concepts, specifically proper dietary habits and their impact on weight management aspects.
5. Describe the role of physical activity and sport specific training play on competitive athletic performance.

HLED 2150. Foundations of Health Promotion

Course Description

For those considering becoming health majors or minors in school health or community health. Exploration of the basic philosophy and fundamental practices currently utilized in health education.

Student Learning Outcomes

1. Understand the background of the profession, including basic terms, concepts and principles related to health education.
2. Know and understand significant points in history that influenced public health and health education from the Middle Ages to the present.
3. Identify, understand and explain the various philosophical foundations of health.
4. Understand and become familiar with theoretical foundations of health education.
5. Define, understand and identify principles of ethics in health education.
6. Identify and understand roles, responsibilities, certifications and advanced study in health education.
7. Describe settings for and responsibilities of health educators.
8. Identify and explain the purpose of the various health related agencies and associations.
9. Understand and engage in the appropriate steps for reviewing health related literature, and
10. Identify and understand future trends in health education.

HLED 2160. Nutrition for Exercise and Sport

Course Description

Nutrition strategy for optimal health, including disease prevention and human performance. Topics include selecting healthy foods, nutrient metabolism, energy use, ergogenic aids, herbal supplements, and holistic health science philosophy.

Student Learning Outcomes

By the end of the course, the student will:

1. Understand sport nutrition and why it is studied in the Exercise & Sport Sciences curriculum (content)
2. Understand the goals of sport nutrition (content)
3. Understand the practical application of sport nutrition (content)
4. Understand the qualitative analysis of sport nutrition as it related to the health of the person/athlete (content, critical and reflective thinking)
5. Understand the strategies for optimal health, disease prevention, and human performance (content, critical and reflective thinking)
6. Perform a 7-day caloric intake and energy expenditure analysis on him/herself. (content, critical and reflective thinking, use of technology)

HLED 2170. Motor Behavior I

Course Description

Study of basic motor behavior theories and principles; developmental skill acquisition and issues related to exercise; contextual influences on motor tasks; developmentally appropriate assessment.

Student Learning Outcomes

1. Content knowledge: A physical education teacher can
   a. Identify critical elements for basic motor skills and develop appropriate sequences.
   b. Describe and demonstrate concepts and strategies related to skill movement and physical activity.
   c. Describe and apply scientific and technological concepts of anatomy, physiology, biomechanics, motor learning, and motor development.
2. Growth and development: A physical education teacher understands how to
   a. Assess individual and group performance in order to design safe instruction that meets learner developmental needs in the psychomotor, cognitive, affective, and fitness domains.
   b. Identify, select, and implement appropriate learning/practice opportunities based on expected progressions.
3. Diverse learners: A physical education teacher plans to

a. Identify, select, and implement appropriate instruction that is sensitive to the strengths/weaknesses, multiple needs, learning styles, and experiences of learners.
b. Create a learning environment which respects and incorporates learners' personal, family, cultural, and community experiences.

4. Planning and instruction: A physical education teacher plans to
a. Design and implement learning experiences that are safe, appropriate, realistic, and relevant based on principles of effective instruction.
5. Learner assessment: A physical education teacher understands how to
a. Use a variety of formal and informal assessment techniques to assess learner performance, provide feedback, and communicate learner progress.
b. Use and interpret performance data to make informed instructional decisions.

HLED 2170L. Motor Behavior Lab

Course Description

Practical applications of basic motor behavior knowledge through a hands-on approach.

Student Learning Outcomes

1. Content knowledge: A physical education teacher can
a. Identify critical elements for basic motor skills and develop appropriate sequences.
b. Describe and demonstrate concepts and strategies related to skill movement and physical activity.
c. Describe and apply scientific and technological concepts of anatomy, physiology, biomechanics, motor learning, and motor development.
2. Growth and development: A physical education teacher understands how to
a. Assess individual and group performance in order to design safe instruction that meets learner developmental needs in the psychomotor, cognitive, affective, and fitness domains.
b. Identify, select, and implement appropriate learning/practice opportunities based on expected progressions.
3. Diverse learners: A physical education teacher plans to
a. Identify, select, and implement appropriate instruction that is sensitive to the strengths/weaknesses, multiple needs, learning styles, and experiences of learners.
b. Create a learning environment which respects and incorporates learners' personal, family, cultural, and community experiences.
4. Planning and instruction: A physical education teacher plans to
a. Design and implement learning experiences that are safe, appropriate, realistic, and relevant based on principles of effective instruction.
5. Learner assessment: A physical education teacher understands how to
a. Use a variety of formal and informal assessment techniques to assess learner performance, provide feedback, and communicate learner progress.
b. Use and interpret performance data to make informed instructional decisions.

HLED 2210. Education for AIDS Prevention

Course Description

Familiarize yourself concerning the HIV/AIDS epidemic with awareness including basic information, prevention, history, compassion, legal issues, testing, and societal implications.

Student Learning Outcomes

1. Identify and describe AIDS/ Human Immunodeficiency Virus (HIV)
2. Identify a variety of causes of AIDS
3. Describe the epidemiology and transmission of HIV
4. Develop an understanding of preventing the Transmission of HIV

5. Describe AIDS/HIV in our society
6. Become familiar with testing for HIV
7. Have an appreciation of AIDS/HIV education

HLED 2220. Consumer Health
Course Description
This course will focus on preparation in knowledge and skills related to consumers of health products and services.
Student Learning Outcomes
1. Demonstrate an ability to read, interpret, compare, and assess information relevant to consumer behavior.
2. Think critically and creatively about health and health care, products and services at individual and societal levels.
3. Increase your personal health literacy and decision-making skills.
4. Differentiate between quackery and legitimate health care providers, products, and services.
5. Explore and discuss the role of media in consumer health

HLED 2230. Observations in Health and Physical Education
Course Description
This course is designed to give the student the opportunity to experience the behind-the-scenes work of an instructor in a typical activity class as well as the actual instructing of the course so they can better understand teaching and learning in the Health and Physical Education setting. The student will select an activity course in a predetermined area of interest and assist the instructor with the responsibilities of that class.
Student Learning Outcomes
1. Construct and maintain a daily log of instructional activity.
2. Assist the instructor and engage with course as needed.
3. Write a well-developed report (2-3 page typed) of the experience of "shadowing" the instructor and the observations of teaching styles, techniques, and methods.

HLED 2320. Teaching Movement: Aquatics
Course Description
This course will introduce all types of swimming strokes including the front and back crawl, breaststroke, sidestroke, and elementary backstroke. Other skills such as fitness swimming, diving and water exercise will also be taught.
Student Learning Outcomes
At the conclusion of the course the student will be familiar with all the taught swimming and diving skills.

HLED 2321. Theory and Technique of Aquatics
Course Description
Introduction to fundamental aquatics knowledge and skills.
Student Learning Outcomes
Not Available

HLED 2325. Teaching Movement: Health and Fitness Instruction
Course Description
Rules and fundamental skills for personal training and other fitness instruction, techniques for teaching those skills, strategies for practicing skills and assessment methods appropriate to the activity.
Student Learning Outcomes
1. Explain the characteristics of various health fitness activities.
2. Identify the Health and fitness skills in cardiovascular, strengthening, flexibility, balance, and other activities.
3. Create proper goals, strategies, and methods of activity instruction for fitness and health.

4. Implement appropriate instructional cues and assessments to meet the activity goals for each learner.
5. Develop communication and management skills in teaching to encourage and supporting the learner's improvement, development, and achievement.

HLED 2330. Teaching Movement: Fitness Activities

Course Description

Teaching movement courses are designed to prepare physical educators for teaching skills related to physical activity. Classes cover rules of and fundamental skills for activity, techniques for teaching those skills, strategies for practicing skills, and assessment methods appropriate to the activity.

Student Learning Outcomes

Students will be able to:

1. A2 – model with competence basic motor skills and physical activities (e.g., weight training exercises, step aerobics, aqua aerobics);
2. A3 – describe and demonstrate concepts and strategies related to skill movement and physical activity;
3. A8 – create and use appropriate instructional cues and prompts for basic motor skills, rhythms, and physical activity;
4. D4 – use managerial and instructional routines which create smoothly functioning learning experiences;
5. D5 – organize, allocate, and manage resources (i.e., time, space, equipment, activities, and teacher/student interaction) to provide active and equitable learning experiences;
6. F6 – design and implement learning experiences that are safe, appropriate, realistic, and relevant based on principles of effective instruction; such instruction shall activate learners' prior knowledge, anticipate preconceptions, encourage exploration and problem solving, and build on skills and experiences;
7. F7 – use demonstrations and explanations to link physical activity concepts to appropriate learning experiences.

HLED 2335. Teaching Movement: Racquet Sports

Course Description

Rules of and fundamental skills for racquet sports (tennis, racquetball, etc.), techniques for teaching those skills, strategies for practicing skills and assessment methods appropriate to the activity.

Student Learning Outcomes

1. Describe the features of diverse racquet sports.
2. Identify the different racquet sports, such as pickleball, badminton, tennis, and table tennis.
3. Build practical goals, strategies, and methods of activity instruction for racquet sports.
4. Conduct appropriate instructions with cues, comments, and feedback to meet the activity goals for individuals.
5. Develop communication and interaction as well as management skills in racquet sports.

HLED 2336. Teaching Movement: Strength and Olympic Lifts

Course Description

Safety and fundamental skills for Olympic style weight training, techniques for teaching those skills, strategies for practicing skills and assessment methods appropriate to the activities.

Student Learning Outcomes

1. Clarify definitions and accurately use the standard terminology associated with strength training, powerlifting, and Olympic lifting.
2. Identify and describe the major physiological adaptations that occur in response to resistance training.
3. Explain the principles of training and their application to designing effective strength and power programs.
4. Execute the fundamental strength lifts with proper, safe, and efficient technique.
5. Develop modifications of training programs based on individual needs, goals, training history, and contraindications

HLED 2340. Teaching Movement: Team Sports

Course Description
Teaching movement courses are designed to prepare physical educators for teaching skills related to physical activity. Classes cover rules of and fundamental skills for activity, techniques for teaching those skills, strategies for practicing skills, and assessment methods appropriate to the activity.
Student Learning Outcomes
Students will be able to:

1. A2 – model with competence basic manipulative skills, strategies, and methods of various team sports and lead-up games.
2. A3 – describe and demonstrate concepts and strategies related to specific sport-related skills, including rules related to each game.
3. A8 – create and use appropriate instructional cues and prompts.
4. D4 – use managerial and instructional routines which create smoothly functioning learning experiences.
5. D5 – organize, allocate, and manage resources (i.e., time, space, equipment, activities, and teacher/student interaction) to provide active and equitable learning experiences.
6. F6 – design and implement learning experiences that are safe, appropriate, realistic, and relevant based on principles of effective instruction; such instruction shall activate learners' prior knowledge, anticipate preconceptions, encourage exploration and problem solving, and build on skills and experiences.
7. F7 – use demonstrations and explanations to link physical activity concepts to appropriate learning experiences.

HLED 2410. CPR Re-certification
Course Description
CPR Re-certification
Student Learning Outcomes
The purpose of CPR Re-certification is to instruct students on how to properly perform Cardiopulmonary Resuscitation (CPR) and use an Automated External Defibrillator (AED) to save a life if anyone goes into cardia arrest. This course instructs on how to recognize a person who has lost their pulse and there is no breathing. How to perform CPR on a victim until the ambulance arrives. How to breath for a victim, how to push on the victims chest to keep blood flowing through the body. This includes adults, children and infants. This course also teaches how recognize and help a choking victim using the Heimlich maneuver.

HLED 2510. History & Philosophy of PE
Course Description
Provides an understanding and appreciation of contemporary physical education based upon knowledge of past social forces, conditions, movements, and philosophies which have shaped the present. Writing Intensive.
Student Learning Outcomes

1. Demonstrate a comprehensive understanding of the historical evolution of physical education, recognizing the key social forces, conditions, movements, and significant philosophies that have contributed to its development
2. Critically assess the philosophical underpinnings of physical education, including the examination of various philosophical perspectives that have influenced the field's concepts and practices
3. Articulate the contemporary relevance of historical and philosophical insights in the context of present-day physical education, highlighting connections between past developments and current practices
4. Recognize and appreciate the cultural diversity that has shaped physical education throughout history, acknowledging the impact of different societies, traditions, and belief systems
5. Develop effective written communication skills by completing writing-intensive assignments, enabling students to express their ideas, analyses, and reflections coherently and persuasively

HLED 2520. Media and Public Relations

Course Description
This course provides a survey and analysis of the best practices and techniques for effective communication in sports organizations. Topics include defining, developing, and delivering an effective media campaign; using mass and social media platforms for brands and teams; and ethical and legal issues (media rights, etc.) Students will be required to develop a variety of different publications (interviews, news releases, media brochures etc.) for different types of events.
Student Learning Outcomes

1. Students will attain a basic understanding of how public relations works and has an impact on the sport world.
2. Students will learn the entire encompassing involvement that public relations has and its importance to daily life within the sporting realm.
3. To attain a greater knowledge of various aspects involving public relations.
4. The student will be exposed to the world of public relations through a sport setting, which will involve work through the eyes of sports personnel and not through the corporate avenues.

HLED 2521. Service Marketing for Fitness Program
Course Description
This course is designed to equip aspiring and current fitness professionals with the foundational skills in service marketing, self-promotion, interpersonal communication, and basic business practices critical for success in the health and fitness industry. Students will explore strategies for building strong client relationships, effective communication of value, and leveraging both digital and in-person tools to retain clients. This course includes hands-on projects, peer discussions, and practical exercises to enhance confidence, professionalism, and marking skills tailored for students in the final stages of the program or current professionals looking to gain a competitive edge for their business or practice.
Student Learning Outcomes

1. Identify and justify a target market and at least one niche clientele group using demographic and psychographic data to inform service promotion and customization.
2. Explain basic business operations, including safety and legal concerns, relevant to fitness professionals and personal training services.
3. Collect and evaluate client feedback and implement at least one documented service improvement to enhance service quality and client experience.
4. Develop a basic marketing plan and promotional strategy for health and fitness services.
5. Apply principles of service marketing excellence to propose strategies that build long-term client loyalty.
6. Design promotional materials and digital content (e.g., flyers, social media posts, email campaigns) to support client or business growth.
7. Create a structured weekly schedule that balances in-person services with marketing, programming, and administrative responsibilities of the fitness professional.
8. Create and implement client engagement and retention strategies, including personalized services, loyalty programs, and digital communication methods.
9. Demonstrate effective interpersonal and client communication skills in simulated or real client interactions.
10. Present and promote their services clearly and professionally, demonstrating confidence through verbal delivery, body language, and message clarity.

HLED 2530. Sexual Health Promotion and Education
Course Description
Learning more and talking openly about sexuality is crucial for understanding sexual behavior, the growth and development of our bodies, how we experience our gender roles, what constitutes a healthy relationship, how to have children when and

if we want to, how to communicate with our intimate partners, and how to prevent health problems and unwanted pregnancies. Specific areas that will be examined this semester include: the basic knowledge of human sexuality, including anatomical, physiological, psychosocial and ethical components, reproduction, contraception, sexually transmitted disease, and sexual health.

Student Learning Outcomes

1. Discuss current research methods in human sexuality issues relevant to principles and theories that help promote a healthy sexual life.
2. Analyze female and male sexual anatomy and physiology, conception and contraception, pregnancy, childbirth, abortion, sexual behaviors and fantasies, sexual dysfunction, sexual coercion, concepts about sexually transmitted diseases, and HIV/AIDS.
3. Evaluate developmental perspectives relevant to sexuality and childhood, adolescence, adulthood, sexuality and disability, sexuality over a lifespan, gender identity, orientation, and gender roles.
4. Compare psychosocial perspective related to the notions of loving and being loved, and the concepts of intimacy, relationships, and communication during sexual relationships.
5. Examine lase and religious and ethical perspectives on sexuality.
6. Develop an appreciation for the role evidence-based research plays in our understanding of human sexuality in a changing world.

HLED 2630. Pharmacology Education for Healthcare Professionals

Course Description

Students will be introduced to the basic principles of pharmacology. This course is aimed at those pursuing a healthcare profession, such as athletic trainers, physical therapists, etc.…, as well as future teachers and coaches.

Student Learning Outcomes

1. Students will be introduced to the basic principles of pharmacology.
2. Students will learn how medications can be safely administered through a variety of routes.
3. Students will learn what regulations are in place for medication administration and how a drug becomes approved by the controlling regulatory agency.
4. Students will learn how to manage medications in a healthcare profession setting as well as a school setting.
5. Students will learn the major drug classifications.
6. Students will understand and be able to identify the physiological effects, indications, and contraindications for selected classifications of drugs.

HLED 2990. Health Services Management Practicum

Course Description

Provides a simulated or clinical learning experience in a health care facility. The experience focuses on the practice of skills related to the laws and principles of health care, budget and finance in the healthcare setting, application of business and personnel management practices and organizational policies and procedures, technology, data management and reporting, medical record procedures, regulatory compliance, and monitoring of facilities, equipment and/or operational systems. This is an unpaid work experience with a minimum of 45 hours. Students work with the instructor on specific topics related to the program.

Student Learning Outcomes

Participate in or observe each of the following skills either through course projects/assignments or during the extern/practicum experience.

1. Practice skills related to the laws, regulations, and principles of health care.
    a. Identify situations where healthcare management principles are used.
    b. Identify important ethical, security, and privacy issues in health services

management settings.

2. Budget and finance in the healthcare setting.
    a. Describe revenue management guidelines as it applies to health services management.
3. Application of business and personnel management practices, operations, and organizational P&Ps.
    a. Describe daily activities, supervisory/management policies, and procedures.
    b. Describe management responsibilities.
4. Technology, data management, and reporting.
    a. Identify facility, local, state, or federal record retention guidelines.
5. Medical record procedures
    a. Identify methods of reviewing the release of information requests for completeness and accuracy.
    b. Identify and explain important ethical, security, and privacy issues in HIM settings.
    c. Identify facility, local, state, or federal record retention guidelines.

HLED 2996. Health Education Topics
Course Description
Varies
Student Learning Outcomes
Varies

Holistic Health and Healing Arts (HHHA)

HHHA 1110. Introduction to Healing Arts
Course Description
This entirely-online class grounds students in the foundation of Holistic Health and Healing Arts, introducing a wide range of healing modalities so that students can discover what works best for them
Student Learning Outcomes

1. Explain the philosophy and concepts of alternative, integrated, and complementary health care models.
2. Compare systems of health such as conventional and integrative medicine.
3. Explain the philosophy and concepts of Aromatherapy, Flower Essences, Homeopathy, Herbal Medicine, Acupuncture, Ayurvedic Medicine, Traditional Chinese Medicine, Neural Therapy, Naturopathic Medicine, and Nutritional Medicine.
4. Discuss the importance of a healthy and nutritious diet.
5. Explain the advantages and effects of Chiropractic, Craniosacral Therapy, Osteopathic Medicine, and Orthomolecular Therapy.
6. Study the 'Complete System of Health' of Yoga and Qigong/Tai Chi.
7. Explain the healing effects of Longevity Medicine, Sound Therapy, Hypnotherapy, Energy Medicine, and Guided Imagery.
8. Review an overview of Mind/Body Medicine.
9. Apply therapeutic modalities to common health conditions.
10. Identify career and academic pathways in the field of integrative medicine and holistic healing

HHHA 1111. Meditation for Wellness
Course Description
This course is an introductory course on meditation for health and wellness. We will explore meditation with a holistic perspective by learning some basic practices from a variety of traditions, including Taoism, Buddhism, Yoga, and Neuroscience. The aim is to help new

meditators to develop a regular practice that suits their individual needs and to create more health, wellness, awareness, concentration, and peace of mind.

Student Learning Outcomes

1. Students will be able to, in verbal quizzes in class, identify the disciplines to which various meditation techniques belong.
2. Students, assessed by instructor observation, will demonstrate their concentration through participation in guided meditative practices, which will include movement and breath techniques, and they will demonstrate respectful communication by making supportive comments to their peers in class discussion.
3. Students will be able to pinpoint the meditative techniques that work best for them and create a regular, personal meditation practice outside of class that suits their individual needs, logging these practices and journaling about them.
4. Students will share their observations in class and in their journals about how meditation has impacted their moods and general wellbeing.

HHHA 1112. Meditation, Consciousness and Self-Healing

Course Description

This course offers introduction to meditation and related practices such as mindfulness and moving contemplative forms such as yoga and chi gong, and the relationship of these processes to healing. Each class will include experiential exercises designed to illustrate stress reduction, meditation and awareness-building tools. Home practice will also be a featured component of this class. Students will track their process through the keeping of a weekly journal and will present a final project or paper as a summary of their learning throughout the semester. This class is a requirement for the HHHA Certificate

Student Learning Outcomes

1. Student Outcomes: As evaluated through weekly journal, class participation and preparation, and final project/presentations, students should be able to.
2. Demonstrate a basic but thorough understanding of the fundamental elements of meditation, mindfulness, and emotional self-healing work.
3. Demonstrate a thorough understanding of moving contemplative forms such as qigong.
4. Demonstrate a thorough understanding of walking meditation.
5. Develop an ability to sustain some degree of mindfulness in daily life.
6. Develop and sustain a consistent home practice in at least one of these areas.

HHHA 1114. Hatha Yoga

Course Description

This course, a fusion of discussions and physical yoga practices, is required for UNM Taos's 200-hour Yoga Teacher Training, though it is also open to students who are interested in deepening their own practices and not necessarily interested in teaching. The discussions, which are supported by readings of Patanjali's Yoga Sutras and B.K.S. Iyengar's Light on Yoga, illuminate the historical and philosophical traditions underpinning modern yoga. The yoga practices are meant to increase strength and flexibility while also invoking a sense of calm vitality, and students are always encouraged to work at the intensity that serves them, and to skip or modify poses as needed. Students are expected to contribute to discussions in class and on-line, teach poses to the group, take quizzes, and complete other assignments.

Student Learning Outcomes

1. Distill key philosophical concepts in online quizzes, online discussion boards, and in-class discussions.
2. Reflect their understanding of poses through written pose descriptions and through the short practices they lead.

3. Decide on the versions of poses that work best for them in our physical practices.
4. Identify the breathwork and meditative practices that are key to their own relaxation and teach these to fellow students.

HHHA 1115. Tai Chi and Qigong

Course Description

This course will provide a foundation for developing a personal daily practice of meditative movement. Students will learn to cultivate traditional Taoist virtues such as acceptance, patience, and simplicity and explore how these concepts may be applied for the benefit of society. Students will practice the basics of posture, breath, stance, and movement as they pertain to a meditative martial arts practice, in the process, gaining improved balance, strength and flexibility. They will also learn self-massage and breathing techniques for the purpose of improved health and emotional well-being. Students will be expected to perform a Qigong orientated self-care sequence and perform the Taiji form "One Patch of Moonlight," as well as to demonstrate their understanding of how Taoist principles may be useful tools in dealing with stress and conflict in real life situations.

Student Learning Outcomes

1. Be able to perform a Qigong orientated self-care sequence that includes breathing exercises, self- massage and meditation.
2. Be able to perform the Taiji form "One Patch of Moonlight.
3. Demonstrate an understanding of how Taoist principles such as calmness, equanimity and non- resistance may be useful tools in dealing with stress and conflict in real life situations.

HHHA 1116. Introduction to Massage

This course aims to develop the healing art of touch by teaching basic/Swedish massage, acupressure, and reflexology. Students will learn foundational anatomy and how it applies to massage sequencing, study the pathologies contraindicate massage, and develop body-reading skills. They will practice draping procedures that keep their clients comfortable throughout a massage. They will learn to embody effective body mechanics so they are relaxed as they offer massages. Students will demonstrate their knowledge through in-class exercises, presentations, and other assignments; their techniques will be evaluated by the instructor. This course applies to the HHHA Certificate as well as to Massage. Students must be 18 years old or have a GED to participate.

Student Learning Outcomes

1. Apply basic massage theory and technique to a massage practice.
2. Perform basic massage therapy skills.
3. Demonstrate an understanding of the varied histories of different massage and bodywork modalities.
4. Demonstrate an understanding of different career opportunities in massage and bodywork.

HHHA 1120. Yoga and Wellness

Course Description

An asana (posture) course that combines traditional yoga postures with functional movements, like sitting, standing, and walking.

Student Learning Outcomes

1. Demontrate proper alignment in asana.
2. Explain the benefits of a wellness practice.
3. Demonstrates knowledge of yoga in wellness.

HHHA 1126. Introduction to Chinese Medicine

Course Description

This course introduces students to the history, theory, and practice of Chinese Medicine. It offers an overview of the major philosophies, both ancient and modern, underpinning this approach, while encouraging students to connect these concepts to nature and to their own experiences. Students will also explore the relationship between ancient Chinese Medicine and Modern Medicine, comparing approaches to diagnosis and treatment. Through in-class participation, reflective papers, case studies, and other assignments, students will show their understanding of the paradigms of Chinese Medicine.

Student Learning Outcomes

1. Learn the basic natural principles and philosophy of Chinese Medicine and their applicability to diagnoses and treatment of disease.
2. Critically examine the above-mentioned principles and ground their own experience in concepts presented in the course.
3. Compare and contrast the relationship between Chinese Medicine and Western medicine.
4. Analyze and synthesize the paradigm and perspective of Chinese medical concepts and philosophy.s

HHHA 1127. Dreams, Visions and Art Making: Inagery as a Healing Tool

Course Description

This class takes students on a journey of self-discovery through guided meditation. The images and intuition students tap into serve as fodder for their own creative work.

Student Learning Outcomes

1. Demonstrate a basic knowledge of, and facility in, meditation, visualization and dream practices. And, will have established an ability to practice these skills on their own and apply them to their written, visual and related creative work, as well as their personal growth.
2. Know how to use awareness tools to ‘rewrite’ both unconscious and conscious beliefs, creating new pathways in the brain for happiness and success.
3. Produce a journal of dreams, visual art, and writing.

HHHA 1128 Ayurveda

Course Description

This class introduces the ancient Indian healing modality called "The Science of Life," guiding students to an awareness of their constitutions and toward a greater energetic balance.

Student Learning Outcomes

1. Explain the philosophy and concepts of Integrated Health & Wellness Coaching.
2. Define the essential components of a coaching relationship between the coach and the client.
3. Demonstrate coaching strategies and methodologies with an emphasis on positive psychology.
4. Explain the meaning of optimal health, healthy nutrition, holistic fitness, and physical activity.
5. Explain holistic therapeutic tools, with an emphasis on Integrated Medicine.
6. Identify the process for conducting a coaching session following an evidence-based model.
7. Design their future career in the field of health & wellness coaching.

HHHA 1130. Yoga Styles and Safety

Course Description

This class explores the different styles of yoga as well as ways of sequencing and cuing poses. Students show their understanding of class concepts through practice teaching.

Student Learning Outcomes

1. Distill key philosophical concepts in online quizzes, online discussion boards, and in-class discussions.
2. Reflect their understanding of poses through written pose descriptions and through the short practices they lead.
3. Decide on the versions of poses that work best for them in our physical practices.
4. Identify the breathwork and meditative practices that are key to their own relaxation and teach these to fellow students.

HHHA 1131. Yoga for Common Conditions

Course Description

This class explores the different styles of yoga as well as ways of sequencing and cuing poses. Students show their understanding of class concepts through practice teaching.

Student Learning Outcomes

1. Distill key philosophical concepts in online quizzes, online discussion boards, and in-class discussions.
2. Reflect their understanding of poses through written pose descriptions and through the short practices they lead.
3. Decide on the versions of poses that work best for them in our physical practices.
4. Identify the breathwork and meditative practices that are key to their own relaxation and teach these to fellow students.

HHHA 1146. Reiki Healing I

Course Description

This class introduces energy work, helping students to develop their sensitivity and spiritual awareness while learning hands-on and intention-based techniques that encourage bodies to heal themselves.

Student Learning Outcomes

1. Demonstrate the basic hand position of Reiki.
2. Verbalize the ethical and legal guidelines in the practice of Reiki.
3. Verbalize the principles of Reiki.
4. Demonstrate the use and limits of Reiki.

HHHA 1147. Reiki Healing II

Course Description

This course provides an overview of the energy system Reiki and review for students who already have Reiki I. Students will review the philosophy and process of Reiki as reintroduced through Dr. Mikao Usui and Hawayo Takata. Basic hand positions will be reviewed and practiced. Students will also explore their own levels of self- awareness through guided imagery exercises.

Student Learning Outcomes

1. Demonstrate the basic hand position of Reiki.
2. Cerbalize the ethical and legal guidelines in the practice of Reiki.
3. Verbalize the principles of Reiki.
4. Demonstrate the use and limits of Reiki.

HHHA 1148. Introduction to Homeopathy

Course Description

Students learn the philosophical underpinnings and practical applications of homeopathy, a complete therapeutic system of medicine that aims to promote general health and reinforce the body’s own natural healing capacity.

Student Learning Outcomes

1. Explain and demonstrate an understanding of a homeopathic First- Aid Kit with its 36 remedies and 12 Schüssler's Cell Salts.
2. Identify useful homeopathic remedies indicated for common ailments like aches and pains, fever, influenza, headache, migraine, earache, sore throat, upper respiratory disorders, coughs and colds, digestive disorders, skin and hair symptoms, and related disorders, fungal infections as well as emotional distress and sleep problems to fatigue and childhood complaints.
3. Identify acute homeopathic remedies for situations such as animal bites, bruises, burns, injuries, nosebleeds, stings, sprains and strains, heat strokes, and wounds as well as ailments that can occur during travels.
4. Explain indicated homeopathic remedies regarding emotional imbalances, like anxiety, stress, grief, and depression.
5. Explain the subject of miasms, which describe the genetic predisposition toward various weaknesses and chronic diseases.
6. Discuss a homeopathic travel kit with an emphasis on preventative health care.
7. Identify career and academic pathways in the field of homeopathy.

HHHA 1149. Introduction to Herbology

Course Description

This class unveils the life-enhancing potential of herbs. Students learn to identify herbs, their properties, and their uses.

Student Learning Outcomes

Through written assignments and in-class teaching, students will show their understanding of the use of particular herbs and how to use them.

1. Demonstrate their understand and know when to use and the possible contraindications for some herbs.
2. Demonstrate how to take care of themselves and others thru traditional herbal methods.
3. Will make an herbal field notebook for reference.
4. Identify medicinal plants and and prepare herbal tonics.

HHHA 1153. Integrated Mental Health

Course Description

The comprehensive course Integrated Mental Health facilitates students' development of skills in mental health with an understanding of holistic concepts and applications. It benefits students, present and future integrated healthcare practitioners as well as mental health professionals. This course will explore advances in the understanding of the causes of mental illness which have important implications for therapeutic uses in the treatment of depression, anxiety, dementia, Alzheimer's disease and ADHD, and other mental health problems. This course provides knowledge about mental health with an approach to holistic health and integrative mental health care.

Student Learning Outcomes

1. Discuss the biology of the brain.
2. Explain the gut/brain connection and the microbiomes.
3. Explain how the mind relates to the brain.
4. Apply practical guidelines for emotional management and how to maintain mental clarity.
5. Show their understanding of the different veins in integrated mental health through a final research paper.

HHHA 1155. Integrative Health Coaching

This class elucidates the principles and concepts of integrated health coaching, preparing students to help guide others toward wellness.

Student Learning Outcomes

1. Explain the philosophy and concepts of Integrated Health & Wellness Coaching.
2. Define the essential components of a coaching relationship between the coach and the client.
3. Demonstrate coaching strategies and methodologies with an emphasis on positive psychology.
4. Explain the meaning of optimal health, healthy nutrition, holistic fitness, and physical activity.
5. Explain holistic therapeutic tools, with an emphasis on Integrated Medicine.
6. Identify the process for conducting a coaching session following an evidence-based model.
7. Design their future career in the field of health & wellness coaching.

HHHA 2110. Sacred Ceremony: Poems, Prayers, Rituals and Practices from Around the World

Course Description

This transformational class exposes students to a variety of healing ceremonies and invites them to explore the traditions of their own cultures and families.

Student Learning Outcomes

1. Demonstrate their knowledge of ritual practices in discussions and written assignments.
2. Select and practice at-home rituals for themselves that fit their goals and derive from their cultural traditions.
3. Research and plan in-class presentations following Ingerman's guidelines for ceremonial work.
4. Explain and perform poems, prayers, and personal ceremonies in-class.

HHHA 2112. Mediation and the Creative Arts

Course Description

This course explores the ways in which contemplative forms can stimulate the creative process and open the mind to new possibilities. This class will alternate meditation, mindfulness, and sensory awareness practices with creative exercises including writing practice, drawing, and photography. It is open to everyone from beginners to experienced artists and writers, or anyone who simply wants to explore their own relationship to creativity and the creative process. Students will be expected to participate in-class meditation and art practices, as well as home experiential exercises, readings, discussions, and individual practice outside of class. They will present a final project summarizing their work over the course duration at the end of the semester.

Student Learning Outcomes

As evaluated through weekly journal, class participation and preparation, and particularly the final project/presentations, students will be able to:

1. Demonstrate a basic but thorough understanding of the fundamental elements of meditation and mindfulness practices and their relationship to the creative arts.
2. Have developed and sustained a consistent home meditation and art practice.
3. Will have developed and maintained a weekly journaling/writing practice.
4. Will be able to demonstrate their progress and development in an art form of their choosing through presentation of a final portfolio of their art work from throughout the semester up to and including the final project they present to the class.

HHHA 2162. Yoga and Anatomy Trains

Course Description

This course takes students on a fascia-first approach to yoga anatomy through discussion and practice. The text is Thomas Myers' groundbreaking and detailed Anatomy Trains.

Student Learning Outcomes

1. Demonstrate proper alignment in asana.

2. Explain key anatomy trains concepts.
3. Demonstrate their understanding of lines of fascia through a yoga practice they lead and demonstrate.

HHHA 2163. Yoga and Psychology of Chakras
Course Description
Focusing on Anodea Judith's seminal Eastern Body, Western Mind, this class addresses energetics as well as the biomechanics and alignment of the body chakra by chakra. Students will show their mastery of the concepts covered through practice teaching and reflective written assignments.
Student Learning Outcomes
1. Demonstrate the asana, pranayama, and other yoga tools that best align and benefit their body and chakra balancing needs.
2. Demonstrate a mastery of chakra philosophy through worksheets, class discussions, and other assignments.
3. Demonstrate an understanding of the effects of chakra philosophy on well-being by writing, sharing creative work, discussions, and a final project incorporating what they have learned and sharing it with others.

HHHA 2996. Holistic Health and Healing Arts Topics
Course Description
Varies
Student Learning Outcomes
Varies

Health Information Technology (HITP)

HITP 1110. Electronic Health Records
Course Description
Course Description
Current electronic health record principles, methods and procedures, and computerized medical record concepts and software applications will be introduced. Restricted to: Community Colleges only.
Student Learning Outcomes
1. Define the concept of an electronic health record.
2. Describe key issues related to privacy and security of EHRs.
3. Set up new patients, edit patient information, and export patient lists.
4. Set up new insurance companies.
5. Set up, edit and print addresses in physician, employee, pharmacy, and testing facility categories.
6. Add patients and notes to the schedule.
7. Use the Patient Tracker to track and locate a patient with the medical setting.
8. Describe the layout of an electric chart.
9. Create office visit notes.
10. Describe how to order lab, imaging, and medical tests.

HITP 1116. Computerized Business Applications
Course Description

This course provides the student with basic computer skills including the Microsoft Office Professional package. It also covers the use of database applications and the development and use of queries.

Student Learning Outcomes

1. Show ability to install software applications.
2. Create and modify a Word document.
3. Construct and format an Excel workbook.
4. Develop and customize a PowerPoint presentation.
5. Build and edit an Access database.
6. Explain various features found in the Microsoft Office Applications.
7. Describe how Microsoft Office applications may be utilized in a professional setting.
8. Discuss the uses for database applications in the healthcare industry.

HITP 1120. Health Information Introduction to Pharmacology

Course Description

Introduction to the principles of pharmacology, including drug terminology; drug origins, forms, and actions; routes of administration; as well as the use of generic name drugs, trade name drugs and categories of drugs to treat multiple and specific body systems.

Student Learning Outcomes

1. List and define the major pharmacological drugs and common generics used in healthcare.
2. Distinguish between local, systemic, therapeutic, allergic, and side effects of the drugs.
3. Describe the pharmacological action of common drugs and drug categories used to treat each body system, including usage, dosage, adverse effects, contraindications, indications, and key client education information.
4. Identify basic laws and ethics associated with pharmacological preparation and distribution.
5. Describe the principal mechanisms of actions, usage, dosage, adverse effects, contraindications, indications, and key client education information for drug classifications affecting multiple body systems. List several routes of drug administration and describe their advantages and disadvantages.

HITP 1121. Health Information Technology I

Course Description

An introduction to health technology, with topics to include: the history and regulation of medical record documentation, public health initiatives, the structure and language of healthcare delivery, reimbursement and billing practices, electronic health records and coding, patient privacy and security, and certification processes in health technology.

Student Learning Outcomes

1. Demonstrate the ability to collect and maintain health data, including data elements, data sets, and databases, in compliance with established standards and best practices.
2. Summarize career opportunities for health information management professionals.
3. Analyze documentation in the health record supports the diagnosis and reflects the patient's progress, clinical findings, and discharge status.
4. Apply policies and procedures to ensure the accuracy of health data.
5. Verify timeliness, completeness, accuracy, and appropriateness of data and data sources for patient care, management, billing reports, registries, and/or databases.
6. Identify compliance requirements througout the health information lifecycle including collection and storage, retention and desctruction, and archive methods.
7. Identify types of health care data and information such as indexes, registers, and registries.

8. Identify privacy and security strategies impacting health information.
9. Assess ethical standards of practice using the AHIMA Code of Ethics.
10. Identify the use of classification systems, nomenclatures, and reimbursement methodologies.

HITP 1125. Medical Terminology and Anatomy

Course Description

Covers the study of the language of medicine, focusing on prefixes, suffixes, word roots and their combining forms. Course includes word construction, spelling, usage, comprehension and pronunciation. Systems approach is used to present anatomy and physiology, symptomatology, pathology and diagnostic/surgical procedures.

Student Learning Outcomes

1. Identify and define word parts and combining forms.
2. Analyze and define medical terms.
3. Build medical terms for given definitions.
4. Build and analyze medical terms using word parts
5. Interpret the meaning of abbreviations.
6. Define, pronounce, and spell medical terms related to body structure, color, and oncology.
7. Build, analyze, define, pronounce, and spell the terms used to describe directions of the body
8. Define, pronounce, and spell the terms used to describe the anatomical planes and the abdominopelvic regions
9. Identify organs and structures of the integumentary, respiratory, urinary, and male/female reproductive systems.
10. Define, pronounce, and spell the disease and disorder, procedural, surgical, complimentary terms for the integumentary, respiratory, urinary, and male/female reproductive systems.
11. Identify the organs and other structures relating to pregnancy.
12. Define, pronounce, and spell the disease and disorder, procedural, surgical, and complementary terms related to obstetrics and neonatology.
13. Identify the organs and other structures of the cardiovascular, lymphatic, and digestive systems.
14. Define, pronounce, and spell the disease and disorder, procedural, surgical, and complementary terms for the cardiovascular, lymphatic, and digestive systems
15. Identify the anatomy of the ear and eye.
16. Define, pronounce, and spell the disease and disorder, procedural, surgical, and complementary terms for the ear and eye.
17. Identify the anatomy of the musculoskeletal system.
18. Define, pronounce, and spell the disease and disorder, procedural, surgical, and complimentary terms for the musculoskeletal system.
19. Identify the organs and other structures of the nervous and endocrine systems.
20. Define, pronounce, and spell the disease and disorder, procedural, surgical, and complimentary terms for the nervous and endocrine systems.
21. Apply use of technology in classroom submissions within an online setting.

HITP 1130. Pathophysiology and Pharmacology

Course Description

This course introduces students to specific disease processes in the human body including the etiology, diagnosis, and treatment of disease. A study of drug classifications, actions, therapeutic uses, adverse effects, and routes of administration is also included.

Student Learning Outcomes

1. Define key terminology relevant to human diseases and disorders.
2. Identify signs and symptoms, diagnostic tests, and treatment for common human diseases anddisorders.
3. Identify specific common human diseases and disorders.
4. Identify the effects of aging on specific body systems.
5. Identify drug classifications, actions, therapeutic uses, adverse effects, and routes of administration.

HITP 1140. Health Information Introduction to Pathophysiology

Course Description

Introduction to the nature of disease and its effect on body systems. Disease processes affecting the human body via an integrated approach to specific disease entities will be presented including a review of normal functions of the appropriate body systems. Diseases will be studied in relation to their etiology, pathology, physical signs and symptoms, diagnostic procedures, complications, treatment modalities and prognosis.

Student Learning Outcomes

1. Describe basic disease concepts, including mechanisms of disease, neoplasms, inflammation, and infection
2. Examine the basic anatomy and physiology of the body systems, etiology of various diseases and conditions, important signs and symptoms of disorders, common diagnostics, typical course and management of disorders, preventive measures, and the effects of aging
3. Identify the terminology, etiology, signs and symptoms, common diagnostics, typical course and management of disorders, and preventive measures associated with genetic and developmental disorders, childhood diseases, and mental health disorders
4. Recognize important medical terminology related to the understanding of human diseases
5. State the drug classifications and examples of medications in each class used to treat diseases, disorders and conditions related to each body system.

HITP 1150. Legal and Ethics Issues in HITP

Course Description

This course introduces the legal, regulatory, and ethical issues that affect health information. Topics include professional liability, informed consent, patient rights, legal documents, and workplace regulations. Special emphasis is placed on privacy and security requirements, release of information, HIPAA, and other federal and state compliance regulations. Students also study ethical principles that guide the management and protection of health information.

Student Learning Outcomes

1. Define legal and ethical terms related to health information.
2. Describe privacy requirements for protecting health information.
3. Describe security requirements for safeguarding electronic health records and information systems.
4. Apply legal processes and the use of legal documents in health information.
5. Identify laws and regulations that impact health information and healthcare facilities.
6. Apply federal and state legislation, CMS regulations, and accreditation standards to health information.
7. Identify compliance requirements for the health information life cycle, including retention and destruction.
8. Recognize ethical principles that guide decision-making in health information.

HITP 1170. Basic Principles of CPT-4 HCPCS Coding

Course Description

This course introduces students to CPT-4 and HCPCS coding classification systems and provides a basic understanding of CPT-4 and HCPCS principles and conventions. Students will assign procedure codes in accordance with official coding guidelines.

Student Learning Outcomes

1. Identify the structure, format, and conventions of the CPT-4 and HCPCS Level II coding systems.
2. Explain the purpose and appropriate use of CPT-4 and HCPCS codes in healthcare reimbursement and reporting.
3. Interpret clinical documentation to assign appropriate CPT-4 and HCPCS Level II codes using official guidelines.
4. Apply coding skills to outpatient and professional service scenarios in compliance with current coding standards.

HITP 1220. Introduction to Health Information Technology

Course Description

This course provides an overview of the core principles and practices in health information management. Topics include healthcare delivery systems, health record content and structure, healthcare data and documentation standards, legal and ethical responsibilities, classification and coding systems, and health information technologies. Emphasis is placed on the role of health information professionals in ensuring data quality, confidentiality, and compliance within healthcare organizations. Students will also gain hands-on experience using electronic health records to support health information tasks.

Student Learning Outcomes

1. Differentiate healthcare organizations, services, and professional roles.
2. Summarize career paths and growth opportunities in health information management professionals.
3. Apply ethical and legal principles, including legislation, licensure, privacy, security, confidentiality, and reporting requirements.
4. Identify components, tools, and processes that support the health record life cycle.
5. Identify the components, functions, and benefits of electronic health records in healthcare settings.
6. Identify types of healthcare data, including indexes, registers, and registries.
7. Identify classification systems and coding systems.
8. Demonstrate the use of electronic health records to support health information tasks.

HITP 1230. Basic Principles of ICD-10-CM ICD-10-PCS

Course Description

This course introduces students to the ICD-10-CM and ICD-10-PCS coding classification systems and provides a basic understanding of ICD-10-CM and ICD-10-PCS principles, conventions, and structures. Students will assign diagnostic and procedure codes in accordance with official coding guidelines.

Student Learning Outcomes

1. Identify the structure, format, and conventions of the ICD-10-CM and ICD-10-PCS classification systems.
2. Explain the purpose and appropriate use of ICD-10-CM and ICD-10-PCS codes in healthcare reimbursement and reporting.
3. Interpret clinical documentation to assign appropriate ICD-10-CM and ICD-10-PCS codes using official guidelines.
4. Apply coding skills to inpatient scenarios in compliance with current coding standards.

HITP 1310. Introduction to Health Insurance and Revenue Cycle Management

Course Desccription

This course introduces students to the role of health insurance payers in the healthcare reimbursement process and revenue cycle management. Students learn how coverage verification, prior authorizations, claims processing, payment posting, and appeals impact provider reimbursement. Emphasis is placed on documentation requirements, billing standards, and payer policies that support compliance and reduce financial risk.

Student Learning Outcomes

1. Identify each step of the healthcare revenue cycle and the role of health information professionals within it.
2. Explain how insurance coverage, benefits, and payer policies influence provider reimbursement.
3. Discuss the importance of verifying insurance eligibility and obtaining prior authorization according to payer requirements before services are provided.
4. Recognize the elements of a clean claim and the role of accurate documentation in claim acceptance and compliance.
5. Discuss how claims are processed by payers, including common reasons for denials and how they are handled.
6. Explain how adherence to payer rules and documentation guidelines reduces financial and legal risk.

HITP 2110. Introducation to Data Management

Course Description

Introduction to Data Management

This course introduces students to the application of health informatics and data analytics concepts to the management of health information. Topics include data dictionaries, data sets, data integrity, data management, and standards for the exchange of health information.

Student Learning Outcomes

1. Identify policies and procedures to achieve data integrity. (I.2.)
2. Describe components of data dictionaries and data sets. (I.6)
3. Apply health information concepts to the management of health information. (III.1)
4. Describe the concepts of managing data. (III.6)
5. Summarize standards for the exchange of health information. (III.7)

HITP 2120. Health Data Management Analytics and Quality

Course Description

This course introduces students to health data management, data analytics, and quality improvement practices in healthcare. Students will apply foundational statistical concepts and tools to analyze healthcare datasets, interpret findings, and support data-driven decision-making. Topics include data collection, data validation, statistical analysis, data visualization, and performance measurement. The course also covers the use of quality indicators and performance data to support care improvement and compliance, with attention to the role of health information professionals in ensuring data accuracy.

Student Learning Outcomes

1. Organize and manage healthcare data using spreadsheets, data sets, and data dictionaries.
2. Calculate and apply statistical methods to analyze healthcare data and identify trends.
3. Develop visualizations to communicate data insights and support decision-making.
4. Explain how quality indicators are used to measure performance and support care improvement.
5. Describe the role of health information professionals in data accuracy, reporting, and compliance.
6. Evaluate how data quality and reporting processes influence healthcare outcomes, organizational performance, and regulatory compliance.

7. Recognize ethical considerations when collecting, analyzing, and reporting healthcare data.

HITP 2208. Medical Office Procedures

Course Description

Introduction of current and efficient administrative medical office procedures. The emphasis will be on practical, current strategies for maintaining accurate, organized and compliant documentation.

Student Learning Outcomes

1. Identify key medical terminology as it relates to administrative medical office operations.
2. Explain the roles, responsibilities, and professional ethics of an administrative medical assistant in various healthcare setting.
3 Demonstrate effective communication skills with patients, families, proxies and healthcare professionals.
4. Apply accurate updated policy to scheduling techniques, office and records management, and billing procedures in a medical office environment.
5. Apply techniques for efficient patient, office, and administrative workflows to enhance medical office management.
6. Identify medical office technology applications that promote efficient administrative duties and accurate documentation.

HITP 2211. Basic ICD-CPT Coding

Course Description

Introduction to coding is a focus upon foundational coding knowledge, the application of current coding guidelines, health record documentation analysis, and regulatory compliance. Students will master the intricacies of ICD-10-CM, ICD-10-PCS, CPT, and HCPCS coding systems, emphasizing accuracy and adherence to official guidelines. The course delves into the critical analysis of health record documentation, ensuring it supports diagnoses, reflects patient progress, and meets legal and regulatory requirements. Students will also explore the roles of various healthcare providers and disciplines in maintaining comprehensive and accurate documentation Dental coding and 24/7 nursing facility coding methodologies are introduced. A significant portion of the curriculum is dedicated to understanding and applying domains, specifically Data Content, Structure & Standards; Informatics, Analytics and Data Use; and Compliance. This includes mastering diagnostic and procedural groupings (DRG, MS-DRG, APC, RUGS), evaluating coding accuracy, analyzing health record content, and ensuring compliance with HIPAA, The Joint Commission, and other relevant regulations. Students will also learn about physician query processes, analytics and decision support, and career opportunities in Health Information Management.

Student Learning Outcomes

1. Coding & Classification: Accurately apply & audit medical codes (ICD, CPT, HCPCS) and groupings (DRG, APC).
2. Health Records: Analyze, verify, and identify complete health records compliant with standards.
3. Analytics: Utilize data visualization and reporting for decision support.
4. Data Integrity: Ensure health data accuracy and integrity.
5. Compliance: Apply regulations (HIPAA, etc.) and support accreditation.
6. Professional Skills: Understand physician queries, provider roles, and HIM career paths.

HITP 2212. Advanced Coding and Rev Cycle Mgmt. (RM)

Course Description

This course provides an in-depth study of complex coding scenarios across multiple healthcare settings. Students will apply advanced coding principles using current coding systems (ICD-10-CM/PCS, CPT, and HCPCS), while gaining hands-on experience with an encoder and computer-assisted coding (CAC). Emphasis is placed on accurate code assignment,

documentation review, and compliance with official guidelines. Students will also explore auditing techniques to assess coding accuracy.

Student Learning Outcomes

1. Analyze medical records and clinical documentation to extract key information necessary for accurate coding and reimbursement.
2. Apply advanced coding guidelines and principles to accurately assign diagnosis and procedure codes using ICD-10-CM/PCS, CPT, and HCPCS across various healthcare settings.
3. Utilize an encoder system to support accurate and efficient assignment of medical codes.
4. Apply computer-assisted coding (CAC) tools to enhance coding accuracy and workflow efficiency.
5. Perform coding audits to assess accuracy, identify discrepancies, and recommend corrective action

HITP 2215. Intermediate Medical Coding

Course Description

Advance your coding skills with in-depth practice in ICD-10-CM, ICD-10-PCS, HCPCS, and CPT. This course tackles complex inpatient cases, explores specialized coding areas including psychiatric and dental coding, and emphasizes mastery of coding resources and modifiers. Gain a comprehensive understanding of payment methodologies and prepare for professional certification exams (CPC, CCS/CCS-P) through rigorous case studies and practical application of coding guidelines.

Student Learning Outcomes

1. Master Coding Conventions and Guidelines:
    a. Accurately apply coding conventions and guidelines for assigning and reporting medical codes.
    b. Prepare for and successfully pass a professional coding certification exam (CCA, CCS, or CCS-P) from AHIMA or (CPC) AAPC.
2. Demonstrate Proficiency in General Coding Guidelines:
    a. Effectively locate and select appropriate medical codes.
    b. Understand and apply the correct usage of symptom codes in relation to confirmed diagnoses and procedure codes.
3 Apply Critical Thinking and Justify Code Assignments:
    a. Independently determine the most accurate medical codes for given scenarios.
    b. Articulate and defend the rationale behind their code selections with clear and logical reasoning.

HITP 2219. Advanced Medical Coding and Clinical Documentation Integrity

Course Description

This advanced course is designed for experienced coders seeking to enhance their expertise in complex medical coding scenarios. Participants will delve into the intricacies of assigning accurate and compliant codes across various healthcare settings, including inpatient, outpatient, and specialized facilities such as dental coding and skilled nursing facilities coding.

Student Learning Outcomes

1. Master Advanced ICD-10-CM and ICD-10-PCS Coding:
    a. Apply advanced coding principles to complex inpatient diagnoses, procedures, and reports.
    b. Demonstrate proficiency in interpreting and utilizing official coding guidelines and conventions.
    c. Analyze and accurately code intricate surgical procedures and medical diagnoses.
2. Proficiently Utilize HCPCS and CPT Coding:
    a. Assign appropriate HCPCS and CPT codes for a wide range of medical services and procedures.
    b. Understand the nuances of coding for various specialties and services.
3. Specialized Coding Applications:

a. Accurately code dental procedures using appropriate dental coding systems.
b. Apply specialized coding knowledge to psychiatric services within a 24/7 Skilled Nursing Facility environment.

4. Clinical Documentation Integrity (CDI):
   a. Understand the importance of CDI within the coding workflow.
   b. Recognize and address documentation deficiencies that impact coding accuracy.
5. Advanced Case Study Analysis:
   a. Analyze and code complex real-world case studies, demonstrating the ability to apply advanced coding knowledge.
   b. Develop critical thinking and problem-solving skills in challenging coding scenarios.
6. Capstone Project:
   a. Complete a comprehensive capstone coding assignment, integrating all learned coding principles and demonstrating mastery of advanced coding skills.
7. Exam Preparation:
   a. Reinforce knowledge needed to pass professional coding certification exams, including CCA, CCS, CCS-P, or CPC. Gain any free certifications from coding organizations including the Pan American Health Organization, CDC, DHHS or other organizations as assigned.

HITP 2221. Medical-Legal and Quality Management

Course Description

This course provides a comprehensive study of legal and ethical principles governing health information management, with a focus on ensuring the quality of health information and its ethical use. Students will examine the medical record as a legal document, explore standards and regulations governing medical records in various settings, and analyze methods used by healthcare facilities to assure the provision of high-quality medical care. The course will cover legal processes, external forces, and legislation impacting health information, including issues such as professional liability, informed consent, privacy and security laws, the legal health record, and workplace legalities. A variety of ethical issues in health care will also be explored.

Student Learning Outcomes

1. Apply and evaluate current laws, licensure & certification standards related to health information initiatives from the national, state, local & facility levels.
2. Differentiate the roles of various providers & disciplines throughout the continuum of healthcare & respond to their information needs.
3. Adhere to the legal & regulatory requirements related to health information infrastructures.
4. Adapt policies & procedures for access & disclosure of personal health information.
5. Release and report patient-specific data to authorized users.
6. Maintain and practice using user access logs/systems to track access to & disclosure of identifiable patient data.
7. Apply & promote ethical standards of practice.
8. Use specialized software in the completion of HIM processes such as record tracking, release of information, coding, grouping, registries, billing, quality improvement & imaging.
9. Abstract & report data for facility-wide quality management & performance improvement programs.
10. Analyze clinical data to identify trends that demonstrate quality, safety & effectiveness of healthcare.
11. Apply the fundamentals of team leadership.
12. Participate in and work in teams & committees.
13. Conduct orientation & training programs.
14. Monitor & report staffing levels & productivity standards for health information functions.

15. Use tools & techniques to monitor, report & improve processes.
16. Comply with local, state & federal laboratory or regulations.
17. Apply both legal and ethical terms used in health care.
18. Identify legal processes and the use of legal documents impacting health information and health care.
19. Identify the specific laws pertinent to health care professionals and facilities.
20. Apply privacy strategies to health information.
21. Apply security strategies to health information.
22. Identify compliance requirements throughout the health information life cycle, including record retention and destruction.
23. Identify health care ethical principles as they apply to all providers of care and services.

HITP 2232. Healthcare Reimbursement Methodologies

Course Description

This course covers policies, regulations, and standards as they pertain to revenue cycle management. Reimbursement methodologies and regulatory requirements pertaining to the prospective payment system and nomenclatures, health care insurers and contracts, case-mix, and conducting patient billing activities for a variety of healthcare organizations are included. Also included, are basic instructions for filing various types of insurances.

Student Learning Outcomes

Identify policies and strategies to achieve data integrity (I.3)

2 Identify compliance of health record content within the health organization (I.4.)
3. Explain the use of classification systems, clinical vocabularies, and nomenclatures. (I.5)
4. Utilize technologies for health information management. (III.2.)
5. Summarize regulatory requirements and reimbursement methodologies (IV.3)
6. Validate assignment of diagnostic and procedural codes and groupings in accordance with official guidelines (IV.1)
7. Describe components of revenue cycle management and clinical documentation improvement (IV. 2)
8. Determine diagnosis and procedure codes according to official guidelines (IV.1 RM)
9. Evaluate revenue cycle processes. (IV.2 RM)
10. Evaluate compliance with regulatory requirements and reimbursement methodologies. (IV.3 RM)
11. Demonstrate compliance with external forces. (V.2)
12. Identify the impact of policy on health care. (V.4)
13. Utilize financial management processes. (VI.5)
14. Assess ethical standards of practice. (VI.7)

HITP 2240. Health Information Quality Management

Course Description

Introduction to basic concepts of quality and performance improvement as they apply to health record systems and the health care industry. Introduction to quality assessment, requirements of licensing, accreditation, and fiscal considerations.

Student Learning Outcomes

1. Identify responsibilities in medical facilities to develop leadership skills for success.
2. Abstract data for facility-wide quality management & performance improvement programs.
3. Identify techniques utilized by quality improvement organizations to evaluate and track medical treatments and services to improve the health information performance.
4. Demonstrate an understanding of healthcare compliance, patient consent, documentation, reporting, the creation of policies and procedures, and fundamentals of the Human Resource Department.

5. Explain the purpose and procedure of audits, regulatory agencies, marketing, and compliance in the health care setting.

HITP 2245. Health Statistics & Quality Improvement

Course Description

This course covers healthcare statistical methods and quality improvement concepts, tools and techniques. Students will gain a working knowledge of definitions, formulas, data collection and computation methods to determine standard rates, percentages, and averages for health care data. Vital statistics and reportable diseases and conditions are included. Quality assessment and improvement standards including requirements of licensing, accrediting, fiscal, and other regulatory agencies will be presented.

Student Learning Outcomes

1. Apply health informatics concepts to the management of health information. (III.1.)
2. Utilize technologies for health information management. (III.2.)
3. Calculate statistics for health care operations. (III.3.)
4. Report health care data through graphical representations. (III.4.)
5. Identify research methodologies used in health care. (III.5.)
6. Recognize compliance with external forces. (V.2.)
7. Identify the components of risk management related to health information management. (V.3.)
8. Identify data-driven performance improvement techniques for decision making. (VI.4.)

HITP 2248. Medical Coding I

Course Description

Comprehensive overview of the fundamentals, coding conventions, and principles of ICD-10-CM/PCS diagnostic and procedure codes.

Student Learning Outcomes

1. Identify diagnoses, procedures, services while applying coding manual and regulatory agency guidelines to patient medical records.
2. Identify legalities when managing patient records and reimbursement policies.
3. Analyze and assign accurate diagnostic codes based on a review of patient records.
4. Identify the role of a medical coder in various healthcare settings, including ethical considerations and workplace conduct.
5. Demonstrate proper medical record management techniques.

HITP 2258. Medical Coding II

Course Description

Comprehensive overview of the fundamentals, coding conventions, and principles of CPT and HCPCS diagnostic and procedure codes.

Student Learning Outcomes

1. Identify procedures and services in various healthcare settings while applying coding manual and regulatory agency guidelines to patient medical records.
2. Identify legalities when managing patient records and reimbursement policies.
3. Analyze and assign accurate procedural codes based on a review of patient records.
4. Identify the role of a medical coder in various healthcare settings, including ethical considerations and workplace conduct.

5. Demonstrate proper medical record management techniques.

HITP 2263. Health Information Supervision

Course Description

Focuses on basic management functions using examples and situations specific to health information. Communication, motivation, budgeting, job analysis, recruitment, discipline, teamwork, committee representation and federal/state laws regarding personnel management are discussed and emphasized. Quality assessment and improvement standards and requirements of licensing, accrediting, fiscal and other regulatory agencies are presented.

Student Learning Outcomes

1. Apply knowledge-based research techniques (such as library, MEDLINE, web-based) and common software applications (such as word processing, spreadsheet, database, graphics) to facilitate learning outcomes. (II.A.1).
2. Apply current laws, accreditation, licensure and certification standards to HI initiatives from national, state, local and facility levels (includes HIPAA, ARRA). (III.A.2).
3. Describe the organization of healthcare systems. Healthcare organization's structure and operation, organization of healthcare delivery system in the United States. (III.A).
4. Assess professional and practice-related ethical issues as they pertain to healthcare management.
5. Apply and promote ethical standards of practice. (III.B.5).
6. Identify and explain effective strategic leadership, management skills required in different healthcare settings. (V.A).
7. Define organizational behavior. (V.A.).
8. Explain the principles of management as they relate to the healthcare industry.
9. Apply the fundamentals of team leadership. (V.A.1).
10. Incorporate effective communication and interpersonal skills. (V.A) (5).
11. Propose and incorporate workflow and process monitors. (V.A.1).
12. Incorporate team leadership concepts and techniques.
13. Participate in work teams and committees. (V.A.2).
14. Compare and contrast orientation and training in the healthcare industry (including content, delivery, and media). (V.A.3).
15. Monitor and report staffing levels and productivity standards for health information functions. (V.A.5).
16. Use of quality improvement tools and techniques to monitor, report and improve processes. (V.A.6).
17. Have knowledge of local, state and federal labor regulations compliance. (V.A.7).
18. Construct organizational plans and budgets (including, a minimum framework, levels, and responsibilities).
19. Assess fundamentals of the budgeting process. (V.B.1) (4).
20. Monitor coding and revenue cycle processes. (V.B.3) (4).
21. Recommend cost-saving and efficient means of achieving work processes and goals.
22. Monitor and order supplies needed for work processes. (V.B.23) (V.B.4) (4).
23. Contribute to work plans, policies, procedures, and resource requisitions in relation to job functions. (V.B.5) (4).

HITP 2260. Organizational Management and Leadership

Course Description

This course introduces students to organizational management and leadership skills necessary for supervisory roles in health care. Topics include leadership principles, organizational change, human resource strategies, workforce training, financial and performance management, and cultural diversity. Students will explore strategies for recruitment, staffing, productivity,

budgeting, and resource allocation, while developing skills to promote professionalism, diversity, and effective team performance.

Student Learning Outcomes

1. Define organizational management and leadership, including key functions and traditional theories.
2. Demonstrate fundamental leadership skills in health care settings.
3. Analyze the impact of organizational change on health care operations.
4. Apply strategies for workforce recruitment, selection, retention, and training.
5. Implement workforce and financial management principles, including staffing levels, productivity standards, budgeting, and resource allocation, to health care operations.
6. Promote a culture of diversity and professionalism in health care teams and interprofessional relationships.

HITP 2268. Health Information Systems

Course Description

Overview of health data management, work planning, and organization principles; an introdution to health care information systems; and review of the fundamentals of information systems for managerial, clinical support, and information systems.

Student Learning Outcomes

1. Identify the role of health information management in the healthcare system.
2. Identify the ethical and legal challenges in health information management.
3. Describe health care data and information management systems used in healthcare organizations.
4. Maintain data security in accordance with all laws and regulations.
5. Evaluate compliance with regulatory requirements and reimbursement methodologies.
6. Explain the role of the health information technician (HIT) in systems planning and development.
7. Identify the different types of health service organizations and delivery systems.

HITP 2272. Coding Seminar

Course Description

This course prepares prospective coding certificate graduates for the CCA certification exam (AHIMA). Job interview skills, resume writing, and professionalism will be emphasized.

Student Learning Outcomes

1. Describe the characteristics and behaviors that demonstrate a commitment to one's job.
2. Discuss the importance of character, values, morals, ethics, and other personal traits.
3. Outline the elements of effective interpersonal relationships, teamwork, and working well with others.
4. Explain how personal image and personal skills affect one's professional reputation.
5. Participate in employment preparation and readiness activities.
6. Utilize practice quizzes as a study tool for CCA certification exam preparation.
7. Develop a study plan for the CCA certification exam.

HITP 2288. Medical Insurance Billing

Course Description

Comprehensive overview of the insurance concepts and applications required for successfully and accurately completing and submitting insurance claims and reimbursement processes for various insurance carriers, both private and government, will be emphasized.

Student Learning Outcomes

1. Comprehend the ramifications of a breach of confidentiality regarding patient information.

2. Follow requirements of different insurance carriers—i.e., HMO's Independent Provider Organizations, Medicare, Medicaid, Workmen's Compensation—in processing patient claims.
3. Process insurance claim form an initial patient visit through receipt of payment from insurance carrier.
4. Match ICD-10 code to appropriate diagnosis.
5. Analyze patient records to construct the insurance claim form and apply the requirements of different insurance carriers to that claim.
6. Classify and explain the various reimbursement systems and how they impact billing.
7. Identify issues of fraud and abuse and follow ethical principles by reviewing inpatient and outpatient cases.

HITP 2310. Advanced Revenu Cycle Management

Course Description

This course provides a comprehensive examination of the healthcare revenue cycle, emphasizing the integration of advanced practices in clinical documentation integrity, compliant physician query processes, claims auditing, and denial management. Students will engage in critical analysis of reimbursement methodologies and regulatory compliance. Through in-depth case studies, advanced chart reviews, and practical application of encoder tools, learners will refine their coding accuracy and gain proficiency in navigating complex revenue cycle scenarios to support optimal financial and clinical outcomes.

Student Learning Outcomes

1. Analyze the components of the healthcare revenue cycle to determine their impact on organizational financial performance and compliance.
2. Construct compliant physician queries to address and resolve clinical documentation deficiencies.
3. Apply advanced coding principles using encoder tools and case analysis to ensure accurate, complete, and compliant code assignment.
4. Evaluate claims for accuracy and compliance through auditing practices, identifying common billing errors and documentation issues.
5. Evaluate the root causes of denials to formulate effective appeal strategies in accordance with payer guidelines and regulatory requirements.
6. Interpret and apply reimbursement methodologies across various healthcare settings, including inpatient, outpatient, and professional services.
7. Utilize knowledge of documentation, coding, and billing practices to propose improvements that enhance revenue cycle efficiency and data integrity.

HITP 2320. Health IT and Emerging Technologies

Course Description

This course explores how health information technologies and emerging digital tools are used to manage health information and support patient care. Students will examine electronic health records (EHRs), data exchange and interoperability, cybersecurity, and mobile health applications. The course also introduces technologies such as artificial intelligence and clinical decision support systems, with a focus on how these tools enhance documentation, communication, and healthcare operations.

Student Learning Outcomes

1. Describe the core functions of electronic health record (EHR) systems and their role in supporting patient care, documentation, and operations.
2. Explain how interoperability standards and technologies support the secure exchange of health information across healthcare systems.

3. Identify common cybersecurity threats in healthcare and describe strategies used to protect electronic health information.
4. Discuss how mobile health applications, artificial intelligence, and other emerging technologies are used to enhance clinical decision-making and healthcare delivery.
5. Interpret examples of clinical decision support tools and describe their impact on patient safety, communication, and workflow.
6. Explain how digital health technologies influence healthcare operations, communication, and patient engagement.

HITP 2986. Health Information Technology Seminar
Course Description
This course prepares HIT graduates for the RHIT certification exam (AHIMA). Students will also share professional practice experiences. Job interview skills, resume writing, and professionalism will be emphasized.
Student Learning Outcomes
1. Describe the characteristics and behaviors that demonstrate a commitment to one's job.
2. Discuss the importance of character, values, morals, ethics, and other personal traits.
3. Outline the elements of effective interpersonal relationships, teamwork, and working well with others.
4. Explain how personal image and personal skills affect one's professional reputation.
5. Participate in employment preparation and other professional networking activities.
6. Develop a resume and cover letter.

HITP 2990. Professional Practice Experience HITP
Course Description
Varies
Student Learning Outcomes
Varies

HITP 2996. Health Information Technology Topics
Course Description
Varies
Student Learning Outcomes
Varies

HITP 2998. Health Information Technology Internship
Course Description
Varies
Student Learning Outcomes
Varies

Health Science (HLSC)

HLSC 1030. Medical Terminology
Course Description

This course involves an integrated anatomy and physiology system approach for teaching medical terminology to the health care student. This assists students in learning terminology and to incorporate this knowledge through an understanding of anatomy and physiology. In this way, students discover the purpose and use of medical terms they are learning and using. This course assist students who are learning medical terminology for the first time as well as providing a broader knowledge of terminology as related to anatomy and physiology.

Student Learning Outcomes

1. Identify the basic elements of medical terminology, the organization of the body, and the word root, suffix, and prefix by passing quizzes and exams with a score of 70% or better.
2. Correctly spell and identify singular and plural endings for medical terms with 70% accuracy on written quizzes and exams.
3. Identify the medical terms used for each body system by scoring 70% or better on quizzes and exams.

HLSC 1110. Introduction to Health Science

Course Description

This course introduces students to various health professions and the common knowledge, skills, and professional dispositions necessary for success in the health care field. Students will explore basic concepts in anatomy and physiology, medical terminology, human growth and development, cultural diversity, legal and ethical issues, components of the health care delivery system, roles and responsibilities of health care professionals and educational requirements as they relate to the health care field.

Student Learning Outcomes

1. Discuss differences between early and current beliefs on the causes and treatment of disease.
2. Identify major events in the history of health care.
3. Identify major historical individuals and how they improved health care.
4. Describe the types of private and government agencies and the health care services they offer.
5. Compare the basic principles of different health insurance plans.
6. Differentiate certification, registration and licensure.
7. Differentiate educational requirements for associate's, bachelor's and master's degrees.
8. Match different health care careers and their major duties.
9. Discuss the standards of professional appearance as they apply to uniforms, shoes, nails, hairs, jewelry, makeup and body art.
10. Create a character profile of a successful health care professional.
11. Identify factors that interfere with communication.
12. Explain the importance of listening, nonverbal behavior, reporting and recording in the communication process.
13. Define and explain HIPAA and how legal regulations apply to health care records.
14. List basic rules of ethics for health care professionals.
15. Explain professional standards and codes of ethics.
16. Define malpractice, negligence, invasion of privacy, and privileged communication.
17. Identify basic medical abbreviations.
18. Identify the major organs systems in the body, their function and how they interrelate.
19. Briefly explain the seven main life stages and the major developments that occur in each.
20. Describe the five stages of grieving.
21. List two purposes of hospice care.
22. Differentiate between culture, ethnicity and race.
23. Identify major ethnic groups in the United States.
24. Describe how bias, prejudice or stereotypes can negatively affect communication and describe ways of avoiding this.
25. Differentiate between a nuclear family and an extended family.

26. Identify ways in which language, personal space, touching, eye contact and gestures are affected by cultural diversity.
27. Compare and contrast the diverse health beliefs of different ethnic/cultural groups.
28. List ways a health care professional can show respect for cultural diversity and religious beliefs.
29. Differentiate between the myths and facts of the physical and psychosocial aspects of aging.
30. List the six nutrients essential for life.
31. Identify the three energy nutrients and their associated caloric values.
32. Define the difference between “overweight” and “overfat”.
33. Define the twelve general diet recommendations for health.
34. List the dietary goal percentages of carbohydrates (complex versus refined), fats (saturated versus unsaturated), and protein as recommended by the Senate Select Committee on Nutrition and Human Needs.
35. List the four fat-soluble vitamins.
36. Match the appropriate fat-soluble vitamin with its major role and symptom of toxicity.
37. List the nine water-soluble vitamins.
38. Match the appropriate water-soluble vitamin with its major role and symptom of toxicity.
39. Match the macro and trace minerals with their major role in the body.
40. Describe current computer applications being used in today’s health care system.
41. Describe proper body mechanics as they are related to various health care duties.
42. Recognize various safety standards including OSHA and the Bloodborne Pathogen Standard.
43. List the components of the chain of infections.
44. Differentiate between antisepsis, disinfection and sterilization.
45. List the four main vital signs and identify normative values.
46. Acquire a national recognized certification in first aid and adult CPR/AED.
47. Identify key professional dispositions and explain why employers consider them to be essential skills.

HLSC 1111. Intro to Health Careers

Course Description

This course is for students who are interested in a career in health care or health related field. You will be introduced to a variety of health care professions, determine the educational path required for your chosen field, and explore the personal qualities and professional skills essential for all health care providers.

Student Learning Outcomes

1. Describe the skills, educational requirements, and responsibilities of specific health careers.
2. Discuss the personal and professional qualities needed in health careers.
3. Explore the personal qualities, professional skills, and values necessary for success as a health care professional.

HLSC 1210. Medical Career Exploration

Course Description

Medical Career Exploration examines the goals of health care and explores the requirements of medical educational programs. This course provides research into educational requirements, desired personal characteristics, job satisfaction, career advancement, employment opportunities, and work hours. Topics discussed are socioeconomics, current and future health care trends, ethical issues, and pharmaceutical use in medicine. Hands-on experience at a medical facility is included as part of the course.

Student Learning Outcomes

1. The student will identify the required credentials and education for a career in medicine by researching and writing a paper with a minimum score of 75%.
2. The student will discuss socio-economic issues, health care trends, ethical issues, disease process, and medication use in health care demonstrated by scoring 75% or higher on a related paper.

3. The student will demonstrate communication skills in the clinical area by effectively communicating with other health care professionals demonstrated by scoring 75% or higher on a performance evaluation.

HLSC 1310. Dental Career Exploration

Course Description

Dental Career Exploration examines the goals of dentistry and explores the requirements of dental educational programs. This course provides research into career descriptions, career role, educational ladder, safety issues, and career opportunities for dentists. Hands-on experience at a dental clinic is included as part of the course.

Student Learning Outcomes

1. The student will identify the required credentials and education for a career in dentistry by researching and writing a paper with a minimum score of 75%.
2. The student will discuss socio-economic issues, health care trends, ethical issues, disease process, and medication use in health care demonstrated by scoring 75% or higher on a related paper.
3. The student will demonstrate communication skills in the clinical area by effectively communicating with other health care professionals demonstrated by scoring 75% or higher on a performance evaluation.

HLSC 1410. Veterinary Career Exploration

Course Description

Veterinary Career Exploration examines the goals of veterinary medicine and explores the requirements of veterinarian educational programs. This course provides research into career descriptions, career role, educational ladder, safety issues, and career opportunities for veterinarians. Hands-on experience at a veterinary clinic is included as part of the course.

Student Learning Outcomes

1. The student will identify the goals of veterinary medicine and will describe the careers in this field by passing a written exam with a minimum score of 75%.
2. The student will identify the required education and credentials for a career in veterinary medicine by researching and writing a paper and by passing a written exam with a minimum score of 75%
3. The student will explain how general academic subjects and workplace skills apply specifically to careers in veterinary medicine.
4. The student will demonstrate knowledge of safety skills used in veterinary medicine by passing a written and skill exam with a minimum score of 75%.
5. The student will demonstrate communication skills in the clinical area by effectively communicating with employees and animal owners and by passing a written exam with a minimum of 75%.

HLSC 1510. Medical Terminology

Course Description

The study and understanding of medical terminology as it relates to diseases, their causes and effects, and the terminology used in various medical specialties. This course includes word construction, spelling, comprehension, pronunciation, application and abbreviations.

Student Learning Outcomes

1. Apply prefixes, suffixes, and combining forms to build medical terms.
2. Identify terms for body regions, planes, cavities and membranes.
3. Select medical terminology names, locations and functions of the major organs of the body systems.
4. Identify the medical terms associated with major disease processes and procedures.
5. Demonstrate correct medical linguistic skills.

HLSC 1515. Advanced Medical Terminology

Course Description

Builds upon the concepts covered in HLSC 1510 providing greater understanding of how to properly use and apply medical terminology used in the various health fields. Medical terminology associated with the body system's anatomy and physiology, diagnostic and therapeutic procedures, pharmacology, and abbreviations will be emphasized.

Student Learning Outcomes

1. State the derivation of most healthcare terms.
2. Build medical terms to their accurate plural form.
3. Identify appropriate terms to the associated organization, position, and direction of the body.
4. Identify appropriate terms to the associated organ systems of the body.

HLSC 1520. Anatomy and Physiology for Health Careers

Course Description

This introductory course explores the fundamental principles of human anatomy and physiology. Providing a foundation in essential concepts of the function and structure of the human body for those interested in health careers.

Student Learning Outcomes

1. Describe the structural organization of the human body.
2. Identify the major body systems and their key functions.
3. Use anatomical terminology to describe body planes, directions, regions, and cavities.
4. Identify the major organs within each body system and their anatomical locations.
5. Explain how the structure and function of the human body change across the lifespan.
6. Identify common pathologies, signs, symptoms, etiology, diagnostic measures, and treatment modalities related to each body system.

HLSC 1521. Basic Body Structure and Function I

Course Description

An introductory course in anatomy and physiology for students from diverse backgrounds and varying levels of educational preparation. No prior knowledge of biology or chemistry is assumed.

Student Learning Outcomes

1. Define the characteristics of life, hierarchy of organization within the human body, and basic terminology used in anatomy.
2. Outline cell structure, function, and diversity as well as the functional characteristics of human tissues.
3. Identify and describe the skeletal, muscular, nervous, and respiratory components of the human body.
4. Explain the function and anatomy of the integumentary, cardiovascular, urinary, and digestive systems.
5. Summarize the physiological roles of the integumentary, skeletal, muscular, nervous, cardiovascular, respiratory, digestive, and urinary systems in maintaining equilibrium (homeostasis, metabolism, and nutrition) within the human body.

HLSC 1525. Human Growth and Development

Course Description

This course presents theories of biological, cognitive and psychosocial development across the life span. This course will stress the application of these concepts to the health care field.

Student Leaning Outcomes

1. Understand the influences of sociocultural, environmental, spiritual, and religious factors on the developing person.
2. Recognize the family as the basic unit for the developing person

3. Relate the theories of human development and the basic principles of growth and development.
4. Identify health assessment and health promotion strategies for each developmental stage of the lifecycle in the following manner:
    a. Family development and relationships
    b. Physiologic concepts including physical characteristics with emphasis on physical assessment, nutrition, exercise, rest, sleep, play and leisure.
    c. Psychosocial concepts involving cognitive, emotional and moral/spiritual development and health promotion and individual developmental tasks.
    d. Health care and nursing application in addition to common health problems and special concerns.

HLSC 1530. Pathophysiology for Health Sciences

Course Description

Introduction to the nature of disease and its effect on body systems. Disease processes affecting the human body via an integrated approach to specific disease entities will be presented including a review of normal functions of the appropriate body systems. Diseases will be studied in relation to their etiology, pathology, physical signs and symptoms, diagnostic procedures, complications, treatment modalities and prognosis.

Student Learning Outcomes

1. Describe basic disease concepts, including mechanisms of disease, neoplasms, inflammation, and infection.
2. Examine the basic anatomy and physiology of the body systems, etiology of various diseases and conditions, important signs and symptoms of disorders, common diagnostics, typical course and management of disorders, preventive measures, and the effects of aging.
3. Identify the terminology, etiology, signs and symptoms, common diagnostics, typical course and management of disorders, and preventive measures associated with genetic and developmental disorders, childhood diseases, and mental health disorders.
4. Recognize important medical terminology related to the understanding of human diseases.
5. State the drug classifications and examples of medications in each class used to treat diseases, disorders and conditions related to each body system.

HLSC 1540. Legal and Ethical Issues in Health Care

Course Description

This course examines the legal and ethical considerations inherent in healthcare delivery. Students will analyze real-world case studies to understand the impact of professional actions on patients, families, and employers, while exploring the legal and ethical responsibilities of healthcare professionals, researchers, and policymakers.

Student Learning Outcomes

1. Analyze and apply ethical principles and legal frameworks to complex healthcare scenarios, including those related to patient rights, professional liability, and emerging bioethical issues.
2. Describe and evaluate the structure and function of the U.S. legal system as it pertains to healthcare professionals, including key legal terms, doctrines, and workplace regulations.
3. Discuss and address contemporary issues in healthcare, such as patient confidentiality, record keeping in the digital age, and the national healthcare crisis, within an ethical and legal context.
4. Explain the significance of integrating scientific knowledge, clinical expertise, and professional conduct in healthcare practice, and analyze how societal values and public law shape healthcare decision-making.
5. Apply theories and methods of ethical decision-making to resolve dilemmas encountered in healthcare practice, including understanding the interplay of public and private law.

HLSC 1545. Medical Ethics and Law

Course Description

This course covers legal relationships of healthcare providers and patients, contractual agreements, professional liability, malpractice, medical practice acts, informed consent, and medical-ethical issues. Emphasis is placed on making sound decisions when faced with ethical or legal dilemmas, legal terms, professional attitudes, and the principles and basic concepts of ethics and laws involved in providing medical services.

Student Learning Outcomes

1. Define key terms.
2. Discuss the code of ethics and the responsibilities of healthcare providers.
3. Identify legal relationships between healthcare providers and patients.
4. Discuss different types of licensure, registration, and certification of the allied health team.
5. Discuss the establishment and maintenance of medical records.
6. Outline proper ethical guidelines for sharing patient medical information.
7. Discuss the importance and the impact of HIPPA on medical records.
8. Define conditions for reporting physical abuse.
9. Compare consent and informed consent.
10. Differentiate between living will, advance directive, and the durable power of attorney for health care.
11. Describe the role of physicians and health professionals in death and dying situations.

Health, Medicine and Human Values (HMHV)

HMHV 1110. Social Contours of Health

Course Description

Seminar exploring ethnic, economic, demographic and geographic variables impacting public health in New Mexico and the Southwest. Topics include access to health care; local alternatives to medical treatment; cultural definitions of health, illness and death.

Student Learning Outcomes

By the end of the semester, you will be able to:

1. Identify, summarize, and apply sociological theories and concepts to the analysis of contemporary medical problems
2. Identify and theorize about the social causes of illness in society.
3. Explain how social inequalities – race, class and gender – affect the distribution, understanding and experience of illness.
4. Effectively communicate the above outcomes in verbal and written forms.

HMHV 1150. Foundations of Science

Course Description

The Foundations of Science course is designed for YOU (students transitioning from high school to college who plan on going into the life sciences with a special emphasis on medicine). The course takes an active learning approach that challenges you to apply your knowledge and work in small groups to solve real-world problems. The goal is to not only teach science, but to also train future scientists and medical doctors who will become life-long learners and leaders in their discipline and community. You will gain a background in fundamental science content, the tools of science and the tools for learning science. This will be accomplished using issues of debate related to science and medicine. Embedded in the discussion will be the fundamental science concepts necessary for explaining the issues. Students will also spend a significant amount of time developing study skills and life skills that will help them to achieve their goals in college and beyond.

Student Learning Outcomes

At the end of the course, you will be able to:

1. Demonstrate personal responsibility/self-authorship
    a. Take responsibility for your actions/learning/life
    b. Explain their preferred learning styles and how these relate to academic success
    c. Develop a set of personal study strategies based on the findings of cognitive science
2. Experience the value of understanding others, interacting with others and collaborating
    a. Value diversity and working as a group
    b. Share and value what makes you unique
    c. Communicate and collaborate with others
3. Reaffirm your passion for science and a career in medicine
    a. Develop habits of mind to stay motivated
    b. Develop strategies to overcome roadblocks
    c. Explain basic scientific concepts to a non-expert in a way that enhances their decision-making.
4. Develop a toolkit to solve real-world problems in science.
    a. Learn appropriate vocabulary and develop skills in experimental methodology and mathematical manipulations to solve problems
    b. Design an experiment to solve a problem in a scientific manner
    c. Develop the thinking process for scientific investigation
    d. Learn how to read science textbooks and articles
    e. Evaluate arguments based on analysis of scientific data.
    f. Show/convince others that science competency is both interesting and relevant for all citizens.
    g. Marry scientific concepts learned in the course to a relevant context.
    h. Place important public issues such as the environment, energy and medical advances in a scientific context.
    i. Make informed decisions regarding health, safety, resources and the environment.

HMHV 2110. Literature, Fine Arts, and Medicine

Course Description

Seminar exploring links among health, illness, literature and the arts, encompassing a diverse range of forms and genres. Topics include representations of health, illness, and medicine; arts as therapy; medical history in literature and art.

Student Learning Outcomes

1. Through the reading of published stories, students will join the conversation about issues in medicine for which even the most respected experts disagree, problems for which there are no good or clear answers, problems which students will someday wrestle with themselves as physicians.
2. Students will grow in their understanding of, and their empathy for, the challenges and rewards faced by caregivers and patients.
3. Students will learn to analyze published essays and books, breaking down complex works of art into distinct parts, so that they may understand how these different components might be arranged when they write their own essays.
4. Students will learn to read powerfully: improving their verbal reasoning and reading comprehension skills through analytical and reflective writing.
5. Through the writing of their own stories, about a problem that they care about personally, students will gain a complex understanding of the many steps and stages necessary to create a meaningful piece of writing.
6. Students will create a complex, meaningful personal essay which emerges from their own wisdom about health, healing and medicine, which they bring from their families and communities, culture and life experience.
7. Students will grow in their skill and confidence as writers, which will help them succeed throughout their academic lives and beyond.
8. Students will grow in their understanding of their own motivations to be a caregiver.

HMHV 2993. Transition Workshop into BA/MD Program

Course Description

This course will give students in the BA/MD program an opportunity to discuss coursework, study skills, and interests required to successfully prepare for a health/medical career in rural or underserved area in New Mexico. It will offer the tools necessary to navigate the university system, the BA/MD program, as well as other enrichment activities.

Student Learning Outcomes

1. Students will develop knowledge, skills and attitudes that lead toward lifelong learning and enhance life opportunities
2. Students will be introduced to faculty members
3. Students will learn skills necessary to manage time, enhance leadership qualities, and participate in class activities
4. Students will become more familiar with the BA/MD program, policies, and support services offered by the University

Human Rights (HMRT)

HMRT 2110. Introduction to Human Rights

Course Description

The course provides a basic introduction to international human rights including conceptual foundations and key theoretical debates with attention paid to current events that are shaping justice and human rights. It provides a variety of disciplinary perspectives on human rights including philosophy, socio-legal studies, political science, law, and criminology. The combination of understanding the conceptual foundations, key theoretical debates, and thematic areas in human rights will enable students to understand the evolution of human rights regimes and their influence in society today.

1. Understand key theoretical debates on human rights.
2. Describe historical underpinnings of international human rights.
3. Identify different foundational texts in the evolution of justice and human rights.
4. Understand how social and historical contexts have impacted beliefs on justice, rights, and human dignity.
5. Explain thematic areas in international human rights.
6. Understand regional and global multilateral mechanisms in human rights law.
7. Critically examine the efficacy of international human rights.
8. Understand the social, political, economic and other factors that have molded human rights.
9. Gain a better understanding of your own worldviews and opinions towards justice and human rights.

HMRT 2125. International Rights of Children

Course Description

This course examines the history, sources and role of international rights of children in the protection of children worldwide. It provides an understanding of the international legal regulatory framework implemented to address the rights of children. The course is broken into two parts. The first part covers the history and development of international rights of children and explores key concepts from children's rights theory. This section also covers current international legal mechanisms in place to protect children worldwide. The second section covers issues in the protection of children's rights. Issues covered include (but not limited to): child labor, child trafficking, armed conflict, war, the right to truth. Lastly the course covers the future of international rights of children.

Student Learning Outcomes

1. Understand the history and origins of child protection in international human rights law.
2. Identify key concepts of children's rights theory in international human rights law.
3. Describe major international human rights law established for the protection of children.
4. Understand how international rights of children addresses issues in child exploitation and abuse related to child labor and child trafficking.
5. Explain the rights of children during armed conflict and war.
6. Identify the rights of children to the right to truth.
7. Critically examine the what the future of international rights of children entails when incorporating an understanding of human rights law.
8. Gain a better understanding of your own worldviews and opinions towards the international rights of children.

HMRT 2175. Border Justice and Human Rights

This course examines the human rights implications of border practices, migration/refugee patterns, and environmental degradation set amidst increasingly contentious territorial politics, complex population movements, and record-shattering climate change events. Additionally, the course provides context to justice along the U.S/Mexico border as seen through a human rights lens. It examines issues of border conflict around the world. It also explores the history of the U.S.-Mexico border and examines historical and contemporary human rights issues impacting the region. The course is broken into three parts. The first part introduces the history of the U.S.-Mexico border region. This includes exploring the history of border drawing and its impact on populations living along the border. The second section examines the long history of violence along borders. It examines how border identities develop over time in the midst of violence, community building, and the contested spaces of borders. It also explores how drugs, immigration, and free trade has impacted border regions. Lastly after understanding the history and issues of violence along borders, the last section explores human rights issues of border regions. This section examines how social movements and human rights advocacy have impacted the protection of rights of communities living along borders.

Student Learning Outcomes

1. Explain the historical evolution of border drawing along the U.S.-Mexico border and throughout the world.
2. Identify how colonization impacted the development of border regions.
3. Understand how identity is informed by migration and belonging in the U.S.-Mexico border region.
4. Describe how increased border enforcement and immigrant criminalization has impacted the U.S.-Mexico border region.
5. Understand how drug wars, human trafficking and gendered violence impacts the U.S.-Mexico border.
6. Describe past and current human rights violations taking place along the U.S.-Mexico border and at other borders throughout the world.
7. Understand how transnational advocacy groups and other social movements advocating for human rights have impacted border regions.
8. Gain a better understanding of your own worldviews and opinions towards the U.S.-Mexico border and human rights.

Heating, Ventilation, and Air Conditioning (HVAC)

HVAC 1105. Introduction to Fundamentals of Refrigeration

Course Description

Demonstrate the ability to perform HVAC/R Technician duties in a safe manner. Accurately perform HVAC/R related calculations and interpret results for the purpose of diagnosis, repair, or installation of HVAC/R equipment and systems. Professionally communicate in oral and written forms. Demonstrate the use of current industry techniques including tools, testing equipment, manufacturers' apps. Determine the appropriate ethical action that should occur in a given circumstance. Work effectively in a team-based environment. Possess a mastery of the refrigeration cycle and its components

Student Learning Outcomes

1. Demonstrate working knowledge of heat theory, safety, and temperature/pressure/volume gas laws as they relate to the refrigeration cycle.
2. Identify and demonstrate heat transfer by conduction, convection, and radiation and describe their effects on temperature change using latent and sensible heat transfer.
3. Safely demonstrate the refrigeration process using system components such as compressors, condensers, evaporators, metering (expansion) devices and accessories.
4. Demonstrate a knowledge of industry standards for system installation of equipment and tubing and safely demonstrate tubing operations including cutting, reaming, flaring, swaging, and brazing.

HVAC 1110. Introduction to Fundamentals of Electricity

Course Description

Introduces the student to electrical theory, generation and distribution, OHM's Law, series and parallel circuits, A/C / D/C, practical applications and electrical safety.

Student Learning Outcomes

1. Demonstrate the use of industry practices: safety, use of lockout/tagout, diagnosing , repairing, and installing electrical components in HVAC/R equipment and systems
2. Use of test instruments both digital and analog
3. Comprehension of wiring diagrams, proper use of tools specific to the industry
4. Mastery of electrical theory and circuits, single-phase and three-phase applications
5. Use of symbols and terminology, and the ability to communicate professionally in oral and written forms.

HVAC 1111. EPA Clean Air

Course Description

Refrigerant certification preparation to include basics of refrigerant bearing equipment, ozone depletion and the new legislation, technician categories covered and the certification examination.

Student Learning Outcomes

1. Use oral and written communication effectively
2. Perform accurate conversions between various units and calculations related to air conditioning and refrigeration.

HVAC 1115. Refrigeration Management

Course Description

This course will stress the accepted practices and proper procedures to handle refrigerate materials. The course will educate the student in the proper procedures for safely conducting leak detection, evacuation, recovery and charging systems. Students will prepare for and take the Universal CFC Refrigerant Handlers Certification exam, which is required by the EPA.

This certification is required to handle and service all types of refrigeration equipment containing and using refrigerants. Students must pass the exam with a 71% and be able to successfully perform evacuation, recovery, and charging of systems for Type 1, Type 2 and Type 3 procedures.

Student Learning Outcomes

1. Demonstrate knowledge of accepted practices and procedures of refrigerant handling used in the air conditioning and refrigeration industry.
2. Properly and safely service refrigeration equipment used for comfort air conditioning and refrigeration preservation processes.
3. Maintain refrigeration systems including leak and pressure testing, evacuation, and system recharging.
4. Be able to explain the application of relief devices on pressurizes fluids.
5. Be able to successfully identify equipment.

HVAC 1120. Motors & Controls

Course Description

Covers primary and control circuits in various applications, troubleshooting and components. Emphasizes attention to motors and starting devices.

Student Learning Outcomes

1. Demonstrate industry safety practices.
2. Use electrical meters appropriately to test and identify voltages in both single- and three-phase systems.
3. Size and test fuses/breakers and safely replace them.
4. Define or explain the use or function of contactor/starters.
5. Demonstrate proper use of test equipment for testing contactor/starters and motors.
6. Measure compressor windings and operating amps and determine if they are correct.
7. Demonstrate proper use of a megohmmeter and check winding insulation.
8. Use a continuity tester to determine whether an open circuit or dead short exists.
9. Define and explain the use or function of capacitors; calculate capacitance.
10. Use a capacitance meter to measure run and start capacitors.
11. Determine the electrical characteristics of both series and parallel circuits.
12. Explain electric motor theory (i.e., magnetism, electromotive force, etc.)
13. Explain operation and application of capacitor start induction run motor (CSIR), capacitor start capacitor run motor (CSCR), permanent split capacitor (PSC), and shaded pole.
14. Describe starting components associated with single-phase motors.
15. Explain the significance of power factor.
16. Determine physical conditions of motor bearings and rotors.
17. Draw and explain the starting and run circuit for a single-phase CSIR compressor using a current type-starting relay, the starting and run circuit for a single-phase CSCR compressor using a potential starting relay, and draw and explain the circuit for a PSC compressor.
18. dentify the fundamentals types of electric motors, listing basic characteristics.
19. Describe the basic application where these motors are used in the industry.
20. Be able to wire and troubleshoot the motors starting devices used in the industry.
21. Apply principles of fundamental motor diagrams as they relate to motor controls and overload protection.
22. Demonstrate procedures used for troubleshooting motors and control components.
23. Apply principles of electricity using rating, and current to describe service factors.
24. Define capacitance and identify it's use as it relates to motors.

HVAC 1125. Electrical/Mechanical Controls I

Course Description

Applications of basic electrical and mechanical controls. Reading and drawing diagrams of simple refrigerating equipment. Safe use of testing equipment.

Student Learning Outcomes

1. Use oral communication and written effectively, and work effectively as a team.
2. Troubleshoot refrigeration systems.
3. Perform accurate conversions between various units
4. Perform accurate calculations related to refrigeration,=
5. Determine the appropriate ethical action that should occur in a given circumstance
6. Perform technician duties safely, service refrigeration systems, repair refrigeration systems, maintain refrigeration systems.

HVAC 1130. Code and Safety I

Course Description

Investigates code requirements and safety practices related to refrigeration. Code and safety searches are an integral part of the course.

Student Learning Outcomes

1. Locate safety rules and regulations in the work place.
2. Defined safety rules and regulations to the Air Conditioning, Heating, and Refrigeration Industry.
3. Defined local and state codes enforcement agencies.
4. Locate safety rules and regulation which apply to our environment, and our personal every day life.

HVAC 1140. Application of Refrigeration Systems

Course Description

A comprehensive study of commercial refrigeration systems and their relationship to the Heating, Ventilation, Air Conditioning and Refrigeration (HVAC-R) industry. Students will study commercial control systems, switching logic and troubleshooting.

Student Learning Outcomes

1. Compare commercial refrigeration (food preservation and process operations) cycles of different temperature ranges to the comfort zone and temperature range used for comfort air conditioning systems
2. Describe the need for and operation of different types of control systems
3. Diagnose problems with systems operation
4. Identify and apply proper temperature ranges for commercial refrigeration

HVAC 1233. Professtional Development and Leadership

Course Description

As members and/or officers of various student professional organizations, students gain experience in leadership, team building, and community service. Students competing in Skills USA are required to register for the course. May be repeated up to 6 credits. Consent of Instructor required. Restricted to: HVAC majors. Graded: S/U Grading (S/U, Audit). Restricted to: Community Colleges only.

Student Learning Outcomes

1. Professionally communicate in oral and written forms.

2. Work effectively in a team-based environment.
3. Demonstrate the ability to perform HVAC/R Technician duties in a safe manner.

HVAC 1235. AC and Controls

Course Description

Covers installation, service and maintenance of air conditioning and heat pump systems.

Student Learning Outcomes

1. Interprets model numbers and nomenclature so as to ascertain application and capacity of any listed component or system.
2. Evaluate system performance based on information obtained from readings and manufacturer's performance charts, using gauges, electrical test equipment and thermometers above listed systems for proper operation, and make repairs as needed.
3. Describe the steps necessary to:
    a. assemble, pipe together, pressure-up, leak check, evacuate, charge, and operate any listed system,
    b. recover, recycle, and reclaim refrigerant, services in layman terms,
    c. connect wiring, check, integrity of electrical components, and gather electrical data for any listed system,
    d. ohm out motor, and
    e. the ""hopscotch"" method of troubleshooting.
4. Utilize schematics and wiring charts in order to determine operating characteristics and ampacity of listed systems.
5. Demonstrates the proper and safe use of tools and instruments such as clamp on amp meter, Digital Multimeter, Capacitor Checker, recording and electronic thermometers,
   trouble shoot electrical problems using the ""hopscotch"" method, removing and replacing any component on the above listed systems.
6. Use a schematic and electrical test instruments to trouble shoot and repair labs systems such as A/C Heat Pump, Roof Top combo and Split system.

HVAC 1238. Intrroduction to Sheet Metal Fabrication

Course Description

Introduction to sheet metal fabrication to include hands-on practical laboratory applications, cutting and forming procedures, identifying types and gauges. Design and layout techniques. Prerequisite: OETS 118 or equivalent math or consent of instructor.

Student Learning Outcomes

1. Professionally communicate in oral and written forms.
2. Accurately perform HVAC/R related calculations and interpret results for the purpose of diagnosis, repair, or installation of HVAC/R equipment and systems.
3. Determine the appropriate ethical action that should occur in a given circumstance.
4. Demonstrate the ability to perform HVAC/R Technician duties in a safe manner.
5. Demonstrate sheet metal design and layout techniques to fabricate ducting and associated fittings accurately.

HVAC 1240. Air Flow Principles/Duct Design

Course Description

Calculate and design duct systems for residential and commercial buildings. Determine indoor air quality and identify correct methods for providing quality air. Learn how to install a complete duct system and gas furnaces, air handlers, etc. Knowledge on different tools used for fabrication ductwork

Student Learning Outcomes

1. Calculate the needed heating and cooling loads for residential and light commercial buildings.
2. Design a basic ductwork system used to heat and cool and meet indoor air quality standards.
3. Install and maintain a basic ductwork system.
4. Apply air properties to properly equip and balance airflow in a ductwork system.

HVAC 1243. Residential Air Comditioning Systems

Course Description

Applications and types of equipment used in comfort cooling. Preventive maintenance, service, and repairs common to evaporative coolers and refrigerated air conditioning systems. Air properties and psychometrics.

Student Learning Outcomes

1. Use oral and written communication effectively
2. Work effectively as a team
2. Troubleshoot heating systems accurately perform conversions between various units
3. Accurately perform calculations related to heating systems
4. Determine the appropriate ethical action that should occur in a given circumstance.

HVAC 1244. Commercial Air Conditioning and Heating Systems

Course Description

Covers troubleshooting mechanical and electrical problems associated with HVAC equipment in commercial buildings. Includes gas, electric, and heat pump systems. only.

Student Learning Outcomes

1. Professionally communicate in oral and written forms.
2. Work effectively in a team-based environment.
3. Accurately perform HVAC/R related calculations and interpret results for the purpose of diagnosis, repair, or installation of HVAC/R equipment and systems.
4. Demonstrate the use of current industry techniques and equipment to diagnose HVAC/R systems and perform appropriate repairs.
5. Demonstrate the use of current industry techniques and equipment to perform the service and maintenance of HVAC/R equipment and systems.
6. Demonstrate the use of current industry techniques and equipment in the installation of HVAC/R equipment and systems.
7. Determine the appropriate ethical action that should occur in a given circumstance.
8. Demonstrate the ability to perform HVAC/R Technician duties in a safe manner.

HVAC 1245. Gas Heating Furnaces

Course Description

The study and application of gas furnaces including installation, operation, service, maintenance and controls. The students will learn about natural gas, and electric heating systems used for residential and/or light commercial heating systems including furnace and boiler package systems and alternative heating sources. Highlights electrical and electronic trouble shooting, service, maintenance, repair and replacement of residential and light commercial heating systems.
The course will include service, maintenance and troubleshooting.

Student Learning Outcomes

1. Identify the components and describe the sequence of operation of gas furnaces.

2. Use proper procedures to troubleshoot gas furnaces.
3. Describe and demonstrate proper procedures for conducting service calls and delivering customer service.
4. Demonstrate the use of proper procedures for preventative maintenance of gas furnaces.
5. Describe how gas pressure is measured, what unit of measurement is used and what is the purpose of a water manometer, gas combustion, four means of proof flame, why there is a fan-on and fan-off delay, flue gas venting systems, gas piping adjacent to the gas valve, calculate the correct orifice size, derate sea level input for altitude, calculate the correct gas pipe sizing for a one-story building with several gas appliances.

HVAC 1250. Heat Pump Systems

Course Description

The student will acquire the knowledge to identify heat pump components, explain the sequence of operation, and develop troubleshooting skills for both mechanical and electrical issues associated with reverse cycle refrigeration systems used in comfort heating and cooling, a while utilizing the proper tools and equipment.

Student Learning Outcomes

1. Professionally communicate in oral and writen forms.
2. Work effectively in a team-bassed environment.
3. Accurately perform HVAC/R related calculations and interpret results for the purpose of diagnosis, repair, or installation of HVAC/R equipment and systems.
4. Demonstrate the use of current industry techniques and equipment to diagnose HVAC/R systems and perform appropriate repairs.
5. Demonstrate the use of current industry techniques and equipment to perform the service and maintenance of HVAC/R equipment and systems.
6. Demonstrate the use of current industry techniques and equipment in the installation of HVAC/R equipment and systems.
7. Determine the appropriate ethical action that should occur in each circumstance.

HVAC 1321. Advanced Hydronic Systems and Controls I

Course Description

Covers the types of hydronic systems, pumps and valves used in the industry; the sizing, selection and internal construction, disassembling, assembling and measurement of mechanical hydronic systems. Stresses pneumatic, electronic and electric control systems with computer interfacing.

Student Learning Outcomes

1. Discuss, identify and demonstrate safety principles as applied to pumps and valves, types of pumps used in hydronic systems, types of valves used in hydronic systems, internal components of pumps and valves, remote communications, monitoring and alarming, energy accounting.
2. Draw pneumatic circuits that conform to standard industry logic and symbols using appropriate system control loops and controls, a ladder diagram of a given system, and pneumatic piping systems.
3. Define and explain the use or function of water valves, zone valves input and output, pneumatic components and the performance o each component.
4. Demonstrate proper use of test equipment for testing the following items, adjusting water flow for proper gallons per minute (GPM) andtemperature difference,disassemble and reassemble a variety of pumps and valves,checking amp draws, troubleshooting of faulty pneumatic controls, identifying and draw all electrical symbols used by the HVACR industry in diagrams, use of air pressure test instruments to diagnose pneumatic troubles and correct system performance, measuring air valves for heating/cooling applications, and measuring operability of various actuators.

5. Select appropriate pumps and valves for heating/cooling applications, and plot various system curve pump graphs.
6. Interpret pneumatic diagrams into sequence of operation, detailed instructions for wiring circuits.
7. Develop a methodical routine for pneumatic troubleshooting, a methodical routine for electrical switches that are mechanical connected to pneumatic controls.
8. Analyze electrical performance of each component.
9. Describe electrical mechanical sequence from electrical schematic, the type of pneumatic thermostats, describe pneumatic/mechanical sequences of operation of control systems

HVAC 1323. Wtr/Stm Gen Con II

Course Description

Covers types, design, construction of typical systems, sizing and controls of units. Covers advanced building controls using interfaced operating monitor equipment.

Student Learning Outcomes

1. Demonstrate boiler operation procedures needed for safe start up and shutdown of boilers, proper use of test equipment for items such as expansion and condensate tanks, heat recovery systems, water flow rates, the operation of a central system, boiler-piping systems and appropriately diagnose steam and hot water boiler hydronic problems.
2. Perform combustion test and adjust to optimum efficiency, safety shutdown check, draft measurement, combustion, combustion controls and instruments.
3. Interpret detailed instructions for wiring circuits, electrical diagrams into sequence of operation, and draw electrical circuits that conform to standard industry logic and symbols using appropriate loads and controls, a ladder diagram of a given system, electrical test instruments to diagnose electrical troubles and correct electrical system performance.
4. Explain the basic functions for the following components:
   Air distribution used for boiler operation, the definition of EMS, the difference between EMS and Direct Digital Controls (DDC), wiring methods, peripheral devices,input and output, the requirements for system control such as electronic DDC, pneumatic, building systems, the role computers are now playing in the HVACR industry, the history of DDC systems, central processors, electrical mechanical sequence from electrical schematic, remote communications,monitoring and alarming, the definition of DDC systems, draw electrical symbols used by the HVACR industry in diagrams, and list the principle parts of a programmable controller.
5. Determine gas burner capacity using boiler capacity, the correct water treatment for safe boiler operation, adjust water flow for proper gallons per minute (GPM) and temperature difference.
6. Develop a methodical routine for electrical troubleshooting.
7. Analyze electrical performance of each component.
8. Measure resistive values of various sensors and the operability of various boards.

HVAC 1325. Chilled Water Systems

Course Description

Emphasizes commercial and industrial chilled water systems.

Student Learning Outcomes

1. Demonstrate use of tools and test equipment and conform to all applicable governmental regulations (EPA).
2. Demonstrate how to check compressor lubrication oil.
3. Determine actual system flows using the appropriate test equipment.
4. Perform leak check and make repairs.

5. Record system data for the mechanical system operation.
6. Develop a systematic way to diagnose system problems and demonstrate method.
7. Identify and describe possible causes of failure and how to eliminate causes.
8. Identify the components of a liquid chiller.
9. Explain the methods of chiller capacity controls.
10. Discuss the application of liquid chillers.
11. Describe the differences in design and construction between direct expansions versus indirect expansion evaporators.
12. Explain the operation of liquid chillers.
13. Discuss the problems associated with liquid chillers.
14. Measure the temperature drop through the chiller.
15. Determine Btu/h capacity of water chillers using flow rate and Delta ΔT method
16. Calculate voltage imbalance & temperature rise on three-phase systems.

HVAC 1330. Contols III

Course Description

Covers the operations and configurations of Building Automated Controls (BACs) for Heating, Ventilating, Air Conditioning and Refrigeration (HVAC/R) Energy Management. During the course students will apply theory, knowledge and techniques to actual projects using computer based BACs.

Student Learning Outcomes

1. Use electrical test instruments to diagnose electrical troubles and correct electrical system performance.
2. Identify the requirements for system control: Electronic DDC as compared to Pneumatic control system to control building systems.
3. Explain the role computers are used in the HVACR industry.
4. Measure resistive value of various sensors.
5. Measure operability of various boards.
6. Explain the definitions of EMS.
7. Explain the difference between EMS and Direct Digital Controls (DDC).
8. Explain wiring methods, peripheral devices, and input and output.
9. Discuss remote communications, monitoring and alarming.
10. List the principal parts of a programmable controller
11. Explain the history of DDC systems.
12. Discuss the definition of DDC systems.
13. Explain central processors.

HVAC 1335. Code and Safety II

Course Description

Investigates code requirements and safety practices related to refrigeration. Code and safety searches are an integral part of this course.

Student Learning Outcomes

1. Locate specific data in the Uniform Mechanical Code Book.
2. Interpret the Uniform Mechanical Code data as it applies to ACHR applications.
3. Demonstrate safety procedures as applied to the industry."

HVAC 1338. NM Mech Codes: HVAC

Course Description

Principles and regulations developed for HVAC, sheet metal, and plumbing occupations to include terminology, ventilation air supply, exhaust systems, duct systems, combustion air, chimneys and vents, boilers/water heaters, refrigeration, panel and hydronic panel heating, fuel gas piping, storage systems, solar systems, and workmanship standards

Student Learning Outcomes

1 Use oral and writte communication effectively.
2 Accurately perform conversions between various units.
3. Determine the appropriate ethical action that should occur in a given circumstance.

HVAC 1405. Refrigeration Application

Course Description

Covers system design, accessories, performance characteristics and problem diagnosis.

Student Learning Outcomes

1. Demonstrate industry safety practices.
2. Discuss the following personal traits:
    a. honesty, integrity, reliability, responsibility, accountability, character, conflict resolution, teamwork, ethics, pride, initiative, and time management.
3. Measure pressures with the refrigeration gauge manifold.
4. Evacuate systems with a two-stage vacuum pump.
5. Measure vacuums with a thermostat vacuum gauge, temperatures with electronic thermometers, and measure temperatures with bimetal, thermocouple or glass stem thermometers.
6. Charge a system with a charging cylinder and electronic charging scale.
7. Check for leaks with nitrogen with a trace of R-22 using an electronic leak detector, halide torch and soap bubbles; make repairs.
8. Compare readings to manufacturers specifications and determine refrigerant amount and type.
9. Describe heat exchange techniques.
10. Explain capacities of refrigerant lines, effects of refrigerant velocity in lines, explain equivalent lengths of piping for fittings, explain use of traps in vapor risers, and explain the effects of pressure drop in the refrigeration system.
11. Calculate amount of refrigerant in lines.
12 Size piping using manufacturers installation instructions.
13. Calculate pressure drop in liquid line risers.
14. Identify the proper operation of unloaders.
15. Replace a dryer/filter.
16. Adjust a crankcase pressure-regulating valve; an evaporation pressure-regulating valve.
17 Explain the operation of components used for the pump down cycle and the application and operation of evaporator pressure regulating (EPR) valves.
18. Discuss the problems associated with compressors operating at lower evaporator temperatures, decreased volumetric efficiency, higher discharge gas temperatures, potential overloading during initial temperature pull-down.
19. Explain methods of head pressure control system and heat reclaim.
20. Select a compressor for a particular capacity and temperature range.
21. Check systems superheat and subcooling and display case temperatures and determine if system is operating properly.

22. Set compressor cut-in and cut-out for a special product.
23. Adjust head pressure controls for proper operation.
24 Check operation of equipment for automatic pump down.
25. Define the different types of multiplexed systems and explain their applications.
26. Describe how compressors are connected and describe the physical construction of a common rack system.
27. Define the different types of multiplexed systems and describe the advantages of controlling capacity using a multiplexed system.
28. Describe how compressors are cycled on and off.
29. Explain:
    a. he problems associated with multiplexed systems, oil control, crankcase pressure balance, and contamination due to a compressor burnout,
    b. the cascade system,
    c. function and placement of check and hot gas valves.
    d. advantages of multiple evaporator systems.
    e. the difference in compressor requirements for a multiplexed system,
    f. differences between even and uneven parallel systems,
    g. the operation of the defrost cycle.
30. Check staging of compressors with changes in system load and individual evaporator temperatures and adjust EPR valves accordingly.
31. Identify the capacity of compressors used on multiplexed systems by referring to manufacturers specifications.
32. Set super heat on Perkins systems.
33. Layout piping diagram of multiple evaporator systems showing placement of required low side components (TXVs, EPRs, check valves, etc.) and high side required components.
34. Describe:
    a. the types and applications of dispensing freezers.
    b. the design and function of dispensing freezers.
    c. the maintenance requirements of dispensing freezers including sanitary requirements.
35. Clean and set-up a dispensing freezer and check its operation.
36. Demonstrate the operation of low ambient head pressure control systems (fan cycling, dampers and flooding of condenser).
37. Adjust pressure control to lowest temperature.
38. Explain the operation of the oil separation and the oils return to the compressor crankcase and oil level (balance) of multi-parallel compressor applications.
39. Establish the pressure control settings.
40. Charge system with refrigerant on liquid side as well as suction side.
41. Test and adjust all operating and safety controls.
42. Develop systematic way to diagnose system problems and demonstrate method.
43 Determine system air flow requirements, and actual system air flow.

HVAC 1407. Ice Makers

Course Description

The student will identify styles of ice makers, explain the sequence of operation and learn how to troubleshoot faulty components: service, install, and maintain these systems.

Student Learning Outcomes

1. Understand safety guidelines when working on ice machines.
2. Knowledge of code requirements.
3. Knowledge of volt-ohm meter.
4. Interpreting wire diagrams and replacement of components.

HVAC 1410. Commercial Refrigeration Systems

Course Description

This course covers the installation, service, and maintenance of a wide range of refrigeration equipment, including reach-in and walk-in coolers, ice machines, ice cream machines, as well as mechanical and electrical troubleshooting of refrigeration systems. Encompassing the service and maintenance of commercial refrigeration equipment, which involves procedures for evacuation and charging, understanding electrical diagrams, and handling compressors and related accessories.

Student Learning Outcomes

1. Read and interpret technical data to design refrigeration systems, applying knowledge of model numbers, nomenclature, and pressure/enthalpy charts.
2. Calculate heat gain, recommend appropriate systems, and incorporate secondary refrigerants into design decisions.
3. Size, assemble, pipe, test, and operate refrigeration systems. They will troubleshoot and resolve issues in parallel systems and demonstrate proficiency in starting up and explaining lab systems.
4. Diagnose and repair refrigerant side, air side, and electrical issues, evaluate system performance using data, and troubleshoot defrost timers and safety controls.
5. Perform maintenance tasks, including leak checks, repairs, recovery, evacuation, and recharging of systems, while ensuring compliance with industry standards.
6. Practice safe HVAC/R techniques, communicate effectively in oral and written formats, collaborate in teams, and demonstrate ethical and professional conduct in their work.

HVAC 1415. Industrial Refrigeration

Course Description

Coverage of the fundamentals, design, installation, and operation of industrial refrigeration systems. Also examined in depth are: Multistate Systems–Commonly used in low-temperature systems. Compressors, Evaporators, and Condensers–Essential system components. Piping, Vessels, Valves and Refrigerant Controls.

Student Learning Outcomes

1. Explain the difference between a direct expansion (DX) and flooded evaporator.
2. Distinguish the different type of metering device is used for different refrigeration application.
3. Discuss the functions of refrigerant oil in a refrigeration system and the methods of cooling the refrigerant oil.
4. List the advantages of pumped liquid recirculation systems and secondary coolant systems.
5. Describe two-stage refrigeration system and cascade system.
6. Distinguish the difference between air-cooled, water-cooled, and evaporative condensers.
7. Discuss the various types of defrost methods.
8. Plot the refrigeration cycle on a pressure-enthalpy chart.
9. Discuss operating limits for the various styles of compressors.
10. Compare the methods used to accomplish compression and the different approaches to capacity control.

HVAC 1420. Energy Efficient Green Bldg I

Course Description

This section covers the training needed for a standardize set of building performance procedures. During the course, students will apply theory, knowledge, and techniques to actual projects using duct blaster testing warm air equipment.

Student Learning Outcomes

1. Develop an understanding of the requirements and dedication needed to complete the energy auditing.
2. Describe the job requirements of an Energy Auditor.
3. Develop knowledge of the many instruments available for use in the energy auditing field.
4. Discuss water conservation for energy savings.
5. Explain the principle of hot water heating systems.
6. Explain heat loss.
7. Describe the methods and causes of heat transfer.
8. Explain the building envelope and thermal characteristics of a building.
9. Describe the basic types and effect of insulation in a building.
10. Identify the primary parts of a duct tester.
11. Explain the importance of duct tightness.
12. Demonstrate how to set up a duct tester and perform standard duct system test.
13. Differentiate the R-value and U-value.
14. List the different types of windows and doors.
15. Compare heat gain and loss through windows and doors.
16. Identify various mechanical equipment and appliances that consume household energy.
17. Locate the manufacturer data and system characteristics of various household appliances and systems.
18. Demonstrate the methods for locating duct leakag.
19. Evaluate the duct leakage test results and prepare test reports.

HVAC 1425. Energy Efficient Green Bldg II

Course Description

Weatherization Training with Concentration on Building Performance. This section covers the Training needed for a standardize set of Building Performance Procedures. During the course, students will apply theory, knowledge, and techniques to actual projects using Blower Door testing equipment.

Student Learning Outcomes

1. Students will apply theory, knowledge, and techniques to actual projects using Blower Door testing equipment.
2. Students will apply theory, knowledge, and techniques to House as a System and Building Science Basics.
3. Students will apply theory, knowledge, and techniques to Blower Door Basics and Pressure and Thermal Boundaries.
4. Students will apply theory, knowledge, and techniques to Combustion Safety Worker Safety Materials, Tools, & Equipment Typical Weatherization Measures Mobile Home Basics, and Multifamily Basics.
5. Students will apply theory, knowledge, and techniques to Building Envelope Ratio of exterior surface area to conditioned area smaller for multifamily than single-family Balancing ventilation critical to energy efficiency and comfort.
6. Student shall describe the HVAC/R Energy Efficiency & Green Building Code Compliance and safety used in the HVAC/R industry.
7. Student shall describe the energy code in building performance.
8. Student shall describe the energy code in Typically Heating & Domestic Hot Water, Building Envelope.
9. Student shall describe the energy code for Boiler rooms, ventilation, Lighting Seal ventilation shafts, garbage chutes, top and bottom of building, main and unit plumbing and HVAC pipes/ducts.

10. Student shall describe the energy code for Ratio of exterior surface area to conditioned area smaller for multifamily than single-family.

HVAC 1430. Efficient Green Building Code

Course Description

The study of Energy Efficiency & Green Building Code Compliance, Course will cover Federal, State, and local Green Building Codes.

Student Learning Outcomes

Upon completion of this course, the student will be able to accomplish the following with accuracy of at least 71%, or to the instructor's satisfaction. The student can use the following as a checklist for this course:

1. To obtain an understanding of the administrative provisions of the IECC.
2. To obtain an understanding of the definitions and how the climate zones are structured.
3. To obtain an understanding of the residential building thermal envelope prescriptive insulation requirements.
4. Locate safety rules and regulation which apply to our environment, energy conservation, and our personal everyday life.

HVAC 1510. HVAC/R Advanced Electricity

Course Description

Students will learn safe work practices while gaining knowledge of HVAC/R electrical controls, wiring diagrams, comprehensive troubleshooting, component failures, and properly diagnosing failures correctly. Practical and realistic examples will be stressed throughout, as well as the National Electrical Code and Uniform Mechanical Code as it relates to the HVAC/R industry.

Student Learning Outcomes

Demonstrate knowledge of electrical controls, safety, wiring and pictoral diagrams.

HVAC 1985. Heating, Ventilation and Air Conditioning and Field Experience

Course Description

The course will provide students with actual hands-on exposure to HVAC/R fieldwork, offering insights into the expectations of field technicians as they shadow experienced HVAC/R professionals. Students will gain practical experience through supervised training at an approved Heating, Ventilation, Air Conditioning, and Refrigeration workplace.

Student Learning Outcomes

1. Effectively utilize verbal and written communication, collaborate efficiently within a team.
2. Diagnose issues in refrigeration systems.
3. Precisely execute unit conversions.
4. Accurately conduct refrigeration-related calculations.
5. Identify the ethical course of action in specific situations.
6. Safely execute technician responsibilities.
7. Provide maintenance for refrigeration systems.
8. Conduct repairs on refrigeration systems,and service refrigeration systems.

HVAC 1990. Heating Ventilation and Air Conditioning Practicum

Course Description

Working in the field with journeymen service technicians. Develop and apply job skills

Student Learning Outcomes

Varies

HVAC 1996. Heating, Ventilation and Air Conditioning Special Topics
Course Description
Topics to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

HVAC 1997. Heating, Ventilation and Air Conditioning Independent Study
Course Description
Individual studies related to heating, air conditioning, and refrigeration.
Student Learning Outcomes
Varies

HVAC 2985. Heating, Ventilation and Air Conditioning Field Experience
Course Description
The course will provide students with actual hands-on exposure to HVAC/R fieldwork, offering insights into the expectations of field technicians as they shadow experienced HVAC/R professionals. Students will gain practical experience through supervised training at an approved Heating, Ventilation, Air Conditioning, and Refrigeration workplace.
Student Learning Outcomes

1. **Effectively utilize verbal and written communication, collaborate efficiently within a team.**
2. **Diagnose issues in refrigeration systems.**
3. **Precisely execute unit conversions.**
4. **Accurately conduct refrigeration-related calculations.**
5. **Identify the ethical course of action in specific situations.**
6. **Safely execute technician responsibilities.**
7. **Provide maintenance for refrigeration systems.**
8. **Conduct repairs on refrigeration systems, and service refrigeration systems.**

HVAC 2990. Heating Ventilation and Air Conditioning Practicum
Course Description
Working in the field with journeymen service technicians. Develop and apply job skills
Student Learning Outcomes
Varies

HVAC 2996.Heating, Ventilation and Air Conditioning Special Topics
Course Description
Topics to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies
HVAC 2997. Heating, Ventilation and Air Conditioning Independent Study
Course Description
Individual studies related to heating, air conditioning, and refrigeration.
Student Learning Outcomes

Varies

Hebrew (HEBR)

HEBR 1110. Hebrew I

Course Description

This course is an introduction to fundamentals of the Hebrew language.

Student Learning Outcomes

1. Become familiar with the basics of the Hebrew language.
2. Have an understanding of the development and history of the Hebrew language.
3. Start reading the Hebrew Tanakh.

HEBR 1120. Hebrew II

Course Description

This course is a continuation of HEB 201. Class will consist of lectures, various activities, and class discussion. Since a large amount and a wide range of material will be covered during each class meeting, regular attendance is necessary to do well in the class. Roll will be taken, and a student who is consistently absent should expect a lower grade.

Student Learning Outcomes

To enable the student:

1. To become familiar with of the basics of the Hebrew language.
2. To have an understanding of the development and history of the Hebrew language.
3. To start reading the Hebrew Tanakh.

HEBR 2110. Hebrew III

Course Description

This course is an continuation of the study of Biblical/Classical Hebrew language. Class will consist of lectures, various activities, and class discussion. Since a large amount and a wide range of material will be covered during each class meeting, regular attendance is necessary to do well in the class. Roll will be taken, and a student who is consistently absent should expect a lower grade.

Student Learning Outcomes

1. Become familiar with more of the Biblical Hebrew language.
2. Have an understanding of the development and history of the Hebrew language.
3. Continue reading the Hebrew Tanakh.

HEBR 2120. Hebrew IV

Course Description

Continuation of Intermediate Hebrew. Biblical Hebrew poetry with reference to selected passages.

Student Learning Outcomes

1. Students should have a deeper understanding of selected Hebrew texts relating to Western Civilization.
2. Students should have learned a wider vocabulary of Hebrew words.
3. Students should be able to read (aloud), with understanding selected Hebrew texts of moderate complexity and difficulty.
4. Students should be able to translate and analyze Hebrew sentences and passages from selected Hebrew texts of moderate complexity and difficult
5. Students should be familiar with, and able to use effectively, lexica and other resources for the study of the Hebrew language and texts.
6. Students should be able to write and/or word-process grammatically correct sentences in Hebrew.

7. Students should be able to discuss the cultural setting of selected Hebrew words and texts.

HEBR 2993. Workshop in Hebrew
Course Description
Varies
Student Learning Outcomes
Varies

HEBR 2996. Topics in Hebrew
Course Description
Varies
Student Learning Outcomes
Varies

History (HIST)

HIST 1103. Introduction to Historical Study
Course Description
This course introduces students to the dynamic nature of the field of history. Students will survey the various types of sources that historians rely on to reconstruct past events and will learn to apply historical thinking methods to interpret and write about past events.
Student Learning Outcomes
1. Articulate a definition of the field of historical study that recognizes the centrality of including multiple perspectives on any given historical event
2. Distinguish between and evaluate primary and secondary sources for historical study
3. Identify the elements of the historical thinking process in the context of their application in historical accounts
4. Demonstrate the ability to place historical sources in context through the creation of a project that includes both primary and secondary sources
5. Identify possible career pathways for historians and describe how to prepare for such opportunities

HIST 1105. Making History
Course Description
General introduction to history: how historians carry out research and develop interpretations about the past.
Student Learning Outcomes
Through readings, lectures, discussions, examinations, as well as writing assignments, students, upon completion of this course, will be able to:
1. understand and articulate the differences and similarities between history and memory;
2. analyze and critically interpret primary sources and understand how others might interpret and use the same material in different ways;
3. recognize and appreciate the diversity of historical experiences and the uses of historical memory in various societies;
4. understand how historical experiences that include political, geographical, social, cultural, religious and intellectual experiences have been expressed across historical periods;
5. understand how historical experiences and memories have shaped contemporary societies;
6. identify and understand the degree to which history has been used and misused in the past;
7. demonstrate improvement in their ability to read critically, think logically, and express themselves clearly in writing.

HIST 1110. United States History I

Course Description

The primary objective of this course is to serve as an introduction to the history of the United States from the pre-colonial period to the immediate aftermath of the Civil War. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of the United States within the context of world societies.

Student Learning Outcomes

1. Students will be able to EXPLAIN in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of the United States from the pre-colonial period to the immediate aftermath of the Civil War.
   Bloom Taxonomy's Cognitive Process: REMEMBER AND UNDERSTAND
2. Students will DISTINGUISH between primary and secondary sources, IDENTIFY and EVALUATE evidence and EMPATHIZE with people in their historical context.
   Bloom Taxonomy's Cognitive Process: ANALYZE, REMEMBER, EVALUATE, CREATE
3. Students will SUMMARIZE and APPRAISE different historical interpretations and evidence in order to CONSTRUCT past events.
   Bloom Taxonomy's Cognitive Process: UNDERSTAND, EVALUATE, APPLY
4. Students will IDENTIFY historical arguments in a variety of sources and EXPLAIN how they were constructed, EVALUATING credibility, perspective, and relevance.
   Bloom Taxonomy's Cognitive Process: REMEMBER, UNDERSTAND, EVALUATE
5. Students will CREATE well-supported historical arguments and narratives that demonstrate an awareness of audience. **Bloom Taxonomy's Cognitive Process:** CREATE, APPLY 8
6. Students will APPLY historical knowledge and historical thinking **"in order to infer what drives and motivates human behavior in both past and present."**
   Bloom Taxonomy's Cognitive Process: APPLY, ANALYZE 9

HIST 1120. United States History II

Course Description

The primary objective of this course is to serve as an introduction to the history of the United States from reconstruction to the present. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of the United States within the context of world societies.

Student Learning Outcomes

1. Students will be able to EXPLAIN in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of the United States from the reconstruction to the present.

Bloom Taxonomy's Cognitive Process: REMEMBER AND UNDERSTAND

2. Students will DISTINGUISH between primary and secondary sources, IDENTIFY and EVALUATE evidence and EMPATHIZE with people in their historical context.

Bloom Taxonomy's Cognitive Process: ANALYZE, REMEMBER, EVALUATE, CREATE

3. Students will SUMMARIZE and APPRAISE different historical interpretations and evidence in order to CONSTRUCT past events.

Bloom Taxonomy's Cognitive Process: UNDERSTAND, EVALUATE, APPLY

4. Students will IDENTIFY historical arguments in a variety of sources and EXPLAIN how they were constructed, EVALUATING credibility, perspective, and relevance.

Bloom Taxonomy's Cognitive Process: REMEMBER, UNDERSTAND, EVALUATE

5. Students will CREATE well-supported historical arguments and narratives that demonstrate an awareness of audience.

Bloom Taxonomy's Cognitive Process: CREATE, APPLY

6. Students will APPLY historical knowledge and historical thinking "in order to infer what drives and motivates human behavior in both past and present."

Bloom Taxonomy's Cognitive Process: APPLY, ANALYZE 10 11

HIST 1122. History of Latinos in the U.S.

Course Description

This course will explore major themes that influence and characterize the experiences of various Hispanic and Latino/a/x populations in the regions of North America encompassing the contemporary United States. Through course lessons, readings, mixed media, and discussions, students will develop an appreciation for the diverse Latino/a/x groups that are estimated to comprise nearly 30% of the U.S. population by 2050. The elements of this course are designed to inform students on the key historical events and trends of culture, economics, immigration, politics, religion, and social life from pre-European contact up to the present day.

Student Learning Outcomes

1. Students will be able to explain in their work how core concepts, events, and institutions in the History of Latino/a/x populations in the U.S., and how those cultures changed over the course of the centuries from the pre-colonial period to present.

Bloom Taxonomy's Cognitive Process: Remember and Understand

2. Students will distinguish between primary and secondary sources, identify, and evaluate evidence, and empathize with people in their historical context.

Bloom Taxonomy's Cognitive Process: Analyze, Remember, Evaluate, Create

3. Students will summarize and appraise diverse cultural, ethnic, and linguistic manifestations of Latino/a/x populations in the U.S. to construct past events.

Bloom Taxonomy's Cognitive Process: Understand, Evaluate, Apply

4. Students will identify historical arguments in a variety of sources and engage with critical topics in the historical study of Latino/a/x populations in the U.S., including gender, class, and sexuality, while also evaluating credibility, perspective, and relevance.

Bloom Taxonomy's Cognitive Process: Remember, Understand, Evaluate

5. Students will create well-supported historical arguments and narratives that demonstrate an awareness of genre and audience.

Bloom Taxonomy's Cognitive Process: Create, Apply

6.Students will apply historical knowledge and historical thinking to infer what drives and motivates the Latino/a/x experience in the U.S. in both past and present.

Bloom Taxonomy's Cognitive Process: Apply, Analyze

HIST 1130. World History I

Course Description

The primary objective of this course is to serve as an introduction to global history from ancient times to the 16th century. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of world societies.

Student Learning Outcomes

1. Students will be able to EXPLAIN in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for global history from ancient times to the 16th century.

   Bloom Taxonomy's Cognitive Process: REMEMBER AND UNDERSTAND

2. Students will DISTINGUISH between primary and secondary sources, IDENTIFY and EVALUATE evidence and EMPATHIZE with people in their historical context.

Bloom Taxonomy's Cognitive Process: ANALYZE, REMEMBER, EVALUATE, CREATE

3. Students will SUMMARIZE and APPRAISE different historical interpretations and evidence in order to CONSTRUCT past events.
   Bloom Taxonomy's Cognitive Process: UNDERSTAND, EVALUATE, APPLY
4. Students will IDENTIFY historical arguments in a variety of sources and EXPLAIN how they were constructed, EVALUATING credibility, perspective, and relevance.
   Bloom Taxonomy's Cognitive Process: REMEMBER, UNDERSTAND, EVALUATE
5. Students will CREATE well-supported historical arguments and narratives that demonstrate an awareness of audience.
   Bloom Taxonomy's Cognitive Process: CREATE, APPLY
6. Students will APPLY historical knowledge and historical thinking **"in order to infer what drives and motivates human behavior in both past and present."**
   Bloom Taxonomy's Cognitive Process: APPLY, ANALYZE 12

HIST 1140. World History II

Course Description

The primary objective of this course is to serve as an introduction to global history from the 16th century to the present. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of world societies.

Student Learning Outcomes

1. Students will be able to EXPLAIN in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of global history from the 16th century to the present.
   Bloom Taxonomy's Cognitive Process: REMEMBER AND UNDERSTAND
2. Students will DISTINGUISH between primary and secondary sources, IDENTIFY and EVALUATE evidence and EMPATHIZE with people in their historical context.
   Bloom Taxonomy's Cognitive Process: ANALYZE, REMEMBER, EVALUATE, CREATE
3. Students will SUMMARIZE and APPRAISE different historical interpretations and evidence in order to CONSTRUCT past events.
   Bloom Taxonomy's Cognitive Process: UNDERSTAND, EVALUATE, APPLY
4. Students will IDENTIFY historical arguments in a variety of sources and EXPLAIN how they were constructed, EVALUATING credibility, perspective, and relevance.
   Bloom Taxonomy's Cognitive Process: REMEMBER, UNDERSTAND, EVALUATE
5. Students will CREATE well-supported historical arguments and narratives that demonstrate an awareness of audience.
   Bloom Taxonomy's Cognitive Process: CREATE, APPLY
6. Students will APPLY historical knowledge and historical thinking **"in order to infer what drives and motivates human behavior in both past and present."**
   Bloom Taxonomy's Cognitive Process: APPLY, ANALYZE 13

HIST 1150 Western Civilization I

Course Description

This course is a chronological treatment of the history of the western world from ancient times to the early modern era. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of western civilization within the context of world societies. Selective attention will be given to "non-western" civilizations which impact and influence the development of "western" civilization.

Student Learning Outcomes

1. Students will be able to EXPLAIN in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of the western world from ancient times to the early modern era.
   Bloom Taxonomy's Cognitive Process: REMEMBER AND UNDERSTAND
2. Students will DISTINGUISH between primary and secondary sources, IDENTIFY and EVALUATE evidence and EMPATHIZE with people in their historical context.
   Bloom Taxonomy's Cognitive Process: ANALYZE, REMEMBER, EVALUATE, CREATE
3. Students will SUMMARIZE and APPRAISE different historical interpretations and evidence in order to CONSTRUCT past events.
   Bloom Taxonomy's Cognitive Process: UNDERSTAND, EVALUATE, APPLY
4. Students will IDENTIFY historical arguments in a variety of sources and EXPLAIN how they were constructed, EVALUATING credibility, perspective, and relevance.
   Bloom Taxonomy's Cognitive Process: REMEMBER, UNDERSTAND, EVALUATE
5. Students will CREATE well-supported historical arguments and narratives that demonstrate an awareness of audience.
   Bloom Taxonomy's Cognitive Process: CREATE, APPLY
6. Students will APPLY historical knowledge and historical thinking **"in order to infer what drives and motivates human behavior in both past and present."**
   Bloom Taxonomy's Cognitive Process: APPLY, ANALYZE 14

HIST 1160. Western Civilization II

Course Description

This course is a chronological treatment of the history of the western world from the early modern era to the present. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of western civilization within the context of world societies. Selective attention will be given to "non-western" civilizations which impact and influence the development of "western" civilization.

Student Learning Outcomes

1. Students will be able to EXPLAIN in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of the western world from the early modern era to the present.
   Bloom Taxonomy's Cognitive Process: REMEMBER AND UNDERSTAND
2. Students will DISTINGUISH between primary and secondary sources, IDENTIFY and EVALUATE evidence and EMPATHIZE with people in their historical context.
   Bloom Taxonomy's Cognitive Process: ANALYZE, REMEMBER, EVALUATE, CREATE
3. Students will SUMMARIZE and APPRAISE different historical interpretations and evidence in order to CONSTRUCT past events.
   Bloom Taxonomy's Cognitive Process: UNDERSTAND, EVALUATE, APPLY
4. Students will IDENTIFY historical arguments in a variety of sources and EXPLAIN how they were constructed, EVALUATING credibility, perspective, and relevance.
   Bloom Taxonomy's Cognitive Process: REMEMBER, UNDERSTAND, EVALUATE
5. Students will CREATE well-supported historical arguments and narratives that demonstrate an awareness of audience.
   Bloom Taxonomy's Cognitive Process: CREATE, APPLY
6. Students will APPLY historical knowledge and historical thinking **"in order to infer what drives and motivates human behavior in both past and present."**
   Bloom Taxonomy's Cognitive Process: APPLY, ANALYZE

HIST 1165. The Western World

Course Description

The Western World is a survey of what is sometimes called "the Western tradition," that is, the history of European civilization from its beginnings to the present. During the semester we will explore the development of European history and culture while also becoming acquainted with the study of history. This course is intended both to acquaint all students with the basic outlines of Western cultural traditions as well as to introduce students interested in historical study to topics and methods that can be pursued in the department's upper-division offerings.

Student Learning Outcomes

1. Students will demonstrate an understanding of the origins and main economic, cultural, social, and political developments of Western history between the beginnings of civilization and the present; this will be measured by successful completion of the course with a grade of C or higher.
2. Students will demonstrate an understanding of some of the concepts, methods, and skills of the historian. They will be able to see and understand the connections between a society's economic organization, social structure, political institutions, cultural and intellectual achievements, and the lives of ordinary people, and will be able to express that understanding in discussions and written assignments. They will be able to read and analyze primary source documents and use those documents to gain an enhanced understanding of the societies and people being studied; this will be measured by successful completion—with a grade of C or higher—of exams and assignments, particularly the discussion assignments and other measures focused on primary sources.
3. Students will demonstrate a basic ability to navigate the world-wide web and will make use of the course's Desire2Learn (D2L) website. Quizzes, assignments, reviews, and other exercises will require the students to make use of several of the website's features. Students will also master Iclicker classroom response technology; success will be measured by successful completion of online quizzes, and by receiving at least 70% of all available Iclicker points.
4. Students will demonstrate an understanding of the connections between the European past and the contemporary world. They will demonstrate this understanding in class discussions, assignments, and essays.

HIST 1166. Technology and Science from the Hand-Ax to the Steam Engine: Full STEAM Ahead

Course Description

This course is an introduction to the history of science and technology up to and including the invention of the steam engine. It offers an overview of historical evolution of fundamental scientific concepts and technological developments in various cultures of the world. This course is paired with an optional hands-on lab component.

Student Learning Outcomes

1. increasing students' understanding of the historical roots of modern science and technology.
2. helping students appreciate the contributions of different cultures to the development of science and technology.
3. enhancing students' ability to use historical data, narrative, visual images, and theory in making coherent arguments about the past.
4. helping students develop communication skills in both oral and written form, through class discussion and written assignments.

HIST 1166L. Technology and Science from the Hand-Ax to the Steam Engine: Full STEAM Ahead Lab

Course Description

This is a pilot lab course linked with the HIST189-01 social science course as part of the Living Learning Community program through the Office for Student Learning. This semester will focus on completing a group project investigating issues with technology relevant to our community. We will look at the relationship between technology and contemporary society by looking at how nontechnical factors, such as politics, culture, and economics, drive change in technology.

Student Learning Outcomes

1. Understand the connection between the evolution of modern science and technology and contemporary social issues/problems, relevant to our community.
2. Investigate the current implementation of science and technology, with a focus on the interconnection between technology, culture, and community
3. Enhance your ability to evaluate information and communicate your ideas through logical evidence-based argument
4. Develop critical thinking skills and resource knowledge that will facilitate academic success and professional development

HIST 1170. Survey of Early Latin America

Course Description

The primary objective of this course is to serve as a survey of the history of Latin America from pre-Columbian times through independence. This course will explore the contributions of Indigenous peoples, Africans, and Europeans to the creation of Latin America's diverse societies. The elements of this course are designed to inform students on the major events and trends that are essential to the understanding of the history of Latin America within the context of world societies.

Student Learning Outcomes

1. Students will be able to EXPLAIN in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of Latin America from pre-Columbian times through independence.
   Bloom Taxonomy's Cognitive Process: REMEMBER AND UNDERSTAND
2. Students will DISTINGUISH between primary and secondary sources, IDENTIFY and EVALUATE evidence and EMPATHIZE with people in their historical context.
   Bloom Taxonomy's Cognitive Process: ANALYZE, REMEMBER, EVALUATE, CREATE
3. Students will SUMMARIZE and APPRAISE different historical interpretations and evidence in order to CONSTRUCT past events.
   Bloom Taxonomy's Cognitive Process: UNDERSTAND, EVALUATE, APPLY
4. Students will IDENTIFY historical arguments in a variety of sources and EXPLAIN how they were constructed, EVALUATING credibility, perspective, and relevance.
   Bloom Taxonomy's Cognitive Process: REMEMBER, UNDERSTAND, EVALUATE
5. Students will CREATE well-supported historical arguments and narratives that demonstrate an awareness of audience.
   Bloom Taxonomy's Cognitive Process: CREATE, APPLY
6. Students will APPLY historical knowledge and historical thinking **"in order to infer what drives and motivates human behavior in both past and present."**
   Bloom Taxonomy's Cognitive Process: APPLY, ANALYZE 19

HIST 1175. History of Pre-Columbian America

Course Description

A survey of the economic, political and social conditions of the indigenous peoples of North and South America prior to 1492.

Student Learning Outcomes

After successfully completing this course the student should be able to:

1. Demonstrate an understanding of the politics, cultures, economics, and social structures of Native peoples-in North and SO& America as they existed prior to 1492.
2. Demonstrate an understanding of the daily lives of peoples living in North and South American prior to 1492.
3. Examine the relationships between peoples in the Americas prior to 1492.

HIST 1180. Survey of Modern Latin America

Course Description
The primary objective of this course is to serve as a survey of the history of Latin America from independence to the present. This course will explore the contributions of Indigenous peoples, Africans, and Europeans to the creation of Latin America's diverse societies. The elements of this course are designed to inform students on the major events and trends that are essential to the understanding of the history of Latin America within the context of world societies.
Student Learning Outcomes

1. Students will be able to EXPLAIN in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of Latin America from independence to the present.
   Bloom Taxonomy's Cognitive Process: REMEMBER AND UNDERSTAND
2. Students will DISTINGUISH between primary and secondary sources, IDENTIFY and EVALUATE evidence and EMPATHIZE with people in their historical context.
   Bloom Taxonomy's Cognitive Process: ANALYZE, REMEMBER, EVALUATE, CREATE
3. Students will SUMMARIZE and APPRAISE different historical interpretations and evidence in order to CONSTRUCT past events.
   Bloom Taxonomy's Cognitive Process: UNDERSTAND, EVALUATE, APPLY
4. Students will IDENTIFY historical arguments in a variety of sources and EXPLAIN how they were constructed, EVALUATING credibility, perspective, and relevance.
   Bloom Taxonomy's Cognitive Process: REMEMBER, UNDERSTAND, EVALUATE
5. Students will CREATE well-supported historical arguments and narratives that demonstrate an awareness of audience.
   Bloom Taxonomy's Cognitive Process: CREATE, APPLY
6. Students will APPLY historical knowledge and historical thinking **"in order to infer what drives and motivates human behavior in both past and present."**
   Bloom Taxonomy's Cognitive Process: APPLY, ANALYZE 20

HIST 1185. History of Lost Civilizations
Course Catalog Description:
This course introduces students to a comparative analysis of lost civilizations of both what is deemed the "old" world and "new" world, including the Sumerians, Hittites, Minoans, Mycenaeans, Amazonians, Atlantis, Etruscans, Mohenjo-Daro, Mesoamerican, Roanoke, Mali, and Dong Son.
Student Learning Outcomes
Upon successful completion of this course, the student will:

1. Articulate the differences between categories of evidence, including their benefits and shortcomings.
2. Analyze cultures of the past and their bearing on the present by utilize various primary and secondary sources.
3. Recognize causal relationships between the past and the present.
4. Recognize the interconnectivity between the social science disciplines.
5. Articulate how popular culture, memory theories, and ideas of the mythical/mysterious influence our interpretations of the past and evidence.
6. Recognize myth from fact.

HIST 1190. Medieval World
Course Description
This course will introduce students to the history and culture of Medieval Europe. It is designed to provide students with an understanding of specific topics such as the growth of Christianity, feudalism, social conformity, and the responses of the people to the challenges of famine, disease, and warfare. For this purpose, the course is organized chronologically and topically.

Student Learning Outcomes

1. Analyze and critically interpret significant primary texts and/or works of art (this includes fine art, literature, music, theatre, and film).
2. Compare art forms, modes of thought and expression, and processes across a range of historical periods and/or structures (such as political, geographic, economic, social, cultural, religious, intellectual).
3. Recognize and articulate the diversity of human experience across a range of historical periods and/or cultural perspectives.
4. Draw on historical and/or cultural perspectives to evaluate any or all of the following: contemporary problems/issues, contemporary modes of expression, and contemporary thought.

HIST 1194. Europe in the 19th Century, 1815-1914

Course Description

The course is an introduction to the major developments and themes in the 19th-century Europe. The students will learn about main international developments including the Congress System, the Revolutions of 1848, the advance of modern ideologies and major trends in arts and sciences, and the causes of World War I.

Student Learning Outcomes

1. Analyze and critically interpret significant primary texts and/or works of art (this includes fine art, literature, music, theatre, and film).
2. Compare art forms, modes of thought and expression, and processes across a range of historical periods and/or structures (such as political, geographic, economic, social, cultural, religious, intellectual).
3. Recognize and articulate the diversity of human experience across a range of historical periods and/or cultural perspectives.
4. Draw on historical and/or cultural perspectives to evaluate any or all of the following: contemporary problems/issues, contemporary modes of expression, and contemporary thought

HIST 1195. Europe in the 20th Century, 1914-2000

Course Description

The course examines the great watersheds of the last century in Europe, including the World Wars, the division of the continent during the Cold War, and the fall of communism. Several case-studies and problems will be broached in lectures to help students understand the legacies of the 20th century that we face today.

Student Learning Outcomes

1. Analyze and critically interpret significant primary texts and/or works of art (this includes fine art, literature, music, theatre, and film).
2. Compare art forms, modes of thought and expression, and processes across a range of historical periods and/or structures (such as political, geographic, economic, social, cultural, religious, intellectual).
3. Recognize and articulate the diversity of human experience across a range of historical periods and/or cultural perspectives.
4. Draw on historical and/or cultural perspectives to evaluate any or all of the following: contemporary problems/issues, contemporary modes of expression, and contemporary thought.

HIST 1213. Introduction to German Culture and Civilization: From Roman Time to Bismarck

Course Description

Taught in English, this is the first of two courses designed to give the student an introductory overview of German Culture and its development. It will cover the span of roughly one thousand years; from the Great Migrations and the fall of the Roman Empire to the formation of the so-called 'Second Reich' under Otto von Bismarck.

Student Learning Outcomes

1. Have a basic understanding of the history of Germanic civilization in terms of major periods and movements (including social, artistic, and political developments, and philosophical traditions) and a basic grasp of critical methods for interpreting these fields.
2. Exhibit limited knowledge about historical, cultural, social, geographical and societal issues affecting the various cultures of the German-speaking world.
3. Understand the relationship of culture to social history and intellectual life in the German-speaking countries.
4. Have a basic understanding of the impact the leadership of key historical figures (political and intellectual leaders) had on the shaping of German, European and World culture and civilization.
5. Demonstrate awareness of ethical themes pertaining to the culture and history of German speaking countries.
6. Demonstrate the ability to analyze, synthesize, apply and evaluate the information they are given (critical thinking) pertaining to grammar, cultural, historical, societal and language issues.
7. Develop an understanding and lifelong appreciation for languages, cultures, value systems, educational systems, political systems and leadership systems other than their own.
8. Be able to identify historical events of German speaking countries.
9. Be able to understand and identify cultural differences in German speaking countries.
10. Demonstrate the ability to adhere to the NMMI cadet honor code and to exhibit academic integrity (character development).

HIST 1223. Introduction to Modern German Culture and Civilization: From 1871 to present.

Course Description

This continuation course in German culture and civilization covers the more recent history and culture of Germany, Austria-Hungary, Switzerland and other areas of German culture from the beginning of Bismarck's Second Empire to current issues related to post-unification Germany. This course is taught in English.

Student Learning Outcomes:

1. Students will have a basic understanding of the history of German civilization in terms of major periods and movements (including social, artistic, and political developments, and philosophical traditions) and a basic grasp of critical methods for interpreting these fields.
2. Students will exhibit limited knowledge about historical, cultural, social, geographical and societal issues affecting the various cultures of the German-speaking world.
3. Understand the relationship of culture to social history and intellectual life in the German-speaking countries.
4. Students will have a basic understanding of the impact the leadership of key historical figures (political and intellectual leaders) had on the shaping of German, European and World culture and civilization.
5. Students will demonstrate awareness of ethical themes pertaining to the culture and history of German speaking countries.
6. Students will demonstrate the ability to analyze, synthesize, apply and evaluate the information they are given (critical thinking) pertaining to grammar, cultural, historical, societal and language issues.
7. Students will develop an understanding and lifelong appreciation for languages, cultures, value systems, educational systems, political systems and leadership systems other than their own.
8. Students will be able to identify historical events of German speaking countries.
9. Students will be able to understand and identify cultural differences in German speaking countries.
10. Students will demonstrate the ability to adhere to the NMMI cadet honor code and to exhibit academic integrity (character development).

HIST 1996. Topics in History

Varies
Student Learning Outcomes
Varies

HIST 1997. History Independent Study
Varies
Student Learning Outcomes
Varies

HIST 2050. American History through Film
Course Description
This course studies the relationship between film and popular and historical memory. Our purpose is to understand the history as portrayed in popular Hollywood releases, assess how those films draw from and inform historical memory, and evaluate their usefulness as historical source material. Our study will examine the political, economic, social, cultural, and intellectual contexts that have shaped our popular concepts of historical events and actors.
Student Learning Outcomes
1. Understand the links between media and historical memory.
2. Describe and analyze historical memory and its effects on collective memory and identity.
3. Evaluate a motion picture based on its historic and artistic merits.
4. Discuss how race, ethnicity, gender, and violence factored into American history.
5. Develop, draft, revise and present an original thesis-based argument in the form of a research paper.

HIST 2080. Americans at War
Course Description
America has been at war for nearly three centuries. This course will examine the causes, undercurrents and significance of America's military engagements at home and abroad and examine how each helped change the trajectory of American history and its role as a current world power. This course will take an in depth look at the major battles, players, aftermath and technological advancements during the major American engagements— the American Revolution, Mexican American War, the Civil War, Spanish American War, two World Wars and the cold war era battles in Korea and Vietnam.
Student Learning Outcomes
Using primary and secondary sources, students will analyze and critically examine the causation, phases, strategies, persons, outcomes, and aftereffects of conflicts in American History beginning with its independence until the Vietnam war. They will evaluate and compare the evolution of military, economic and social constructs during times of war and be able to effectively communicate and debate the complexities of the successes and failures on a global scale of each conflict and the impact it had in shaping the America we know today.

HIST 2088. History Specialty
This course is used to transfer approved courses from other colleges and universities. (Currently applicable for CNM only for transfer purposes).
Student Learning Outcomes
Varies

HIST 2110. Survey of New Mexico History
Course Description
The primary objective of this course is to serve as an introduction to the history of New Mexico from the pre-Columbian times to the present day. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the development of New Mexico within the context of the Americas.

Student Learning Outcomes

1. Students will be able to EXPLAIN in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of New Mexico from pre-Columbian times to the present day.
   Bloom Taxonomy's Cognitive Process: REMEMBER AND UNDERSTAND
2. Students will DISTINGUISH between primary and secondary sources, IDENTIFY and EVALUATE evidence and EMPATHIZE with people in their historical context.
   Bloom Taxonomy's Cognitive Process: ANALYZE, REMEMBER, EVALUATE, CREATE
3. Students will SUMMARIZE and APPRAISE different historical interpretations and evidence in order to CONSTRUCT past events.
   Bloom Taxonomy's Cognitive Process: UNDERSTAND, EVALUATE, APPLY
4. Students will IDENTIFY historical arguments in a variety of sources and EXPLAIN how they were constructed, EVALUATING credibility, perspective, and relevance.
   Bloom Taxonomy's Cognitive Process: REMEMBER, UNDERSTAND, EVALUATE
5. Students will CREATE well-supported historical arguments and narratives that demonstrate an awareness of audience.
   Bloom Taxonomy's Cognitive Process: CREATE, APPLY
6. Students will APPLY historical knowledge and historical thinking **"in order to infer what drives and motivates human behavior in both past and present."**
   Bloom Taxonomy's Cognitive Process: APPLY, ANALYZE 16

HIST 2114. Lincoln County History

Course Description

History of the Lincoln County region and the Mescalero reservation.

Student Learning Outcomes

By the end of the course, the student should be able to:

1. Explain how each town/city in Lincoln County developed
2. Explain the Lincoln County war
3. Discuss the region's key biographical figures
4. Explain the development of the Mescalero community
5. Identify cultural and historic sites in the region

HIST 2115. Lincoln County War

Course Description

History of the Lincoln County War including origin of the war, related events, key figures and social context of war in the American West. 25

Student Learning Outcomes

Not Available

HIST 2116. Lincoln County War through Film

Course Description

Film criticism of major motion films and documentaries related to the Lincoln County War. Some YouTube may also be viewed.

Student Learning Outcomes

Student Learning Objectives

By the end of the course, the student should be able to:

1. Explain the aesthetic and narrative contributions of several major motion films

2. Explain the historical and cultural context of several films
3. Explain the significance of the LCW in history and film
4. Discuss the war's key biographical figures
5. Discuss how race, ethnicity, class, gender, religion, and violence factored into the war

HIST 2120. Survey of Mexican American History

Course Description

The primary objective of this course is to serve as a survey of the history of the Mexican community in the United States with a greater emphasis on 20th century to the present. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the history of Mexican Americans.

Student Learning Outcomes

1. Students will be able to EXPLAIN in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of the Mexican community in the United States.
   Bloom Taxonomy's Cognitive Process: REMEMBER AND UNDERSTAND
2. Students will DISTINGUISH between primary and secondary sources, IDENTIFY and EVALUATE evidence and EMPATHIZE with people in their historical context.
   Bloom Taxonomy's Cognitive Process: ANALYZE, REMEMBER, EVALUATE, CREATE
3. Students will SUMMARIZE and APPRAISE different historical interpretations and evidence in order to CONSTRUCT past events.
   Bloom Taxonomy's Cognitive Process: UNDERSTAND, EVALUATE, APPLY
4. Students will IDENTIFY historical arguments in a variety of sources and EXPLAIN how they were constructed, EVALUATING credibility, perspective, and relevance.
   Bloom Taxonomy's Cognitive Process: REMEMBER, UNDERSTAND, EVALUATE
5. Students will CREATE well-supported historical arguments and narratives that demonstrate an awareness of audience.
   Bloom Taxonomy's Cognitive Process: CREATE, APPLY
6. Students will APPLY historical knowledge and historical thinking **"in order to infer what drives and motivates human behavior in both past and present."**
   Bloom Taxonomy's Cognitive Process: APPLY, ANALYZE 17

HIST 2122. Chicano Experience in the US

Course Description

In 1848, the United States violently wrested over half of the landmass of Mexico, displacing and forcing indigenous and traditional peoples of the Southwest to re-establish citizenry in their own homelands. The Treaty of Guadalupe-Hidalgo (1848) assured Mexicans the full rights to citizenship in the United States, but the imposition of a new governmental system often left the new "ethnic minority group" to deal with economic and psychological hardships. Despite these hardships, Chicanas/os have not only survived, but in many cases thrived, in the country that often treated them as "second class citizens." In this class we will examine the historical, cultural, political, and economic conditions of Chicanas/os in the U.S. through the major court cases that have shaped Mexican American identity.

Student Learning Outcomes

Objectives for the course include: historical knowledge, empirical knowledge and quantitative methods, interpretation and qualitative analysis, and community service.

1. Historical Knowledge
   a. Familiarity with the history of modern Western civilization, including European expansion, conquest, and enslavement.

    b. Acquaintance with debates in historiography, particularly as they relate to the use of history in relation to the understanding of people of color.
2. Empirical Knowledge and Quantitative Methods
    a. Familiarity with different methods of gathering empirical data about human communities (anthropological, sociological, etc.).
    b. Knowledge of critical debates about the use and implications of traditional methods of gathering empirical data to obtain knowledge about communities of color.
    c. Identification of proper methods to conduct research, and awareness of the limits and possibilities of such methods.
    d. Creative use, delimitation, and expansion of methods of empirical and quantitative study based on the nature of the problems and questions addressed in the research as well as the object of study.
3. Interpretation and Qualitative Analysis
    a. Acquaintance with major methods and debates in the humanities.
    b. Identification of proper methods to conduct research about the creative products of human communities, and ethno-racial communities in particular.
4. Community Service
    a. Apply and share knowledge discussed and researched for course in public forums.
    b. Create praxis-oriented projects that put theory to work in a community context (on or off campus).

HIST 2125. Latin American Civilization

Course Description

An introduction to the main currents in Latin American societies and cultures. The course focuses on the social, political, cultural and economic issues relevant to Mexico and Central American, the Caribbean, the Andean countries and the Southern Cone. Major topics include: The history of Latin American native populations; the Spanish conquest; the colonial epoch; the wars of independence; the emergence of new nations; modern revolutions; and the influence of modern revolutions; and the influence of modernization and globalization.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify the historical forces that led to Independence in 1821.
2. Identify and describe, in writing, the major characteristics of the pre-contact high cultures of Mexico, Central and South America.
3. Describe, orally and in writing, the process of conquest and colonization of the Americas by Spain and Portugal.
4. Discuss in general the political, social and economic consequences of the Spanish and Portuguese colonies in the Americas.
5. Identify, in writing, the historical forces that led to Independence in 1821.
6. Trace and recognize the processes of origination of the multiracial societies that comprise the Spanish and Portuguese colonies in the Americas.

HIST 2130. Survey of Native American History

Course Description

The primary objective of this course is to serve as a survey of the history of Native American History from pre-colonial times until the present. This course will explore the cultural diversity of the Native Americans. The elements of this course are designed to inform students on the major events and trends that are essential in the understanding of the history of Native Americans.

Student Learning Outcomes

1. Students will be able to EXPLAIN in their work how humans in the past shaped their own unique historical moments and were shaped by those moments, and how those cultures changed over the course of the centuries for the history of Native Americans from pre-colonial times until the present.
   Bloom Taxonomy's Cognitive Process: REMEMBER AND UNDERSTAND
2. Students will DISTINGUISH between primary and secondary sources, IDENTIFY and EVALUATE evidence and EMPATHIZE with people in their historical context.
   Bloom Taxonomy's Cognitive Process: ANALYZE, REMEMBER, EVALUATE, CREATE
3. Students will SUMMARIZE and APPRAISE different historical interpretations and evidence in order to CONSTRUCT past events.
   Bloom Taxonomy's Cognitive Process: UNDERSTAND, EVALUATE, APPLY
4. Students will IDENTIFY historical arguments in a variety of sources and EXPLAIN how they were constructed, EVALUATING credibility, perspective, and relevance.
   Bloom Taxonomy's Cognitive Process: REMEMBER, UNDERSTAND, EVALUATE
5. Students will CREATE well-supported historical arguments and narratives that demonstrate an awareness of audience.
   Bloom Taxonomy's Cognitive Process: CREATE, APPLY
6. Students will APPLY historical knowledge and historical thinking **"in order to infer what drives and motivates human behavior in both past and present."**
   Bloom Taxonomy's Cognitive Process: APPLY, ANALYZE 18

HIST 2131. Survey of Native American History II

Course Description

Introduces the history and cultures of Native peoples of North America from the earliest times to the present. The course will examine culture change and the interaction of native groups with each other and European peoples. Contemporary priorities and ongoing concerns are also examined.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to …

1. knowledge of historical events
   1.1. analyze and discuss coherently the major themes in United States history until the end of the Civil War including:
      1.1.1. the means and methods of colonization
      1.1.2. the development of slavery and the subsequent battle against this institution
      1.1.3. the development of American political institutions
      1.1.4. the foundation of the American political system underlying the Constitution
      1.1.5. the reasons behind the War of Independence
      1.1.6. the growth the of plurality in the English American colonies and the United States
      1.1.7. the economic development of the United States from colonial beginnings through early industrialization
      1.1.8. the westward expansion of the American people
      1.1.9. the causes and key events of the Civil War
2. an understanding of the causes and processes involved in the growth and development of cultures over time
3. an awareness of the function of change and continuities in the past
4. an understanding of the historical roots of the contemporary world.
   4.1. will understand the relationships between the institutions, conflicts, and values of today as the legacy of our predecessors
   4.2. will express their understanding in papers and classroom discussion
5. an appreciation of the study of history.
   5.1. will enable students to relate events of the past to their own lives and times.

5.2. will appropriately use these concepts in tests, papers, and in classroom discussion
6. an understanding of historical methods
   6.1. critical analysis of texts and argument
   6.2. interpretation of evidence
   6.3. conduct research in a variety of media

HIST 2135. Navajo History

Course Description

Introduces the history and culture of the Navajo people from the earliest times to the present. The course will examine cultural change, the interaction of the Navajo with other native groups and especially with European peoples.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to …

1. Demonstrate a knowledge of historical events
   a. Understand the chronology of Navajo history
2. Understand the causes and processes involved in the growth and development of the Navajo over time, including:
3. Understand the historical roots of the contemporary world
   a. will understand the relationships between the institutions, conflicts, and values of today as the legacy of our predecessors
   b. will express their understanding in papers and classroom discussion
4. Appreciate the study of history.
   a. will enable students to relate events of the past to their own lives and times.
5. Appropriately use these concepts in tests, papers, and in classroom discussion
6. Understand historical methods
   a. critical analysis of texts and argument
   b. interpretation of evidence
   c. conduct research in a variety of media
   d. cite sources appropriately

HIST 2136. History of Indian Education

Course Description

Survey of major artistic traditions and interrelationships among Southwest cultures from prehistoric to modern times using slide lecture, video film, discussion to review the arts of basketry, pottery, architecture, jewelry, textiles, sculpture, painting, and photography in their cultural and historical contents.

Student Learning Outcomes

1. Recognize the procedures implemented from European contact into the present regarding the education of Native Americans
2. Distinguish what tactics were utilized in particular historical time frames to regulate and educate Native people.
3. Analyze how the efforts to educate and assimilate Native people into Non-Native society affected the past and present lives of Indian people
4. Understand the role of Christianity and the U.S. Government in Indian education (Mission & Boarding Schools)
5. Comprehend terms, policies, and treaty information in regard to Native Education

HIST 2140. Survey of the Civil War

Course Description

This course is a history of the American Civil War with an emphasis upon the sectional conflicts and events that led to the war. The course also covers the military, diplomatic, and domestic developments in both the North and the South during the

Civil War years, showing the impact of the war on both the North and South, as well as its impact upon developments throughout the world.

Student Learning Outcomes

1. The role slavery played in bringing on the war.
2. The impact of various economic, political, and philosophical sectional conflicts in bringing about the Civil War.
3. Obtain an understanding of the events which finally triggered the war, and how the unfolding of these events doomed any attempt at compromise.
4. An understanding of the relative strengths and weaknesses of both sides, showing how the disparity between the two sides contributed to the northern victory.
5. The role of diplomacy in securing a Northern victory.
6. The battles and military strategies of the Civil War.
7. The impact of the war in both North and South.

HIST 2145. American Military History

Course Description

This course is a survey of the American military experience from colonial times to the present. Our purpose is to understand the history and traditions of our armed forces as they have changed over the years. Our study will examine the political, economic, social, and intellectual contexts that have shaped our institutions of war and peace. Throughout the semester we will concentrate on honing our analytical and communication skills.

Student Learning Outcomes

To acquire an understanding of the contributions that the American military have made to war and peace throughout the history of the United States…

1. Understand the evolution of the Army's approach to warfare through the Guardian, Heroic, and Managerial schools of thought.
2. Appreciate the key relationship between political activity and policy with warfare.
3. Assess the ongoing role that militias have played.
4. Wrestle with the ongoing debate over the roles of conventional and unconventional warfare.
5. Realize the importance of external support to indigenous military operations.
6. Recognize the impact of the armed forces in American expansion.
7. Understand the place of our wars in shaping society.
8. Comprehend the relationship of diplomacy, politics, economics, and security issues in establishing national strategic policies.
9. Discover the roots of the military-industrial complex during the twentieth century.
10. Assess the impact of the modern security state on American society.
11. Determine the sources of professionalism among military leaders.
    To interpret sources and data in historical context…
12. Read and evaluate primary and secondary source materials
13. Understand the role of revisionism in military history
    To reflect on the roles that personal integrity, professional leadership, and communal ethics play in the day-to-day behavior of individuals and institutions.
    To develop verbal, written and analytical skills…
14. Through discussion, assessments, and essays
    To think historically and learn to formulate questions about the past and present, resolving conflicting interpretations, and drawing tentative conclusions from imperfect evidence…
15. Through the in-depth study of the American military experience.

HIST 2150. History of the American Southwest

Course Description

This course is designed to provide you with an overview of American History of the Southwest starting from the American acquisition of the Southwest to modern times. Major themes in American Southwestern history will be covered. Work will consist of reading our course textbooks and utilizing the internet resources. A research paper 5 pages double spaced will be required and due the last week of the semester. Thematically, this course will be divided into three parts.

Student Learning Outcomes

1. An introduction to the use of both library and internet resources.
2. Gather information for a research paper, identify important individuals that have shaped American Southwestern history and society.
3. To garner the ability to utilize maps, documentary images, graphs and tables for a greater understanding of American historical content.
4. Understand from a human point of view the difficulties minorities have faced from the American acquisition of the Southwest.

HIST 2155. Southwestern Women's History

Course Description

In this course, we will examine the multiple ways in which women helped to shape the U.S. Southwest. History has often left out the perspectives of women but will research and discuss women's involvement in Southwestern history, including politics, economics, and culture.

Student Learning Outcomes

Objectives for the course include: historical knowledge, empirical knowledge and quantitative methods, interpretation and qualitative analysis, and community service.

1.Historical Knowledge
   a. Familiarity with the history of modern Western civilization, including European expansion, conquest, and enslavement.
   b. Acquaintance with debates in historiography, particularly as they relate to the use of history in relation to the understanding of people of color.

2.Empirical Knowledge and Quantitative Methods
   a. Familiarity with different methods of gathering empirical data about human communities (anthropological, sociological, etc.).
   b. Knowledge of critical debates about the use and implications of traditional methods of gathering empirical data to obtain knowledge about communities of color.
   c. Identification of proper methods to conduct research, and awareness of the limits and possibilities of such methods.
   d. Creative use, delimitation, and expansion of methods of empirical and quantitative study based on the nature of the problems and questions addressed in the research as well as the object of study.

3. Interpretation and Qualitative Analysis
   a. Acquaintance with major methods and debates in the humanities.
   b. Identification of proper methods to conduct research about the creative products of human communities, and ethno-racial communities in particular.

4. Community Service
   a. Apply and share knowledge discussed and researched for course in public forums.
   b. Create praxis-oriented projects that put theory to work in a community context (on or off campus).

HIST 2210. History of the Islamic Middle East

Course Description

This course explores the 1400-year history of the Islamic Middle East, with an emphasis on both the political and religious history of the region. Both historical and contemporary issues related to the Middle East are discussed.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe the political history of the Islamic Middle East
2. Describe the religious history of the Islamic Middle East
3. Discuss the relationship between the region's past and contemporary political and religious issues.
4. Understand the central role of religion in the lives of Middle Eastern peoples
5. Understand the inseparable nature of religion and politics in Middle Eastern history.

HIST 2240. History of Vietnam

Course Description

Emphasizes causes of the war, military and political aspects, conduct and consequences of years of conflict in Vietnam: issues surrounding U.S. involvement in Vietnam and changes in the culture, institutions and political thought of the U.S. involvement in Vietnam and changes in the culture, institutions and political thought of the U.S. during and after the war.

Student Learning Outcomes

Students will be able to:

1. examine the cultural and political history of the Vietnamese people.
2. analyze the nature of the European entry into and subsequent colonization of Indo-China.
3. explain the origins of U.S. support for the first Indo-China War.
4. assess the characteristics of American culture and politics which led to major U.S. involvement in the second Indo-China War.
5. give examples of the political, cultural, and environmental connections between past and present that have contributed to interrelations among current communities and nations.
6. articulate a definition of citizenship that emphasizes the common goals and challenges of a global human community.
7. evaluate differences in interpretation generated by diverse primary and secondary sources in historical scholarship.

HIST 2245. Islamic Civilizations to 1800

Course Description

History of Islamic civilizations to 1800.

Student Learning Outcomes

1. By the conclusion of the course, the student will be able to demonstrate a knowledge of the history of cultural encounters, exchanges, and conflicts between the Islamic world and the West from the seventh to the sixteenth century;
2. Be able to evaluate the major themes of cultural contact, conflict, and interchange between the Islamic world and the West;
3. Critically read and evaluate historical evidence with the goal of forming an argument about historical evidence; and
4. Communicate a historical argument logically, clearly, and effectively in writing.

HIST 2246. Islamic Civilizations since 1800

Course Description

History of Islamic civilizations since 1800.

Student Learning Outcomes

1. By the conclusion of the course, the student will be able to demonstrate a knowledge of the history of cultural encounters, exchanges, and conflicts between the Islamic world and the West from the sixteenth century;

2. Be able to evaluate the major themes of cultural contact, conflict, and interchange between the Islamic world and the West;
3. Critically read and evaluate historical evidence with the goal of forming an argument about historical evidence; and
4. Communicate a historical argument logically, clearly, and effectively in writing.

HIST 2250. East Asia to 1600

Course Description

History of China, Korea, Vietnam, and Japan from earliest times through the sixteenth century. Emphasis on cultural and political developments and their social and economic contexts, and the interaction between East Asian societies.

Student Learning Outcomes

1. Students will learn the analytic skills of interpreting historical changes and continuity.
2. They will assess and use historical documents and learn how to evaluate varying historical interpretations.
3. Students will understand the chronological and geographic context of important historical events, and will understand the social, technological, economic, cultural and political components of the society under study in this course.
4. Students will understand how people shape their culture and its beliefs, and the way in which prevailing cultures and beliefs shape them.
5. They will understand the historical origins of present-day societies, to learn about their own historical roots.
6. They will learn about the development of structures of power, the production of and distribution of goods, and the relationship between science and technology and human values and behavior.

HIST 2251. East Asia Since 1600

Course Description

History of China, Korea, Vietnam, and Japan from the sixteenth through the twentieth centuries. Emphasis on internal development of each country, as well as the social and political impact of Western Imperialism, and the emergence of each country's unique version of modern society.

Student Learning Outcomes

1. Students will learn the analytical skills of interpreting historical changes and continuity.
2. They will assess and use historical documents and learn how to evaluate varying historical interpretations.
3. Students will understand the chronological and geographic context of important historical events, and will understand the social, technological, economic, cultural and political components of the society under study in this course.
4. Students will understand how people shape their culture and its beliefs, and the way in which prevailing cultures and beliefs shape them.
5. They will understand the historical origins of present-day societies, to learn about their own historical roots.
6. They will learn about the development of structures of power, the production of and distribution of goods, and the relationship between science and technology and human values and behavior.

HIST 2255. Traditional Eastern Civilizations

Course Description

This course surveys nearly all of Asia (East, South, and West) from antiquity to approximately 1600 CE. The focus is on the development of three major civilizations: Chinese, South Asian, and Islamic. Topics with comparative potential include governing institutions, social structures, economies and trade, belief systems, and artistic expressions.

Student Learning Outcomes

1. Students will understand academic honesty. They will demonstrate in their formal research papers the ethical use of sources and provide accurate and properly formatted citations.

2. Students will understand the basic skills that historians use in research. They will demonstrate in discussions and written work an understanding of the differences between primary and secondary sources as well as an ability to identify and evaluate evidence.
3. Students will understand the concept of historical analysis. They will demonstrate in discussions and written work the ability to think critically about sources and to articulate historical processes.
4. Students will understand the value of diversity. They will demonstrate in discussions and written work the ability to recognize the diversity of human experience and points of view, including their own.

HIST 2256. Modern Eastern Civilization

Course Description

This course surveys Asia from approximately 1600 CE to the present. Topics include the emergence of modern Asia from the impact of western colonialism and imperialism to nationalism, modernization, and revolution.

Student Learning Outcomes:

1. Students will distinguish between primary and secondary sources and identify and evaluate evidence.
2. Students will demonstrate in discussion and written work their understanding of different peoples and cultures in past environments and of how those cultures changed over the course of the centuries.
3. Students will demonstrate in written work and class discussions the ability to recognize and articulate the diversity of human experience, including ethnicity, race, language, gender, as well as political, economic, social, and cultural structures over time and space.
4. Students will produce their own historical analysis of documents and develop the ability to think critically and historically when discussing the past.
5. Students will demonstrate ethical use of sources and provide accurate and properly formatted citations in formal papers.

HIST 2270. The American West

Course Description

Explores the people, cultures, processes, ideas and environmental factors that shaped the history of the West. Examines topics and exploration, migration and immigration, land use and misuse, western violence and experiences of various ethnics' groups of the region.

Student Learning Outcomes

Students will be able to:

1. describe the key processes of identity formation, boundary construction, and cultural interchange that have shaped the settlement of the North American continent.
2. identify the major individuals, cultural groups, and key events involved in America's westward movement.
3. explore and evaluate the West of myth and imagination.
4. give examples of the political, cultural, and environmental connections between past and present that have contributed to interrelations among current communities and nations.
5. articulate a definition of citizenship that emphasizes the common goals and challenges of a global human community.
6. evaluate differences in interpretation generated by diverse primary and secondary sources in historical scholarship.

HIST 2310. Introduction to Historical Methods

Course Description

Topics include constructing a research agenda, primary and secondary source analysis, historiography, standards of citation and argumentation expected in the profession.

Student Learning Outcomes

The course will focus on mastering the practical aspects of learning history. These include such skills as

1. critical reading
2. the ability to write cogently and with accuracy
3. choosing appropriate topics for historical research
4. developing research agendas and methodical plans for research
5. understanding and analyzing primary and secondary sources
6. using the appropriate style for the citation of sources in research papers and historical writing

HIST 2350. Historical Questions and Debates

Course Description

Far from an assemblage of facts, the most interesting histories are insightful interpretations of fragmentary evidence that explain significant historical change. Yet for any given historical question, there are many ways of selecting and interpreting sources depending on presuppositions about key driving forces, balancing short- and long-term influences, and privileging certain kinds of sources and voices over others. As a result, many important historical questions remain difficult to answer in terms of causality and significance. But competing explanations are not merely the subject of academic debates. This course illustrates how ongoing historical disagreements continually influence society, particularly with respect to large structural systems, social identities, legal rights, and access to resources.

Student Learning Outcomes

1. Students will IDENTIFY how information about humans and societies is researched from a variety of sources, EXPLAIN how different methods result in different kinds of arguments, and EVALUATE credibility, perspective, and relevance of evidence.
2. Students will EXPLAIN how historical narratives are constructed, how historians mediate between the past and present, and how source analysis and storytelling play integral roles in constructing historical interpretations.
3. Students will DESIGN research projects to understand various historical debates, EXPLAIN how and why they arose, and ANALYZE ongoing implications of those debates.
4. Students will DISTINGUISH between primary and secondary sources, IDENTIFY different kinds of historical evidence, and APPLY that evidence to EXPLAIN how different social systems and diverse identities are created, maintained, and adapted by different groups over time.
5. Students will be able to DEMONSTRATE in their work various approaches to analyzing and understanding how diverse peoples, as individuals, and in complex groups, shaped their own historical moments and were shaped by those moments.

HIST 2510. Uses of History

Course Description

This class examines the various ways that historical events and issues are relevant in the current moment in terms of public discourse, literature, and politics.

Student Learning Outcomes:

1. Identify moments in which historical narratives are evoked in popular culture and discourse to support certain positions in current issues.
2. Apply historical thinking skills to analyze and evaluate the validity of historical references in popular culture and discourse.
3. Evaluate the ways in which authors construct fictional and non-fictional narratives based in historical details.
4. Examine the messages presented in historical statues and monuments (sites of historical memory) in the contexts in which they were created.
5. Construct an original project that emphasizes the ongoing relevance of historical issues to current events.

HIST 2993 Workshops in History

Course Description
Varies
Student Learning Outcomes
Varies

HIST 2996. Topics in History
Course Description
Specific subjects to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

HIST 2998. Internship
Course Description
Varies
Student Learning Outcomes
Varies

HIST 2999. Programmatic Capstone
Course Description
Varies
Student Learning Outcomes
Varies

Honors (HNRS)

HNRS 1110. Journeys of Discovery
Course Description
Weekly conversations among students and a faculty member; organized around a particular subject and a small selection of readings.
Student Learning Outcomes

1. Students will comprehend and condense information to contribute to class discussions.
2. Students will develop public speaking and presentation skills based on research conducted in and outside of class.
3. Students will expand upon collaborative skills as both group presentations and group written reports.

HNRS 1115. Honors First Year Seminar
Course Description
This course is designed to introduce new first semester students to the life of the mind, the life of the University, and the principles that guide the University Honors Program. Combining critical thinking and experiential exploration, students will develop a personalized plan for success, both in and out of the classroom, consistent with the values of the Honors College and the mission of the University.
Student Learning Outcomes

1. Demonstrate critical thought about the nature of knowledge, learning, and student development in the contemporary University.
2. Explain how key concepts and principles serve as the foundation for the Honors College mission and values.
3. Create a plan for their experiences at university, in and out of the classroom, that will maximize their academic achievement and personal success beyond graduation.

HNRS 1120. Honors Legacy Seminar

Course Description

Surveys of major ideas basic to the intellectual, historical and artistic traditions of Western culture.

Student Learning Outcomes

1. Explore how individuals and diverse societies, past and present, make meaning and assign value.
2. Explain how histories, cultural works, languages and ideas shape diverse communities and relations between them.
3. Design ways of understanding diverse human experiences, including conflict and inequality, by examining cultural records.
4. Identify and analyze the sources of particular claims about human experience.

HNRS 1130. Honors Triad

Course Description

This course provides insights about the same topic from three Honors College faculty members as an introduction to interdisciplinary scholarship. You will use the course's focal topic to develop your written and oral communication, and critical and creative thinking skills.

Student Learning Outcomes

1. Identify connections between the knowledge and modes of thinking of multiple different disciplines.
2. Demonstrate effective written and oral communication.

HNRS 1135. Introduction to Biological Anthropology

Course Description

This course provides a basic introduction to the broad field of biological anthropology. The research interests of biological anthropologists include the history and development of modern evolutionary biology, molecular and population genetics, modern primates, the primate and human fossil record, and modern human biological diversity.

Student Learning Outcomes

1. Summarize the basic principles of evolution and recognize how they apply to the human species.
2. Recognize the biological and behavioral continuity of humans with all life, and especially other modern primate species.
3. Identify ways in which the human species is biologically and behaviorally unique.
4. Summarize fossil evidence for human evolution.
5. Distinguish the major Paleolithic industries and outline the behavioral and cognitive changes indicated by the fossil and archeological evidence.
6. Critically evaluate popular accounts of human variation and human evolution.
7. Interpret modern human dilemmas (e.g., overpopulation, co-evolution of disease, and genetic engineering) from an evolutionary perspective.
8. Discuss in class and analyze in writing scholarly arguments concerning course concepts.

HNRS 1135L. Introduction to Biological Anthropology Lab

Course Description

This laboratory course expands on the topics covered in lecture course and uses scientific methods and principles to examine evidence for the process of evolution, the nature of heredity, human evolutionary history and family tree relationships, primate ecology and behavior, and modern human diversity. Hands-on experience with fossil and skeletal material will be an important part of the learning process.

Student Learning Outcomes

1. Demonstrate an understanding of the scientific method.
2. Employ principles of Mendelian genetics to determine genotype and phenotype probabilities, and calculate gene, genotype, and phenotype frequencies using the Hardy-Weinberg Equilibrium formula.

3. Demonstrate an understanding of cell structure and functions.
4. Use common lab and anthropometric equipment such as a compound microscope and calipers.
5. Discuss primate evolution and compare and contrast members of the Primate order in terms of structure, behavior, and phylogeny.
6. Classify hominid species based upon selected traits such as anatomical changes associated with bipedalism, changes in the size and structure of the brain, and the development of culture.
7. Locate and describe the major bones of the human skeleton and identify characteristics of human skeletons or skulls such as gender, age, and ancestry.
8. Discuss current research in genome analysis of various hominid populations.

HNRS 1980. AP Seminar
Course Description
AP Seminar is a foundational course that engages students in cross-curricular conversations that explore the complexities of academic and real-world topics and issues by analyzing divergent perspectives. Using an inquiry framework. Students practice reading and analyzing articles. research studies. and foundational literary. and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts; and experiencing artistic works and performances. Students learn to synthesize information from multiple sources. develop their own perspectives in written essays, and design and deliver oral and visual presentations, both individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision In order to craft and communicate evidence· based arguments.
Student Learning Outcomes
Varies

HNRS 1210. Honors Seminar
Course Description
A lower division seminar for students enrolled in the Honors Program. The course will emphasize the continued development of critical thinking, enhancement of study skills, and encourage participation in campus activities. The class usually involves off-campus travel.
Student Learning Outcomes
1. Develop an understanding of the ways in which humans interact and influence natural systems.
2. Foster an understanding of the basic ecology of the Gila Region.
3. Develop a sense of place and an appreciation of the characteristics that make the Gila Region unique.
4. Gain confidence and competence in the outdoors.
5. Understand and practice Leave-No-Trace techniques (environmental ethics).
6. Consider scale and scalar relationships.
7. Engage in a backpacking trip.

HNRS 2110. The Present in the Past: Contemporary Issues and their Historical Roots
Course Description
This course will take today's concerns, trends, and customs and contextualize them in the past, explaining their historical origins and development. As an example, we will examine the history of celebrity and how celebrities from Lord Byron to the Kardashians' made an impact on their contemporaries and the broader society of their time. This reading- and writing-intensive course will help students develop skills related to critical thinking, logical argumentation, and written and oral communication.
Student Learning Outcomes
1. Analyze and critically interpret primary sources and understand how others might interpret and use the same material in different ways.

2. Recognize and articulate the diversity of human experience across a range of historical periods and/or cultural perspectives.
3. Understand how historical experiences and memories have shaped contemporary societies.
4. Identify and understand the degree to which history has been used and misused in the past.
5. Draw on historical and/or cultural perspectives to evaluate any or all of the following: contemporary problems/issues, contemporary modes of expression, and contemporary thought.
6. Demonstrate improvement in their ability to read critically, think logically, and express themselves clearly in writing.

HNRS 2111. Successful Fellowship Writing

Course Description

Provides scholars with hands-on skills to complete proposals for scholarships and fellowships, such as the Truman, Rhodes, Marshall, Goldwater, and Udall. Other skills include resume writing, general research development, and finding grant and foundation sources. Intended for freshmen and sophomores.

Student Learning Outcomes

1. Review of Prestigious International and National scholarships.
2. Best practices in preparing competitive proposals and applications.
3. Effective strategies for writing compelling Executive summaries, Resumes, and Personal Statements.

HNRS 2112. Rhetoric & Discourse

Course Description

This course is an interdisciplinary study of writing. People read to engage ideas. They read to inform decisions. Effective writers make ideas and information accessible. Students in this seminar learn the elements of effective writing.

Student Learning Outcomes

1. Demonstrate the ability to understand, appreciate, and evaluate written and spoken messages
2. Display organized thinking and express students' viewpoints clearly, concisely, and effectively
3. Demonstrate awareness of best means to deliver intended message to audience
4. Incorporate legitimate information, properly cited sources, and accurately represented material

HNRS 2113. Fine Arts as Global Perspective

Course Description

This course introduces interdisciplinary perspectives on fine art fields such as visual arts, theater, architecture, dance and music. Its goal is to encourage understanding of the role of art in society and culture

Student Learning Outcomes

1. Analyze and interpret art works that seek social transformation.
2. Employ critical thinking when identifying a work of art and evaluating its merit.
3. Analyze seminal art historical and philosophical texts that challenge the role and importance of political art.
4. Demonstrate effective written communication through written papers, written observations and an artist's statement.
5. Demonstrate effective oral communication in formal assignments (critiques, oral presentations) as well as class participation.
6. Effectively communicate and collaborate on the formation and creation of a work of art.
7. Use the creative process, art making, to evaluate their social responsibilities in their own communities.

HNRS 2114. Music in Time and Space

Course Description

Introduction to all forms of Music. Through our auditory senses and intellectual faculties music is an ideal means for intelligent and humanistic examination of peoples and cultures, and for the enhancement of life. Types of music covered

include classical, jazz, rock and roll, and world music. Music videos, live in-class performances, evening concerts, and lectures will be used as a basis for discussions and research.

Student Learning Outcomes

1. Analyze and critically interpret significant primary texts and/or works of art (this includes fine art, literature, music, theatre, and film).
2. Compare art forms, modes of thought and expression, and processes across a range of historical periods and/or structures (such as political, geographic, social, cultural, religious, intellectual).
3. Recognize and articulate the diversity of human experience across a range of historical periods and/or cultural perspectives.
4. Draw on historical and/or cultural perspectives to evaluate all of the following: contemporary problems/issues, contemporary modes of expression, and contemporary thought

HNRS 2115. Encounters with Art

Course Description

A multicultural examination of the principles and philosophies of the visual arts and the ideas expressed through them.

Student Learning Outcomes

1. Articulate the relationship of art to the human experience
2. Apply the vocabulary of art to critical writings and discussions
3. Interpret art works within cultural, social, personal and historical contexts

HNRS 2116. Earth, Time and Life

Course Description

Covers how the earth's materials form, processes involved in changing the earth's configuration, and extent of people's dependence upon the earth's resources. Includes mineral and energy resources, development of landscapes, environmental problems, evolution of the earth and life forms

Student Learning Outcomes

1. Gain a general understanding of geology and the geological processes that have been occurring throughout Earth's history.
2. Learn about some of the common minerals and rocks that are the building blocks to geology and the rock cycle.
3. Investigate the processes associated with each rock type (e.g., volcanoes, faults, depositional processes, etc.) and as well as potential geologic hazards (e.g., volcanic eruptions, earthquakes, flooding, etc.).
4. Recognize and identify common minerals and rocks and understand the basic processes and conditions responsible for their formation and occurrence.
5. Comprehensively understand how the internal and external parts of the Earth have functioned throughout geologic time.

HNRS 2117. The World of the Renaissance: Discovering the Modern

Course Description

An introduction to the literature and thought of Renaissance Europe. Humanism and the Reformation will be approached through the intensive study of major writers such as Petrarch, Machiavelli, Luther, Erasmus, Montaigne, and Shakespeare. Restricted to Las Cruces campus only.

Student Learning Outcomes

1. Analyze and critically interpret significant primary texts and/or works of fine art, literature, philosophy, and theatre from the early modem period;
2. Locate art forms, modes of thought and expression, and processes from the early modem period in historical and/or cultural context and compare them to those of other time periods;

3. Demonstrate an understanding of how early modem historical and/or cultural perspectives and key technological developments contributed to the development of contemporary thought and modes of expression;
4. Recognize and articulate the diversity of human experience across historical periods and/or cultural perspectives;
5. Demonstrate skill in working with relevant secondary resources and research tools to develop a class.

HNRS 2118. Places of the Present

Course Description:

Places of the Present courses are built on the idea that active learning is both a process and a product in which the student is the primary agent, and that the concept of the text as a material for study and analysis should be expanded to include place.

Student Learning Outcomes:

1. Analyze and critically interpret place as though it were a text.
2. Engage in reflective practices.
3. Articulate reflections and synthesis through written and/or other media.
4. Apply cross-disciplinary knowledge and methods to develop questions.
5. Take creative risks and solve problems through iteration, revision, and exploration of divergent solutions.

HNRS 2120. Foundations of Western Culture

Course Description

Critical reading of seminal texts relating to the foundations of culture and values in Western civilization, from ancient Greece to about 1700. Focus on the development of concepts of nature, human nature, and the state.

Student Learning Outcomes

1. Students will enhance abilities to quickly read, comprehend, and evaluate lengthy, complex texts to extract their fundamental arguments.
2. Students will improve critical thinking by grappling with ethical issues about the rights of individuals versus societies.
3. Students will use historical analysis to contextualize current social, political, geographic, and economic issues and how the foundations continue to affect contemporary society.

HNRS 2121. Women Across Cultures

Course Description

Historical and critical examination of women's contributions worldwide with emphasis on the issues of representation that have contributed to exclusion and marginalization of women and their achievements.

Student Learning Outcomes

1. Cultivate their knowledge about a broad range of women's experiences within the hierarchies of gender, class, race, national origin, language, (dis)ability, age, sexuality, body shape etc.
2. Practice the use of critical feminist theoretical tenets, language, and research tools aiming to: Unpack the complexities of women's lived experiences at the intersections of constructed categories of difference and explore systems of oppression that contribute to the exclusion and exploitation of women around the globe.
3. Foster the understanding of local, national, and global activisms committed to creative ways of resistance to inequities and collective approaches of shaping a more just and sustainable world for all.

HNRS 2130. Shakespeare on Film

Course Description

How do Shakespeare's plays continue to speak to us through the medium of film? Written in a time of rapid social change, Shakespeare's plays invited audiences to think critically about the relationship between the self and others and to question

conventions. Performances of Shakespeare have long been used to call out social injustice, from western anti-Semitism prior to World War II (The Merchant of Venice), to civil rights-era white supremacy in the US and apartheid in South African (Othello), and authoritarianism in the Arab Spring (Richard III). This course focuses on post-1980 Hollywood film versions of Shakespeare's plays and a few prior landmark adaptations around the world, examining how they use Shakespeare as a medium for debate and even a catalyst for social change.

Student Learning Outcomes

1. Students will enhance written communication through preparation of papers that synthesize primary and secondary source material.
2. Students will critically evaluate works of fiction to identify common themes, archetypes, and expressions of culturally contextualized morals. Students will improve oral communication and discussion skills as they collectively dissect course material.

HNRS 2140. Plato and the Discovery of Philosophy

Course Description

Examines arguments and theories found in the Platonic dialogues with a view to determining the nature and value of philosophy both from Plato's point of view and absolutely.

Student Learning Outcomes

1. Students will evaluate a number of Plato’s dialogues to understand his doctrines and arguments.
2. Students will use their understanding to further evaluate why his philosophies have remained influential in modern, Western society and beyond.
3. Students will develop well-formulated, compelling arguments from philosophical texts.

HNRS 2141. Bamboo and Silk: The Fabric of Chinese Literature

Course Description

Introductory survey of traditional and modern Chinese prose and poetry in translation with emphasis on genre, theme, and social/historical context.

Student Learning Outcomes

1. Students will acquire extensive knowledge of one of the world's oldest and richest literary traditions.
2. Not incidentally, students will also gain knowledge of China's history and philosophical traditions.
3. As this class is based on reading, writing, and discussion, students will hone their interpretive and expressive skills.

HNRS 2145. Celtic Literature

Course Description

This course provides an overview of the most important early literary works of the so-called Celtic nations, principally Ireland and Wales, from a literary and historical approach. This literature stems from the period 600-1200 and ends with the development of the Romances under influence from the French.

Student Learning Outcomes

1 Students will enhance written communication through preparation of papers that synthesize primary and secondary source material.
2. Students will critically evaluate works of fiction to identify common themes, archetypes, and expressions of culturally contextualized morals.
3. Students will improve oral communication and discussion skills as they collectively dissect course material and participate in class discussions.

HNRS 2150. Religion and the State

Course Description

Moral and political questions that arise in connection with church-state relations, including religious toleration, separation of church and state, the individual's moral duty to ignore religious convictions when performing functions of democratic citizenship, and the extent to which these ideas are embodied in our nation's traditions

Student Learning Outcomes

1. Students will evaluate ideologies, their impact, and the increasingly critical role of religion and spirituality as they continue to shape the rapidly changing sociopolitical landscapes of the Western world.
2. Students will formulate theoretical knowledge by integrating historical, conceptual, and comparative modes of research.
3. Students will interpret how religious and spiritual phenomena affect global perceptions of order/disorder in society, leading to the formation of current public policy.

HNRS 2160. New Testament as Literature

Course Description

Literature of the New Testament examined from a literary perspective. Emphasis on translation history of the New Testament, generic features of gospel, epistle and apocalypse, precedent literary models, problems of authorship, classification of New Testament texts.

Student Learning Outcomes

1. Students will hone critical thinking skills by analyzing arguments and controversies surrounding the roots of Christianity.
2. Students will discern and discuss the viability of both literary and historical sources with debated authorship, dating, and interdependency.
3. Students will practice interpersonal navigation and maintaining an academic environment of respect as they discuss a number of topics that can be considered controversial or subjective.

HNRS 2161. Window of Humanity

Course Description

Anthropology is the most humanistic of the sciences, and the most scientific of the humanities. This course will use anthropological perspectives to examine the human experience from our earliest origins, through the experiences of contemporary societies. We will gain insights into the influence of both culture and biology on shaping our shared human universals, and on the many ways in which human groups are diverse. Restricted to Las Cruces campus only.

Student Learning Outcomes

1. Explain the concepts that define Anthropology (along with its subfields) as a specific research discipline.
2. Possess a growing vocabulary for anthropology, cultural study, ethnographic research and writing that will empower them as they continue with their degrees and professional careers.
3. Recognize how Anthropological concepts, terms, and methods are valuable for present-day concerns and how these tools can be used to engage life and the world at large.

HNRS 2165. Humanities in the 21st Century

Course Description

An exploration of the humanities, of their intrinsic and extrinsic values, and of the skills and habits of mind they cultivate.

Student Learning Outcomes

1. Articulate what the humanities are and what role they have played in education throughout the ages
2. Articulate examples of the intrinsic value of the humanities
3. Articulate the skills and habits of thought in at least one chosen discipline in the humanities
4. Articulate common misconceptions about university majors and reframe the common misconceptions
5. Create at least three employment scenarios based on your skills and interests
6. Exercise divergent thinking with regards to future career paths

HNRS 2167. Humanities in Society and Culture

Course Description

This course introduces interdisciplinary perspectives on humanities fields such as literature, history, and philosophy as well as associated disciplines. Its goal is to encourage understanding of the role of the humanities in society and culture.

Student Learning Outcomes

1. Analyze, critically interpret, and evaluate primary works within the humanities.
2. Evaluate how some key works in the humanities reflect either a historical period or national, cultural, ethnic, or gender issues.
3. Compare how these key works invoke shared human experiences that may relate to readers and the world today.
4. Construct persuasive arguments and increase writing proficiency through analytical essays characterized by original and insightful theses, supported by logically integrated and sound subordinate ideas, appropriate and pertinent evidence, and good sentence structure, diction, grammar, punctuation, and spelling.

HNRS 2170. The Human Mind

Course Description

The primary course objective is to develop an appreciation of the variety and complexity of problems that are solved by the human mind. The course explores how problems are solved by a combined computational analysis (computational theory of mind), and evolutionary (evolution by natural selection) perspective. The mind is what the brain does (i.e., information processing) and the brain is a computational device that is a product of evolution by natural selection. Note that this is not a neuroscience course, we will be focusing on the mind (what the brain does) rather than on the brain.

Student Learning Outcomes

1. Enhance written and oral communication
2. Stimulate critical thinking and learn to weigh scientific evidence
3. Challenge students to make ethical decisions and promote personal and social responsibility

HNRS 2171. The Worlds of Arthur

Course Description

Arthurian texts and traditions from medieval chronicle histories to modern novels. Emphasis on both the continuities of the Arthurian tradition and the diversity of genres, media, and cultures that have given expression to the legend**.**

Student Learning Outcomes

1. Students will examine how texts and narratives, even with fictional implications, still held psychological, social, cultural, and religious sway within developed societies throughout history.
2. Students will synthesize information from an array of both primary and secondary sources to measure the cultural significance King Arthur holds in contemporary societies.
3. Students will extrapolate how a society's values at any point in history will affect the transference of mythos, just as a myth transmits the values of that society.

HNRS 2172. Archaeology: Search for the Past

Course Description

A critical evaluation of various approaches to understanding prehistory and history. The methods and theories of legitimate archaeology are contrasted with fantastic claims that invoke extraterrestrials, global catastrophes, transoceanic voyages, and extra-sensory perception.

Student Learning Outcomes

1. Identify, describe, and explain how human lifeways changed in diverse communities in different parts of the globe.

2. Select and use relevant archaeological evidence to articulate how people's beliefs and values were influenced by politics, geography, economics, culture, biology, history, and social institutions in the past.
3. Analyze the significance of archaeological artifacts in context and explain their relevance to understanding relations among individuals, their society, and the environment.
4. Evaluate how practices in research, conservation, and tourism to archaeological sites promote ethical stewardship of non-renewable archaeological resources.
5. Design a study tour to archaeological sites that will address a key question or argument in prehistory and promote historic/archaeological preservation.

HNRS 2173. Medieval Understandings: Literature and Culture in the Middle Ages

Course Description

Intensive, interdisciplinary introduction to the thought and culture of medieval Europe. Core texts will include works by St. Augustine, Marie de France, and Dante, as well as anonymous works such as Sir Gawain and the Green Knight, all supplemented by study of medieval art, architecture, philosophy, and social history.

Student Learning Outcomes

1. Students will hone critical reading skills as they read through a wealth of texts, by prioritizing attention to details and how it affects the overall narrative.
2. Students will recognize how the social, religious, and political environments of the medieval era shaped contemporary society in affected regions beyond Europe.
3. Students will employ comparative analysis skills as they examine how Islamic culture might have influenced poetry and music in medieval Europe.

HNRS 2174. American Politics in a Changing World

Course Description

American politics and policies examined from a historical and global perspective. Philosophical underpinnings of American national government, the structure of government based on that philosophy, and the practical implications of both the philosophical and structural base. How American government influences and is influenced by the world community.

Student Learning Outcomes

1. Students will enhance their understanding of the operation of major American political institutions and processes.
2. Students will investigate how the uniquely American form of constitutional governance has sought to adapt to changing historical and cultural conditions.
3. Students will practice interpersonal navigation and maintaining an academic environment of respect as they discuss a number of topics that can be considered controversial or subjective.

HNRS 2175. Introduction to Communication Honors

Course Description

Study and practice of interpersonal, small group, and presentational skills essential to effective social, business, and professional interaction.

Student Learning Outcomes

1. Analyze and evaluate oral and written communication in terms of situation, audience, purpose, aesthetics, and diverse points of view.
2. Express a primary purpose in a compelling statement and order supporting points logically and convincingly.
3. Use effective rhetorical strategies to persuade, inform and engage.
4. Employ writing and/or speaking processes such as planning, collaborating, organizing, composing, revising & editing to create presentations using correct diction, syntax, grammar and mechanics.
5. Integrate research correctly and ethically from credible sources to support the primary purpose of a communication.
6. Engage in reasoned civil discourse while recognizing the distinctions among opinions, facts, and inferences.

HNRS 2176. Acting for Everyone

Course Description

To provide fundamental training in acting techniques, including stage voice and movement, improvisation, ensemble building, characterization, emotion exploration and basic performance analysis. The course will provide a correlation between theatre skills and everyday "life" skills and seek to encourage an appreciation for the art of theatre.

Student Learning Outcomes

1. Improve effectiveness of oral communication.
2. Enhance creativity and appreciation of theatre.
3. Build confidence and expressiveness.

HNRS 2178. Theatre: Beginnings to Broadway

Course Description

Intercultural and historical overview of live theatre production and performance, including history, literature and professionals. Students attend and report on stage productions.

Student Learning Outcomes

1. Distinguish and differentiate the characteristics of theatre from other art forms.
2. Describe the major components of a theatrical event.
3. Describe the functions of various theatre personnel.
4. Define specific terms relating to the study of theatre.
5. List and describe the parts of a play.
6. Define the different parts of plot.
7. Critique plays
8. Describe the characteristics of theatre in the different periods of history.
9. Develop an appreciation for theatre as an art form and a reflection of society

HNRS 2180. Citizen and State Great Political Issues

Course Description

The fundamental questions of politics: why and how political societies are organized, what values they express, and how well they satisfy those normative goals and the differing conceptions of citizenship, representation, and freedom.

Student Learning Outcomes

1. Students will investigate the fluid state of American politics by discerning the decisions and policies of a selection of presidents.
2. Students will investigate the complex operations behind a representative democracy.
3. Students will examine how the sociopolitical environment surrounding a president influences his policies, and how a president’s policies affect the broader society.
4. Students will assess and measure how politics can be affected by active and engaged citizens.

HNRS 2185. Democracies, Despots, and Daily Life

Course Description

This course will offer students the chance to read firsthand accounts of ordinary citizens' lives under different political systems, from the earliest age to the present day. This reading- and writing-intensive course will help students develop skills related to critical thinking, logical argumentation, and written and oral communication.

Student Learning Outcomes

1. Analyze and critically interpret primary sources and understand how others might interpret and use the same material in different ways.

2. Recognize and articulate the diversity of human experience across a range of historical periods and/or cultural perspectives.
3. Understand how historical experiences and memories have shaped contemporary societies.
4. Identify and understand the degree to which history has been used and misused in the past.
5. Draw on historical and/or cultural perspectives to evaluate any or all of the following: contemporary problems/issues, contemporary modes of expression, and contemporary thought.
6. Demonstrate improvement in their ability to read critically, think logically, and express themselves clearly in writing.

HNRS 2190. Claiming a Multiracial Past

Course Description

Survey of history of the United States in the nineteenth and twentieth centuries, with an emphasis on multicultural social and cultural history. Focus on understanding American history from the point of view of dispossessed, impoverished, and disenfranchised Americans who have fought to claim both their rights as Americans and American past.

Student Learning Outcomes

1. Students will contextualize the current state of American "being" by focusing on the multicultural-social and cultural history of the U.S. in the nineteenth and twentieth centuries.
2. Students will hone public speaking and presentation skills through classroom discussions and activities.
3. Students will practice interpersonal navigation and maintaining an academic environment of respect as they discuss a number of topics that can be considered controversial or subjective.

HNRS 2221. Mathematics in the World

Course Description

This course is an interdisciplinary and rigorous introduction to mathematical reasoning. Themed sections connect foundational ideas of mathematics, such as logic, systems of numbers, sequences and series, geometry, and probability to other aspects of human thought.

Student Learning Outcomes

Student will demonstrate competency in:

1. Mathematical problem solving.
2. Written mathematical communication.
3. Oral mathematical communication.

HNRS 2331. Science in the 21st Century

Course Description

This course introduces principles from scientific fields such as biology, chemistry, physics, geology, and astronomy. It will familiarize students with scientific inquiry and an understanding of the role of the sciences in society and culture.

Student Learning Outcomes

1. Using written language, students explain and discuss the concepts listed in the course content and apply them to everyday phenomena and interdisciplinary examples.
2. Students apply formulas to calculate measurable quantities related to course concepts.
3. Demonstrate ability to collect data, write reports which include data, evidence, interpretation and conclusions using both technical and nontechnical language while utilizing good sentence structure, grammar, punctuation and spelling.
4. Students explain and discuss principles underlying course concepts.
5. Demonstrate knowledge and comprehension of course concepts.
6. Students develop critical thinking skills that enable application of scientific knowledge in new and unusual settings, across disciplines in order to answer questions and make informed decisions.

HNRS 2331L. Science in the 21st Century Lab

Course Description

This optional lab corresponding to HNRS 2331 uses direct experimental work, field study, and other practical applications to introduce scientific method and inquiry in one or more of the basic sciences.

Student Learning Outcomes

1. Using written language, students explain and discuss the concepts listed in the course content and apply them to everyday phenomena and interdisciplinary examples.
2. Students apply formulas to calculate measurable quantities related to course concepts.
3. Demonstrate ability to collect data, write reports which include data, evidence, interpretation and conclusions using both technical and nontechnical language while utilizing good sentence structure, grammar, punctuation and spelling.
4. Students explain and discuss principles underlying course concepts.
5. Demonstrate knowledge and comprehension of course concepts.
6. Students develop critical thinking skills that enable application of scientific knowledge in new and unusual settings, across disciplines in order to answer questions and make informed decisions.

HNRS 2364. The Individual and the Collective

Course Description

This course is an interdisciplinary introduction to the social and behavioral sciences. Insight from multiple disciplines including psychology, anthropology, political science, sociology and economics will be used to critically analyze local, national, or global problems.

Student Learning Outcomes

1. By the end of the course, students will be able to define social science and articulate how approaches vary across the disciplines.
2. By the end of the course, students will demonstrate a toolkit of social scientific theories and concepts.
3. By the end of the course, students will be able to examine empirical evidence using social science methods.
4. By the end of the course, students will be able to apply the theories and methods of the social sciences to identify, describe, and explain human behaviors and to critically evaluate how these behaviors are influenced by and influence social structure and the environment.

HNRS 2980. AP Research

Course Description

This is the second course in the AP Capstone experience, allows students to deeply explore an academic topic, problem, issue. or idea of individual interest. Students design and plan. and implement a yearlong investigation 10 address a research question. Through this inquiry, they further the skills they acquired in the AP Seminar course by learning research methodology, employing ethical research practices, and accessing, analyzing, and synthesizing information. Students reflect on their skill development, document their processes, and curate the artifacts of their scholarly work: through a process and reflection portfolio. The course culminates in an academic paper of 4,000-5,000 words (accompanied by a performance exhibit, or product where applicable) and a presentation with an oral defense.

Student Learning Outcomes

Varies

HNRS 2996. Honors Topics

Course Description

Special topics are offered occasionally, and the selection is different every semester. Special Topic courses do not repeat material presented by regular semester courses. The purpose of special topics is to provide students with new, one-time, and developing information in accounting.

Student Learning Outcomes
Vary depending upon topic.

HNRS 2997. Honors Independent Study
Course Description
Varies
Student Learning Outcomes
Varies

Horticulture (HORT)

HORT 1110. Introduction to Horticulture
Course Description
An introduction to principles and practices of horticulture as a science and its practical applications. SOIL Includes an introduction to plant anatomy, classification and identification, physiology, genetics, and propagation as they apply to horticulture.
Student Learning Outcomes
At the end of this course, students will be able to:

1. Demonstrate an understanding of basic plant biology concepts in plant morphology, anatomy, taxonomy, physiology, reproduction, and genetics.
2. Recognize plant responses to biotic and abiotic environmental conditions.
3. Students will facilitate plant growth, solve problems, and demonstrate principles revealed with hormone, propagation, nutrition, water, and soil modification.
4. Understand and apply general horticulture principles and practices.
5. Understand career opportunities in horticulture.

HORT 1115. Introductory Plant Science
Course Description
Introduction to the physical, biological, and chemical principles underlying plant growth and development in managed ecosystems. In the laboratory portion of the class, students perform experiments demonstrating the principles covered in lecture. The course uses economic plants and agriculturally relevant ecosystems to demonstrate basic principles. Appropriate for nonscience majors. Same as AGRO 1100G
Student Learning Outcomes

1. Describe the role plants play in everyday lives.
2. Introduce career opportunities in plant and soil sciences, and related fields.
3. Define plants through the concepts of plant structure and anatomy.
4. Introduce the wide variety of plants cultivated throughout the world.
5. Describe how plants work (growth, reproduction, physiology, and soil).
6. Describe how plants are manipulated to feed, clothe and entertain the world.

HORT 1210. Cannabis & Hemp Enterprises I
Course Description
Cannabis I prepares students to become informed and ethical managers, business owners, investors, and advocates in the legal cannabis industry. Topics include History of Hemp/Cannabis as a Business Enterprise, Emerging Hemp/Cannabis Markets, Understanding and Navigating the New Mexico Cannabis Regulation Act (CRA) and the 2018 Farm Bill and Domestic Hemp Production rules in NM. Course delivered using current technologies available to students in biweekly modules.
Student Learning Outcomes

1. Define critical business requirements, and regulations of the NM Cannabis Regulation Act.
2. Discuss best practices for Cannabis & Hemp licenses.
3. Define common industry terms.
4. Analyze historical legal and regulatory benchmarks
5. Evaluate effects of methods of Ingestion and Delivery systems
6. Create a Cannabis/Hemp Cultivation Plan for 200 points.

HORT 1220. Cannabis II

Course Description

Cannabis II prepares students to enter the hemp/cannabis career and entrepreneurial marketplace by making informed decisions about the unique challenges of the hemp/cannabis industry. Topics include Hemp/Cannabis Startup, Building a Business Plan, Engaging Professional Assistance, Management, Strategies for success, and Managing and Operating a NMCRA compliant Cannabis Enterprise.

Student Learning Outcomes

1. Formulate a general understanding of the unique challenges of managing/owning a licensed cannabis and hemp business by writing standard operating procedures for business.
2. Apply student knowledge of NM Cannabis Regulation Act and its role in guiding the NM regulation and Licensing Department by correctly evaluating various legal scenarios.
3. Demonstrate an understanding of the various aspects of Cannabis & Hemp business operations by authorizing a micro business plan.

HORT 2110. Ornamental Plants I

Course Description

This covers identification, botanical characteristics, culture, and landscape uses of woody plants. Emphasis will be on deciduous trees, native shrubs, and evergreens

Student Learning Outcomes

1. Identify landscape plants by scientific names, including family, genus and specific epithet.
2. Use scientific terminology to accurately describe landscape plant morphology.
3. Illustrate plant family relationships at the family and genus level.
4. Apply landscape design principles and knowledge of plant requirements to arrange plants in a landscape.

HORT 2120. Ornamental Plants II

Course Description

Identification, botanical characteristics, culture, and landscape uses of woody plants. Emphasis on flowering trees, cacti, and members of the pea and rose families.

Student Learning Outcomes

1. Identify landscape plants by scientific names, including family, genus and specific epithet.
2. Use scientific terminology to accurately describe landscape plant morphology.
3. Illustrate plant family relationships at the family and genus level.
4. Apply landscape design principles and knowledge of plant requirements to arrange plants in a landscape.

HORT 2130. Floral Quality Evaluation and Design

Course Description

Critical hands-on evaluation of the quality of cut and potted floral and tropical foliage crops, their specific merits and faults, and fundamentals of floral design.

Student Learning Outcomes

1. Identify common floriculture crops or know resourcing to help identify the crop.

2. Evaluate quality (merit and fault) of common floriculture crops, based on industry standards and merit. Pi Alpha Xi and American Floral Endowment standards will be used for the purpose of this class.
3. Have a basic understanding of the floriculture industry and identify career pathways within the industry.
4. Know, understand, creatively interpret, and execute basic principles of design in regard to floral design.
5. Use interpersonal communication, problem solving, basic math, and marketing during cash and carry "lab" time (flower sales) in developing job ready skills in floristry.
6. Layer principles of design, marketing, sales, and time management to create floral art in real-world scenarios.

HORT 2150. Care and Selection of Houseplants
Course Description
This course will investigate houseplants and their role in transforming our living spaces. This course is designed to equip the student with the essential knowledge and skills needed to nurture thriving indoor gardens to create visually stunning interior landscapes.
Student Learning Outcomes
1. Identify common houseplants.
2. Create an aesthetically pleasing interior-scape by applying design principles to plants and plant accessories.
3. Recognize common houseplant pests and diseases and create a plan for treatment.
4. Create a business proposal for plant care and/or interior-scape company.

HORT 2160. Plant Propagation
Course Description
Practical methods of propagating horticultural plants by seed, cuttings, layering, grafting, division and tissue culture. Examination of relevant physiological processes involved with successful plant propagation techniques. Same as AGRO 2160.
Student Learning Outcomes
1. Practical methods of propagating plants by seed, cuttings, layering, grafting, division, and tissue culture through experiential, “hands-on” laboratories.
2.. Relevant physiological principles involved in propagating horticultural plants through lecture discussions and readings.

HORT 2990. Practicum
Course Description
Varies
Student Learning Outcomes
Varies

HORT 2996. Topics in Horticulture
Course Description
Varies
Student Learning Outcomes
Varies

Hotel, Restaurant & Tourism Management (HRTM)

HRTM 1110. Freshman Orientation
Course Description
Orientation to university life, including available resources and methods to promote success at NMSU.
Student Learning Outcomes
1. Identify career opportunities in hospitality and tourism.

2. Understand skills and characteristics desired by potential employers of Hotel, Restaurant and Tourism students.
3. Develop greater appreciation of current trends in the hospitality and tourism industry.
4. Become more familiar with faculty and staff in the School of Hotel, Restaurant and Tourism Management and resources available to students in the department.
5. Refine written and verbal communication skills.

HRTM 1115. Introduction to Management in the Hospitality Industry

Course Description

The course will explore and analyze management opportunities, functions, methods, and concepts in various segments of the hospitality industry.

Student Learning Outcomes

Students should be able to:

1. Understand the key aspects of hospitality and tourism functions and the language used by these functions.
2. Develop and demonstrate an appreciation of the interrelationship of these functions.
3. Demonstrate familiarity with the environments in which hospitality and tourism operates (economic and legal environment of hospitality and tourism, the globalization of markets, workforce diversity, leadership and entrepreneurship).
4. Develop and display an understanding of the importance of addressing questions about the role of hospitality and tourism in society, corporate social responsibility, ethical issues, and personal values.
5. Develop and display critical thinking and analytical skills through oral presentations and in written form on assignments and exams.

HRTM 1120. Introduction to Tourism

Course Description

Survey of travel and tourism development and operating characteristics.

Student Learning Outcomes

1. Define tourism and related terms.
2. Identify and explain the role of the elements of the destination mix.
3. Identify the potential socio-cultural, economic and environmental impacts of tourism.
4. Identify and describe the role of key governmental and nongovernmental organizations in tourism.
5. Describe basic tourism planning and development principles.
6. Discuss the unique challenges of tourism marketing and standard marketing methods.
7. Describe the components of the tourism distribution system.
8. Demonstrate a basic understanding of traveler behavior including motivations and barriers to travel.
9. Identify major factors that influence traveler flows
10. Describe the role of major modes of transportation in the tourism system.
11. Identify and describe the three pillars of sustainable tourism development.
12. Explain personal and social responsibility as it relates to sustainable tourism development.
13. Demonstrate effective communication and critical thinking skills.

HRTM 1130. Introduction to Hospitality Management

Course Description

Overview of the major segments of the hospitality industry, with a focus on basic management principles.

Student Learning Outcomes

1. Understand the concept of management contracts and franchising.
2. Recognize and understand needed leadership qualities to achieve organizational objectives.
3. Understand the hospitality industry within the global environment.

4. Identify company and industry trends.
5. Understand the functions of all departments in a hospitality organization (restaurant, hotel, club, etc.).
6. Apply the concepts of convention management, meeting and event planning, and casino management.
7. Understand the concepts of quick and institutional/contract foodservice management.
8. Understand the principles of bar management and compare and contrast wines, beers and distilled spirits.
9. Manage the process of service delivery.
10. Identify and solve managerial problems
11. Manage a diverse workforce and develop positive employee relations to reduce turnover.

HRTM 1140. Introduction to Food Preparation

Course Description

The fundamental concepts, skills and techniques involved in basic cookery are covered in this course. Special emphasis is given to the study of ingredients, cooking theories, and the preparation of stocks, broth, glazes, and soups, thickening agents, the grand sauces and emulsion sauces. Lectures and demonstrations teach organization skills in the kitchen, work coordination, and knife skills. The basics of vegetable cookery, starch cookery, meat and poultry are covered. Emphasis is given to basic cooking techniques such as sautéing, roasting, poaching, braising and frying. Students must successfully pass a practical cooking examination covering a variety of cooking techniques.

Student Learning Outcomes

Students should be able to:

1. Identify basic kitchen utensils and equipment associated with the culinary profession, as well as measuring devices.
2. List and describe the method of preparation for stocks and Grand Sauces and various derivatives of each.
3. List and describe the method of preparation for clear soups, puree and cream soups, and specialty soups.
4. Demonstrate adult and professional manner during all classes, both laboratory and lecture.
5. List and explain the methods of preparation for basic vegetables and starches
6. List and explain all basics in regard to heat application as to:
    a. Roasting
    b. Sautéing
    c. Pan Frying
    d. Braising
    e. Simmering
    f. Deep Frying
    g. Submerge Poaching
    h. Shallow Poaching

HRTM 1145. Food and Beverage Service Management

Course Description

You will study food and beverage service management systems in the hospitality field. You will learn to analyze cost control and quality control techniques. This course requires a work site practice location.

Student Learning Outcomes

Students should be able to:

1. Identify effective communication and motivational techniques to create a positive work climate.
2. Identify and list the job responsibilities and personnel requirements of a manager of dining room service.
3. List and explain the principles necessary for dining room service management.
4. Identify dining room service needs determined by the menu.
5. Identify and articulate the necessity of good communication between food production and service employees.
6. Establish guidelines for par inventory levels for dinnerware, glassware, flatware, and linens.
7. List and describe the basic styles of service.

8. Explain and demonstrate staffing guidelines, including developing a work schedules.
9. List and describe procedures for controlling manual guest checks.
10. List and articulate dining room procedures which include reservation handling and suggestive selling.
11. List beverage service positions and describe the duties.
12. List and explain the key elements of planning, time management and delegating as it relates to service
13. Identify costs within the food and beverage operations; calculate selling price, and forecast sales, and build a profit and loss/income statement. These are key business competencies to prepare for real business.
14. List, articulate and demonstrate responsible alcohol awareness component in keeping with the state regulations.
15. List the characteristics of various wines and beers.
16. Match a variety of foods with the appropriate beverages.
17. Identify all local state and federal laws pertaining to the purchase and service of alcoholic beverages.
18. Distinguish the basic production process for distilled spirits, liquors, beer and brandy.
19. Identify and describe the preparation, presentation, and service of alcoholic, non- alcoholic beverages including coffees and teas.
20. Identify and list equipment and glassware used for beverage preparation and service.
21. List and describe opening and closing procedures of a beverage operation.
22. List and explain procedures for implementing internal beverage controls.

HRTM 1320. Food Production and Service Fundamentals

Course Description

Basic overview of food service systems including menu management, purchasing and production. The course includes basic principles of food fabrication and production. Topics include knife skills, culinary terminology, product identification, quality standards, nutritional cooking theory and application of food preparation techniques. The course includes laboratory aspects and demonstration of basic food production techniques, service styles, practices and procedures in food service operations including culinary math. This course provides students with an understanding of food service sanitation and culinary nutrition. Completion of a national certification examination is required.

Student Learning Outcomes

1. Demonstrate use of standard recipes and how to reduce and increase their yields.
2. Demonstrate basic culinary knife cuts, basic fabrication and mise en place.
3. Demonstrate basic cookery techniques of dry, moist and a combination of heat.
4. Demonstrate the proper plating and garnishing of foods.
5. Describe proper personal behaviors required for the safe handling of food.
6. Identify and properly operate kitchen equipment.
7. Pass the ServSafe Exam.
8. Describe the three forms of food contaminants and preventative measures.
9. Demonstrate how to properly “set” a table for service.
10. Demonstrate how to provide dining room service with proper etiquette
11. Demonstrate safe work habits, identify safety hazards, and employ preventative safety measures.
12. Maintain positive relations with fellow students and faculty through teamwork.
13. Exhibit appropriate work habits and attitudes; demonstrate a willingness to compromise.
14. Demonstrate a positive attitude, conversation skills, personal hygiene and work attire.

HRTM 2110. Safety, Sanitation and Health in the Hospitality Industry

Course Description

Addresses public health, HACCP, and food safety responsibilities in the hospitality industry. Sanitation certification test allows students to receive national ServSafe Food Protection Manager Certification. Restricted to Las Cruces campus only.

Student Learning Outcomes

1. Identify the hazards to safe food and the foods at risk in a foodservice operation.
2. Identify and discuss the Hazard Analysis Critical Control Point (HACCP) system and be able to design a HACCP flowchart.
3. Demonstrate knowledge of how to protect food during purchasing, receiving, storing, preparing, holding, and serving.
4. Discuss the procedures for ensuring sanitary equipment, facilities, and food-handling practices.
5. Explain how to set-up cleaning, safety, pest control, crisis management, and training programs.

HRTM 2120. Food Production and Service Fundamentals

Course Description

Basic overview of food service systems including menu management, purchasing and production. The course includes basic principles of food fabrication and production. Topics include knife skills, culinary terminology, product identification, quality standards, nutritional cooking theory and application of food preparation techniques. The course includes laboratory aspects and demonstration of basic food production techniques, service styles, practices and procedures in food service operations including culinary math. This course provides students with an understanding of food service sanitation and culinary nutrition. Completion of a national certification examination is required.

Student Learning Outcomes

1. Demonstrate use of standard recipes and how to reduce and increase their yields.
2. Demonstrate basic culinary knife cuts, basic fabrication and mise en place.
3. Demonstrate basic cookery techniques of dry, moist and a combination of heat.
4. Demonstrate the proper plating and garnishing of foods.
5. Describe proper personal behaviors required for the safe handling of food.
6. Identify and properly operate kitchen equipment.
7. Pass the ServSafe Exam.
8. Describe the three forms of food contaminants and preventative measures.
9. Demonstrate how to properly “set” a table for service.
10. Demonstrate how to provide dining room service with proper etiquette.
11. Demonstrate safe work habits, identify safety hazards, and employ preventative safety measures.
12. Maintain positive relations with fellow students and faculty through teamwork.
13. Exhibit appropriate work habits and attitudes; demonstrate a willingness to compromise.
14. Demonstrate a positive attitude, conversation skills, personal hygiene and work attire.

HRTM 2130. Hotel Operations I

Course Description

Analysis of hotel operations to include guest services, reservations, reception, guest/city ledger and the night audit.

Student Learning Outcomes

At the completion of the course, students should be able to:

1. Outline the history, magnitude and culture of the hotel industry
2. Define and identify hotel ownership and operational structures
3. Outline the organization and structure of a hotel and resort.
4. Describe and calculate the components and processes of room reservation forecasting, pricing and revenue management.
5. Outline and explain the flow of the guest from pre-arrival through arrival, room occupancy and departure.
6. Demonstrate the procedures and processes for Guest Accounting, the City Ledger, Guest Credit and th3 Night Audit.
7. Discuss problem solving and guest service associated with the front office and other departments of the hotel and resort.
8. Forecast impacts of technology to the guest services and hotel operations

9. Describe the day to day activities and responsibilities of a Hotel Front Office Manager or a Hotel Assistant General Manager (AGM).

HRTM 2996. Topics in Hotel, Restaurant, & Tourism Management
Course Description
Varies.
Student Learning Outcomes
Varies.

Human Development (HUDV)

HUDV 1110. Volunteer in the Community
Course Description
In this individualized course, students have an opportunity to design, 'implement and evaluate a service project within the community. Students learn concepts and principles of service and get support and feedback as needed.
Student Learning Outcomes
1. Demonstrate an understanding of the nature of service
2. Identify the needs of the agency or clients served
3. Evaluate the contributions and consequences (positive and negative) of the service project

HUDV 2110. Student Leadership
Course Description
An introduction to theories and skills of practicing collaborative leadership in a multicultural environment. Focus is on the applied practice of leadership using project-based learning through Santa Fe Community College Student Government Association or through other leadership groups.
Student Learning Outcomes
1. Articulate the concept of collaborative, representative leadership
2. Employ communication, facilitation, conflict resolution and consensus' building skills
3. Plan and perform leadership activities, participate constructively in meetings and serve as a representative of the Santa Fe Community College student body
4. Describe competencies in goal and project management

HUDV 2120. Service Leadership
Course Description
This course examines the dynamics of leadership in action. Readings on effective leadership models, communication styles, and conflict resolution methods inform students as they design, implement, and evaluate a leadership project. Students apply concepts and develop leadership and service skills through their internship experience in a nonprofit organization.
Student Learning Outcomes
1. Demonstrate an understanding of the nature of service leadership
2. Identify effective leadership practices
3. Evaluate the contributions and consequences (positive and negative) of the leadership practicum

HUDV 2130. Community Development
Course Description
This course aims to provide a broad understanding of issues relevant to improving the quality of life in communities. Topics I include economic and cultural forces, social change processes, community research methods, and model programs. This I course exposes students to theory and practice of community change so they can develop the skills needed to work as professional community leaders, program administrators, and/or contemporary engaged citizens.

Student Learning Outcomes

1. Define ·communication mechanisms for creating community change
2. Identify theories and practices for developing partnerships and volunteer involvement.
3. Describe the impact of messages on attitude and behavior
4. Define ethics for social change
5. Delineate methods for planning in communities
6. Define human resource and community service
7. Describe the skills and techniques used for organizational and program management
8. Describe internal and external evaluation measurements
9. Identify steps in program planning, improvement, and accountability

HUDV 2140. Mentoring and Leadership Seminar

Course Description

An exploration of the need for and effectiveness of youth mentoring. Students develop an understanding of the components of successful mentoring relationships and successful mentoring programs. Topics include developing mutuality, trust and empathy, role modeling and identification and social-emotional and cognitive development.

Student Learning Outcomes

1. Describe the role of adverse childhood experiences in shaping young minds.
2. Describe the role of youth mentoring in positive youth development.
3. Explain the components of successful mentoring relationships and successful mentoring programs.

Human Rights (HMRT)

HMRT 2110. Introduction to Human Rights

Course Description

The course provides a basic introduction to international human rights including conceptual foundations and key theoretical debates with attention paid to current events that are shaping justice and human rights. It provides a variety of disciplinary perspectives on human rights including philosophy, socio-legal studies, political science, law, and criminology. The combination of understanding the conceptual foundations, key theoretical debates, and thematic areas in human rights will enable students to understand the evolution of human rights regimes and their influence in society today. The course is broken into four parts. The first part provides an understanding of the historical underpinnings of international human rights and their evolution in society and law. It examines foundational texts on justice and human rights that have shaped our concepts of rights and justice today. The second part focuses on global and regional mechanisms within human rights. Examining these mechanisms helps us understand the legal application and enforcement of human rights globally. The third section focuses on thematic areas in human rights. These thematic areas include: environmental law, international criminal law, refugee, migrants and asylum seekers, international women's rights, economic, social & cultural rights, and transitional justice. The course concludes by focusing on critical perspectives and local issues on human rights.

Student Learning Outcomes

1. Understand key theoretical debates on human rights.
2. Describe historical underpinnings of international human rights.
3. Identify different foundational texts in the evolution of justice and human rights.
4. Understand how social and historical contexts have impacted beliefs on justice, rights, and human dignity.
5. Explain thematic areas in international human rights.
6. Understand regional and global multilateral mechanisms in human rights law.
7. Critically examine the efficacy of international human rights.
8. Understand the social, political, economic and other factors that have molded human rights.
9. Gain a better understanding of your own worldviews and opinions towards justice and human rights.

HMRT 2125. International Right of Children

Course Description

This course examines the history, sources and role of international rights of children in the protection of children worldwide. It provides an understanding of the international legal regulatory framework implemented to address the rights of children. The course is broken into two parts. The first part covers the history and development of international rights of children and explores key concepts from children's rights theory. This section also covers current international legal mechanisms in place to protect children worldwide. The second section covers issues in the protection of children's rights. Issues covered include (but not limited to): child labor, child trafficking, armed conflict, war, the right to truth. Lastly the course covers the future of international rights of children.

Student Learning Outcomes

1. Understand the history and origins of child protection in international human rights law.
2. Identify key concepts of children's rights theory in international human rights law.
3. Describe major international human rights law established for the protection of children.
4. Understand how international rights of children addresses issues in child exploitation and abuse related to child labor and child trafficking.
5. Explain the rights of children during armed conflict and war.
6. Identify the rights of children to the right to truth.
7. Critically examine the what the future of international rights of children entails when incorporating an understanding of human rights law.
8. Gain a better understanding of your own worldviews and opinions towards the international rights of children.

HMRT 2175. Border Justice and Human Rights

Course Description

This course examines the human rights implications of border practices, migration/refugee patterns, and environmental degradation set amidst increasingly contentious territorial politics, complex population movements, and record-shattering climate change events. Additionally, the course provides context to justice along the U.S/Mexico border as seen through a human rights lens. It examines issues of border conflict around the world. It also explores the history of the U.S.-Mexico border and examines historical and contemporary human rights issues impacting the region. The course is broken into three parts. The first part provides an introduction to the history of the U.S.-Mexico border region. This includes exploring the history of border drawing and its impact on populations living along the border. The second section examines the long history of violence along borders. It examines how border identities develop over time in the midst of violence, community building, and the contested spaces of borders. It also explores how drugs, immigration, and free trade has impacted border regions. Lastly after understanding the history and issues of violence along borders, the last section explores human rights issues of border regions. This section examines how social movements and human rights advocacy have impacted the protection of rights of communities living along borders.

Student Learning Outcomes

1. Explain the historical evolution of border drawing along the U.S.-Mexico border and throughout the world.
2. Identify how colonization impacted the development of border regions.
3. Understand how identity is informed by migration and belonging in the U.S.-Mexico border region.
4. Describe how increased border enforcement and immigrant criminalization has impacted the U.S.-Mexico border region.
5 Understand how drug wars, human trafficking and gendered violence impacts the U.S.-Mexico border.
6. Describe past and current human rights violations taking place along the U.S.-Mexico border and at other borders throughout the world.
7. Understand how transnational advocacy groups and other social movements advocating for human rights have impacted border regions.

8.Gain a better understanding of your own worldviews and opinions towards the U.S.-Mexico border and human rights.

Human Services (HMSV)

HMSV 1110. Group Dynamics

Course Description

This course introduces you to basic issues and stages of development in the group counseling process, overview of types of counseling groups, group theory, leadership ethical guidelines, group formation and termination.

Student Learning Outcomes

1. To understand differing theoretical approaches to group therapy.
2. To understand different types and purposes of group work.
3. To develop a rationale of group leadership and group therapy.
4. To demonstrate group facilitation skills from an integrative theoretical perspective.

HMSV 1120. Interviewing Techniques

Course Description

This course is designed to teach basic interviewing techniques used in a variety of settings. Theoretical foundations of various interviewing styles and techniques will be examined. The student will develop an awareness of ways in which the interviewer's background, attitudes, and behaviors influence the interview.

Student Learning Outcomes

1. Identify, describe, and assess the standards of confidentiality and ethical practice for interviewing.
2. Identify the stages of an interview and appropriate communication skills associated with each stage.
3. Demonstrate interpersonal skills of establishing rapport, clarifying expectations, and dealing with conflict.
4. Identify, discuss, and understand proven methods and techniques used to conduct effective clinical interviews.
5. Survey various theoretical orientations currently in use and provide an overview of how they impact the clinical interview process
6. Apply core interviewing skills for engaging clients .
7. Describe the major theories of crisis intervention and crisis intervention models.
8. Be able to identify and use various methodologies to perform an effective interview.

HMSV 1130. Introduction to Applied Behavior Analysis

Course Description

Introduces effective applied behavior analysis principles and interventions in working with children with behavioral needs. Designed to meet the Task List requirements for the 40-Hour Registered Behavior Technician (RBT) Training required by the Behavior Analyst Certification Board (BACB) for RBT certification.

Enhanced Description: This course is based on the Registered Behavior Technician (RBT) Task list and is designed to meet the 40-hour training requirement for the RBT credential issued by the Behavior Analyst Certification Board (BACB). The training course is offered independent of the BACB. The RBT Task List is available at http://bacb.com/wp-content/uploads/2016/03/160321-RBT-task-list.pdf.

An RBT is a behavioral services paraprofessional who practices under the supervision of a Board-Certified Behavior Analyst or a Board-Certified Behavior Analyst-Doctoral. A RBT's primary responsibilities include implementing plans written by a BCBA or BCBA-D, assisting with preference assessments and Functional Behavior Assessments, collecting and recording data, documenting session notes, and communicating with stakeholders and a supervising BCBA or BCBA-D.

Student Learning Outcomes

1. Demonstrate the knowledge and skills listed in the RBT Task List.
2. Perform the skills listed in the RBT Task List.

HMSV 1140. Professional Skills in Human Services I

Course Description

Provides knowledge and skill development related to entry level professional responsibilities and job performance in human service settings. Skills and knowledge include understanding professional, ethical, and effective use of self; developing basic interpersonal rapport building skills for working with coworkers and diverse populations; and information management, documentation, and organizational skills for appropriately developing and maintaining confidential materials.

Student Learning Outcomes

Students will:

1. Students will exhibit entry level skill in developing professional boundaries, including self-disclosure and use of self, appropriate to work with clients and service professionals.
2. Students will produce written communication that meets college and professional standards.
3. Students will demonstrate interpersonal skills in rapport building and engagement appropriate to entry level client/worker interactions in human service settings.
4. Students will explain professional confidentiality standards for handling all forms of information disclosed and maintained in human service settings.
5. Students will use organizational skills important for professional accountability in completing course requirements.
6. Students will identify culturally sensitive behaviors and attitudes important for working with others.
7. Students will appropriately apply ethical standards and problem-solving skills to dilemmas.

HMSV 1150. Motivational Interviewing

Course Description

Explores the techniques in motivational interviewing counseling skills applied to the area of substance abuse counseling. Motivational interviewing is an evidence-based treatment that addresses ambivalence to change through a person-focused approach.

Student Learning Outcomes

Students will:

1. Understand and demonstrate the basic concepts of Motivational Interviewing, its spirit and essential strategies.
2. Learn, practice, and integrate basic MI counseling skills, including a. Non-verbal listening skills b. Constructing and asking open-ended questions c. Reflective Listening d. Eliciting and responding to change talk e. Values Clarification f. Moving toward change g. Constructing a Behavioral Plan.
3. Develop a working knowledge of the nature of ambivalence about behavior change and how to effectively work with clients to resolve their ambivalence as a means of affecting behavior change.

HMSV 1160. Counseling Ethics

Course Description

This course studies ethical theory as applied to counseling situations in our complex and litigious society. Ethical dilemmas such as dual relationships, boundaries, limits of confidentiality, progress notes and agency staffing are presented. Practical applications of professional ethics are discussed and analyzed.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify major areas of ethical concern.
2. Demonstrate knowledge of professional codes of ethics.
3. Identify when it is essential to consult supervisors and peers.
4. Apply knowledge of ethics to case study analyses.

HMSV 1170. Conflict Resolution for Human Services

Course Description
An introduction to the fundamentals and life skills of conflict management through positive and productive communication, self-evaluation, and appropriate resolution strategies. It examines personal values, cultural influences, communication style, and conflict management style with an emphasis on gaining an understanding of the causes of conflict and resources for resolving conflict. This course is recognized by the State Office of Alternative Dispute Prevention and Resolution as required training for all volunteer mediators.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:

1. Identify one's own values and conflict management style to frame conflict for resolution.
2. Explore multiple perspectives of values and conflict management styles to frame conflict for resolution.
3. Understand the foundations of positive and constructive communication.
4. Recognize stages of conflict and to manage the stages productively.
5. Demonstrate an understanding of the dynamic of power and its influence, and how to create equity.
6. Identify the factors and causes of conflict to develop appropriate resolution strategies.
7. Apply the basic and intermediate steps of the mediation process.
8. Create lasting agreements based on the interests and needs of the disputing parties.

HMSV 1180. Prevention Ethics
Course Description
Prevention Ethics will fulfill the ethics requirement for Prevention Specialists. This course will cover the main topics in the Prevention Ethics code by the New Mexico Credentialing Board for Professional Behavioral Health. Topics will include competency, integrity and confidentiality.
Student Learning Outcomes

1. Understand the need for professional codes of ethics in a community prevention setting.
2. Apply the ethical code in a professional setting.
3. Define competency, integrity and confidentiality as it relates to prevention ethics.
4. Identify possible ethical conflicts for the prevention specialist.
5. Understand and accept cultural and individual differences.

HMSV 1210. Foundations of Substance Abuse Services
Course Description
Presents the history of addictive disorder identification and service provision for substance abuse, addiction, prevention, and treatment services. Topics will also include current and emerging trends in service delivery and service integration, development of national governing bodies and ethical standards, development of the profession, and the socio-political forces affecting the development, delivery and accessibility of substance abuse services.
Student Learning Outcomes

1. Explain the evolution of the substance abuse profession including historical successes and failures related to professional development, focus of work, inter-profession collaboration, and recognition.
2. Demonstrate understanding of social and political factors affecting service development and delivery at the state and national levels.
3. Explain how public policy, legislation, and personal behavior are influenced by personal and public attitudes, cultural beliefs and values.
4. Identify contextual influences on addiction counseling.
5. Identify state and national organizations, associations, and governing bodies related to the historical development of substance abuse counseling professional standards.

HMSV 1220. Physiological and Pharmacological Foundations of Substance Abuse Counseling

Course Description
Examines the pharmacological and physiological effects of alcohol and other psychoactive substances according to human developmental stages, neurobiology, severity of use, drug interactions and co-occurring disorders across populations. This includes factors associated with drug intake from use to recovery, licit and illicit use, methods of administration, drug symptomology, patient education, and illnesses associated with use.

Student Learning Outcomes

1. Identify how specific categories of drugs affect the physical, emotional, social, psychological, cognitive, and spiritual aspects of the person at different developmental stages.
2. Identify symptoms of intoxication according to different substances.
3. Demonstrate basic skills in educating clients regarding the physiology and pharmacology of substance use, abuse, addiction, and recovery.
4. Demonstrate a basic understanding of current neurobiology of substance related and addictive disorders.
5. Explain the signs and symptoms of various withdrawal syndromes associated with dependence and/or addiction to alcohol and/or other drugs.
6. Contrast the agonist and antagonist effects of alcohol and other drug on the central nervous system.
7. Recognize the potential for substance use disorders to mimic a variety of medical and psychological disorders and the potential for medical and psychological disorders to co-exist with addiction and substance abuse.

HMSV 1230. Case Management and Community Resources for Substance Abuse Counseling

Course Description
Explores the principles and practice of case management in addiction treatment including the processes collaboration with referral sources; review and interpretation of client evaluation information; administrative procedures for eligibility and admission for treatment; and coordination with service providers. Students will be required to complete field-based work in an approved setting.

Student Learning Outcomes
Upon successful completion of this laboratory course, students will be proficient in their ability to:

1. Apply the established diagnostic criteria for substance abuse disorders to determine the strategies for reducing the negative impacts of substance use, abuse and dependence within a window of opportunity for change.
2. Incorporate individual and cultural relevance in concert with established situation-specific policies and procedures for crisis management and subscribe to constant professional development.
3. Apply standards of clinical evaluation, including establishing rapport, data gathering and screening, analysis of substance abuse implications, treatment possibilities, initial actions, and documentation of findings and treatment recommendations.
4. Use data to determine the appropriate referral service to professional, agencies, community programs or other resource, and clearly and specifically explain the referral service's role in treatment and contact information.
5. Apply situation-specific service coordination, including relevant intake information, treatment options and insurance coverage, ongoing treatment and recovery options, ongoing communication with outsides resources, and documentation of all processes.
6. Provide formal and informal education to clients and client advocates in substance abuse awareness, prevention and recovery programs.
7. Apply principles of client record management and protect client rights to privacy and confidentiality.

HMSV 1310. Loss, Bereavement, and the Family

Course Description
This course will explore loss, bereavement and recovery in the context of the family. It will include identifying the stages of grief; normal losses in the life cycle; complicated bereavement; differences in child and adult bereavement; effective measures to help bereaved families; and cultural differences in bereavement.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Define the stages of grief.
2. Identify normal losses in the life cycle.
3. Assess complicated bereavement.
4. Describe ethical issues that may emerge in helping the bereaved.
5. Explain effective coping strategies for dealing with bereavement.
6. Contrast cultural differences in the bereavement process.
7. Illustrate effective techniques for family adaptation to loss.

HMSV 2110. Case Management

Course Description

This course introduces students to the concept of case management, how it is used in human services, and skills necessary to function effectively as case managers. The emphasis is on the client assessment process, service planning and delivery, and client advocacy. Topics introduced include observation, data collection, documentation, and reporting of client behaviors, identification and referral to appropriate services, monitoring, planning, and evaluation. This course provides student with basic knowledge and beginning case management skills.

Student Learning Outcomes

1. Define the purpose of case management and explain the role of the case manager
2. Explain the process of case management and what it entails
3. Explain the ethical, professional and legal responsibilities of case managers
4. Describe several settings within which case management takes place
5. Apply principles of client record management, and protect client rights to privacy and confidentiality
6. Use data to determine the appropriate referral service to professional, agencies, community programs or other resource, and clearly and specifically explain the referral service's role in treatment and contact information
7. Apply standards of clinical evaluation, including establishing rapport, data gathering and screening, analysis of substance abuse implications, treatment possibilities, initial actions, and documentation of findings and treatment recommendations
8. Incorporate individual and cultural relevance in concert with established situation-specific policies and procedures for crisis management

HMSV 2120. Clinical Evaluation of Substance Abuse and Treatment

Course Description

This course examines the principles and practice of clinical evaluation in substance abuse treatment and counseling and presents a study of symptoms and manifestations of substance abuse as they relate to client evaluation, assessment, treatment, and referral. Students will gain an understanding of comprehensive assessment strategies, assessment in relation to diagnosis, the diagnostic classification system, and develop skills for using valid screening and diagnostic instruments.

Student Learning Outcomes

1. Identify appropriate evaluation instruments and procedures to develop a comprehensive assessment process and systematic data collection that provides assessment information from client and other sources, for determining an initial action plan responsive to individualized client needs, characteristics, and resources.
2. Apply accepted diagnostic criteria to assess client's substance abuse and/or mental health treatment and referral needs with consideration of factors such as client's preferences and readiness for treatment, severity of health needs, substance use, and crisis concerns.
3. Apply ethical and behavioral standards throughout the clinical evaluation process when working with clients and other providers to ensure client rights are upheld and agency and government regulatory standards are maintained.

4. Explain the purpose, application and limitations of validated clinical screening and assessment instruments commonly used in the field and describe how they are administered and scored.
5. Exhibit rapport building strategies to support educating clients and significant others about the assessment process, diagnostic findings and concerns, treatment options, action plan development and treatment goals, as well as encourage open dialog about effects of substance use and change/recovery options.
6. Use data to determine appropriate referrals to other service providers, and to assess the client's ability to understand referral options, service providers' roles and treatment protocols, and client's capacity to follow through on connecting to services.

HMSV 2140. Introduction to Alcohol and Drug Abuse

Course Description

This course provides a broad overview of the field, including issues of alcohol and other drugs in history and society; definitions and prevalence of alcohol and drugs use misuse and addiction; major theoretical perspectives on the causes and remedies of substance abuse; major landmarks in alcohol and drug social policy; and the development and evolution of the alcohol and drug abuse counseling field.

Student Learning Outcomes

Upon completion of this course the student should be able to:

1. The student will be able to explain public policy and its effect on drug use.
2. The student will be able to describe ways drugs negatively affect the body and brain.
3. The student will be able to describe patterns of both alcohol consumption and family dynamics in alcoholism.
4. The student will be able to describe aspects (including forms of administration, acute/chronic effects, patterns of abuse) of the following: major stimulants, narcotics, hallucinogens, marijuana, inhalants and depressants.
5. The student will be able to describe effective components of prevention programs.

HMSV 2150. Introduction to Disability Services

Course Description

An overview of disability services with an emphasis on definitions and models of disability, and disability history. The lived experience of disability is explored as well as the impact of disability on the family. The portrayal of disability in literature, film, and media as well as future issues in disability such as the impact of technology is explored. Students apply critical thinking to their experiences with disability in the contexts of professional, personal, and community life.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify and demonstrate knowledge of various definitions of disability.
2. Develop and apply an understanding of the Americans with Disabilities Act and the ongoing challenges of the disability rights movement.
3. Apply critical thinking skills to disability issues in the contexts of personal, professional, and community life.
4. Explore and document the importance of disability history and services in the Santa Fe community.

HMSV 2160. Introduction to Pharmacology

Course Description

Introduces the student to the effects of drugs on behavior. Brain-behavior interactions and how drugs affect this interaction will be presented.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to …

1. Define psychopharmacology & behavioral pharmacology.
2. Distinguish between pharmacodynamics & pharmacokinetics.
3. Explain the different behavioral methods used to assess animals under the influence of psychoactive drugs.

4. Explain the behavioral methods used to assess humans under the influence of psychoactive drugs.
5. Describe the anatomy of the brain and nervous system including gross and microscopic neuroanatomy.
6. Explain how a neuron functions, including ion exchange (sodium/potassium influx & efflux), action potential, neurotransmitter release, receptor binding, EPSP's, IPSP's, spatial summation, temporal summation and degradation.
7. Discuss the different neurotransmitters and explain their actions at the different receptor sites within the nervous system, and drugs that influence neurotransmitter functions.
8. Explain the circuits or pathways in the brain involved in drug addiction.
9. Describe the general classification of drugs of abuse (i.e., stimulants, depressants and hallucinogens) and some of the specific drugs that fit into these classes, as well as other drugs of abuse not within this general classification of psychoactive drugs.
10. Explain the drugs of treatment for psychological disorders such as: anxiety, schizophrenia, bipolar depression, clinical depression, etc.

HMSV 2210. Alcohol & Drug Abuse Counseling Families & Groups

Course Description

This course emphasizes the techniques and skills required for counseling families and groups including systems theory, family intervention, employee assistance practice and group processes.

Student Learning Outcomes

1. The student will be able to describe alcoholism as a disease that is often progressive and fatal, and that has genetic, environmental, and psychosocial causes.
2. The student will be able to compare and contrast various aspects of individual, family and group counseling.
3. The student will be able to describe the relationship between the successful development of interpersonal skills and one's risk for drug abuse and between the mastery of developmental tasks and the risk for drug abuse.
4. The student will be able to describe prevention/intervention and risk factors for special populations and diverse cultures.

HMSV 2212. Effects of Drug Abuse

Course Description

This course acquaints students with psychoactive drug classification and with the physiological, biochemical and psychological effects of mind-altering drugs. The course also describes the characteristics of several types of mental illness, how they are impacted by chemical dependency, and how a psycho-educational approach may be used in treatment

Student Learning Outcomes

Not Available

HMSV 2213. Co-Occurring Disorders

Course Description

This course provides students with an understanding of co-occurring psychiatric and substance abuse disorders and their impact on the individual, family and community. The course includes an integrated approach to address the issues accompanying the illness.

Student Learning Outcomes

1. The student will be able to identify factors accompanying selected mental illnesses as they relate to an individual with addiction disorder.
2. The student will be able to identify the DSM-5 criteria for co-occurring disorders.
3. The student will be able to identify the need for integrated treatment systems, no closed door to treatment, case management, use the DSM to identify characteristics of mental illness.

4. The student will be able to identify special issues as they relate of the substance abuse counselor working with individuals experiencing coexisting mental illness and how their families are impacted.
5. Students will be able to identify the presenting symptoms and characteristics of individuals with Psychiatric versus substance abuse disorders.
6. Students will be able to identify psychosocial issues commonly associated with co-occurring disorders.
7. Students will be able to identify and describe special issues in working with dually diagnosed clients.

HMSV 2215. Adolescent Substance Abuse: Prevention and Treatment

Course Description

This course meets the criteria for education hours toward the Licensed Substance Abuse Associate – the entry level license in New Mexico to become an independent addiction counselor. In this course we will evaluate the impact of risk and protective factors in the prevention and treatment of adolescent substance use. Discover the differences between adolescent and adult substance use/abuse and evidence-based approaches for prevention and treatment. Assess the different external and internal factors that may contribute to alcohol and drug use during adolescence and young adulthood.

Student Learning Outcomes

Upon Successful completion of this course, students will be able to:

1. Review adolescence growth and development and identify risk and protective factors for substance use disorders.
2. Identify risk and protective factors for adolescent substance abuse/addiction.
3. Identify evidence-based approaches for working with adolescents.
4. Explore brain development during adolescence and young adulthood and how it can contribute to risk-taking behavior, as well as affect brain development.
5. Identify characteristics common to adolescents with substance abuse/addiction.
6. List and describe community resources available to adolescent substance abuse/Addiction clients.
7. Identify barriers to treatment of for adolescents with substance use disorders.

HMSV 2230. Alcohol & Drug Abuse Counseling: Special Populations

Course Description

This course emphasizes the techniques and skills required for counseling with special populations including women, minorities, youth and persons with co-occurring physical and mental disabilities and disorders.

Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Describe different theories, models and definitions related to substance abuse.
2. Compare and contrast various aspects of intervention, prevention and public policy relating to substance abuse.
3. Describe skills and techniques required for counseling special populations.

HMSV 2235. Biopsychosocial Foundation of Alcohol and Drug Abuse

Course Description

A comprehensive survey of the contributions of biology, medicine, psychology, sociology, anthropology and other disciplines to the understanding of substance use disorders and addictive disease. Research is presented from genetics, neurochemistry, learning theory, socialization and cultural views of addiction and recovery.

Student Learning Outcomes

Upon completion of this course the student should be able to:

1. The student will be able to identify and describe a minimum of five (5) variables that influence substance use, abuse, and dependence.
2. The student will be able to compare and contrast a minimum of three (3) models and/or theories of drug dependence and addiction.

3. The student will be able to describe in detail a minimum of five (5) drugs including their different classifications, their height of dependence and addiction and how it affects the nervous system.
4. The student will describe in detail a minimum of three (3) different early prevention approaches and describe how to do motivational interviewing.
5. The student will be able to define co-occurring disorders and select a minimum of three (3) specific co-occurring disorders and describe how treatment is used with individuals of the selected disorders co-occurring with substance abuse.

HMSV 2240. Counseling in the Substance Abuse Field

Course Description

This course advances students' skills, knowledge and attitudes for substance abuse counseling of individuals, couples, and groups. Emphasis will be on the principles of motivational counseling, client empowering approaches, and understanding diversity and culture to support counseling techniques. Goal setting, community reinforcement, crisis and relapse interventions, treatment modification, and adapting strategies to support client recovery will also be presented.

Student Learning Outcomes

1. Adapt practice to a range of modalities and treatment settings, taking into consideration a variety of health plans and payment options for specific clients.
2. Apply professional and ethical obligations as relates to individuals, cultures and language diversity.
3. Apply standards of clinical evaluation, including establishing rapport, data gathering and screening, analysis of substance abuse implications, treatment possibilities, initial actions, and documentation of findings and treatment recommendations.
4. Use data to determine the appropriate referral service to professional, agencies, community programs or other resource, and clearly and specifically explain the referral service's role in treatment and contact information.
5. Apply situation-specific service coordination, including relevant intake information, treatment options and insurance coverage, ongoing treatment and recovery options, ongoing communication with outsides resources, and documentation of all processes.
6. Create a healthy, helpful, professional and ethical relationship with clients and client advocates that places client knowledge, skills and attitudes at the forefront of possibilities for recovery, and formally and informally educate them on the causes, treatment and recovery options available for substance use and abuse.
7. Provide formal and informal education to clients and client advocates in substance abuse awareness, prevention and recovery programs.
8. Apply principles of substance abuse disorders to individuals and groups to analyze the warning signs, symptoms and implications of the risk for, or resilience to, psychoactive use disorders, and the potential for prevention, treatment and recovery.

HMSV 2250. Counseling Skills for Addiction Professionals

Course Description

Focused study of the applied skills, techniques, and varied approaches to the addiction treatment continuum of care. The emphasis is on understanding individual, group, and family dynamics, gaining effective helping strategies and interpersonal skills. Students also become familiar with counseling approaches that meet the current standard of care in a range of treatment settings.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify how addiction affects psychological, physical, social and vocational functioning.
2. Demonstrate knowledge of counseling approaches, philosophies, methods and objectives utilized in treating addictive disorders.

3. Identify the implications of varied counseling approaches with clients from diverse backgrounds and/or complex needs.
4. Explain the evaluative tools and criteria used to assess treatment progress and treatment outcomes.

HMSV 2255. Psychology of Addictive Behavior
Course Description
An exploration of research and theories related to the psychological, behavioral and psychological bases of addiction and recovery. A variety of common addictive disorders are examined, including addiction to alcohol, eating, smoking, gambling, work, sex and drugs. Students examine the impact of addictions on families, the workplace and society as well as on the individual.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Recognize where dependency comes from, how it develops and how dependency is passed on to children.
2. Identify defense mechanism against recognizing addictive behaviors.
3. Roles and relationships.

HMSV 2260. Substance Abuse Assessment, Evaluation and Treatment
Course Description
Not Available
Student Learning Outcomes
Not Available

HMSV 2270. Substance Abuse in Families
Course Description
This course examines substance abuse within the context of a family system. It includes aspects such as developing a substance abuse family identity, typical problem-solving behaviors in substance-abuse families, daily routine regulators of home life, family ritual disruptions and intergenerational transmission of substance-abuse patterns.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Demonstrate an understanding of how families develop a substance abuse family identity.
2. Distinguish key themes pertaining to each developmental phase of substance abuse families' life history.
3. Identify rules, roles, rituals and routines among substance abuse families.
4. Examine the intergenerational transmission of families' substance abuse patterns.
5. Indicate effective interventions with substance abuse families.

HMSV 2280. Substance Abuse Prevention
Course Description
This course presents an overview of the history, principles, and approaches to the field of substance prevention. Topics include promotion of healthy lifestyle choice, community collaboration, public policy, and effective prevention planning. This course meets the State of New Mexico Alcohol, Tobacco, and Other Drugs (ATODA) requirements and prepares students to become candidates for certification as prevention interns.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Describe how substance abuse prevention is an evolving discipline.
2. Understand and apply the risk and protective factor.
3. Identify stages of community readiness and corresponding to enhance readiness.
4. Outline a strategy for becoming more culturally competent.

5. Apply concepts from Erikson's theory to prevention.
6. Demonstrate three ways to make prevention programs more developmentally appropriate.

HMSV 2290. Substance Abuse Counseling Field Experience

Course Description

Course requires students to complete 90 hours in a substance abuse treatment facility while under the joint supervision of a qualified on-site substance abuse counseling professional and their course instructor. Field experience hours provide opportunities for students to integrate on-site responsibilities with academic knowledge, theory and skill development, and get professional feedback within a work setting.

Student Learning Outcomes

1. Students will produce professional documentation aligned with field standards for confidentiality.
2. Students will demonstrate understanding of terminology, procedures, and professional responsibilities related to the treatment of substance abuse disorders.
3. Students will identify areas for professional growth and develop ways to improve in said areas.
4. Students will demonstrate knowledge of the practicum agency's philosophy, policies, procedures, and services.
5. Students will demonstrate at least entry-level competency in basic treatment skills and required knowledge, skills, and attitudes of standard practice in the field.

HMSV 2295. Substance Abuse Prevention Certification Test Prep

Course Description

This comprehensive test preparation course will help substance abuse prevention specialist candidates apply and prepare for the national certification examination from the Center for Substance Abuse Prevention. The content covered in this course is based on the components of the national exam. May be taken twice for degree or certificate credit.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate understanding of the concepts covered in certification examination.
2. Explain the rules, regulations, and policies pertaining to prevention specialist certification.

HMSV 2310. Professions and Practices

Course Description

This course may be paired with HMSV practicum 250 and HMSV practicum 255. Students are required to enroll in this class prior to or while completing their HMSV practicum. It will enable students to achieve a greater understanding of their practicum internship while examining professional ethics, conduct and a wide range of practice situations.

Student Learning Outcomes

Upon completion of the class, students will be able to:

1. Identify Human Services needs in San Juan County and the State of N.M.
2. Locate and discuss the various Human Services providers in San Juan County and the State of N.M.
3. Demonstrate an increased awareness of the interrelationships of the various professions in the field of Human Services in regard to client services.
4. Illustrate an understanding of the various populations associated with Human Services.

HMSV 2320. Professional Issues in Human Services

Course Description

Legal and ethical issues emanating from the professional helping relationships in human services and substance abuse treatment such as confidentiality, privileged communication, dual relationships, competency and reciprocal roles of and responsibilities of both client and helper.

Student Learning Outcomes

Upon successful completion of this course, students will be able to

1. Understand the theory, practice, and professional responsibility of confidentiality.
2. Demonstrate the importance of cultural competency practices in the helping process.
3. Demonstrate effective oral and written communications skills in working with clients, agency staff and agency constituent.
4. Apply the ethical decision-making model to a hypothetical case using a Code of Ethics standards.
5. Apply a strategic framework to identify, analyze and resolve ethical dilemmas and problems that may arise in working with clients.

HMSV 2330. Professional Skills in Human Services II

Course Description

Provides intermediate level training in the knowledge, skills, and attitudes related to professional responsibilities and job performance at the micro, mezzo, and macro levels in human service settings. Builds on previous coursework to develop skills in information gathering, intervention, referral, management of competing needs, use of supervision, professional relationship development, troubleshooting, self -assessment and self-care.

Student Learning Outcomes

Student will:

1. Exhibit troubleshooting skills and strategies relevant to human service work related situations.
2. Use information gathering skills to develop documentation similar to that required in human service settings.
3. Demonstrate professional referral behaviors important for developing positive working relationships between service providers.
4. Differentiate intervention strategies appropriate to the micro, mezzo, and macro levels of professional practice.
5. Identify ways to benefit from feedback and supervision.
6. Identify self-assessment and self-care strategies supportive of personal and professional growth.
7. Apply assessment strategies for managing competing needs of a client.

HMSV 2340. Case Management and Professional Skills in Substance Abuse Treatment

Course Description

Explores the principles and practice of case management in addiction treatment including collaboration with referral sources; review and interpretation of client evaluation information; administrative procedures for eligibility and admission for treatment; and coordination with service providers. Introduces legal, ethical, cultural, and professional issues in substance abuse treatment with the goal of developing student competencies in these areas. State and Federal regulations, laws and codes that protect client confidentiality, cultural values, service parity and equity will be emphasized. Strategic Prevention Framework skills such as team and capacity building, community assessment and planning will also be addressed.

Student Learning Outcomes

Student will be able to

1. Identify the scope of practice for LSAA and LADAC in New Mexico.
2. Apply the New Mexico NAADAC code of ethics and identify departures or activities that do not fall within the scope of practice.
3. Demonstrate skills regarding HIPAA regulations compliance.
4. Demonstrate abilities in incorporating the needs of culturally diverse individuals into clinical practice.
5. Identify culturally relevant signifiers and culturally sensitive resources to support nondiscriminatory work with clients.
6. Identify evaluation techniques, both supervisory and self-review, to assess their skills, knowledge and attitudes related to professional standards and scope of practice.
7. Incorporate individual and cultural relevance in concert with established situation-specific policies and procedures for crisis management and subscribe to constant professional development.

8. Apply standards of clinical evaluation, including establishing rapport, data gathering and screening, analysis of substance abuse implications, treatment possibilities, initial actions, and documentation of findings and treatment recommendations.
9. Use data to determine the appropriate referral service to professional, agencies, community programs or other resource, and clearly and specifically explain the referral service's role in treatment and contact information.
10. Apply principles of client record management and protect client rights to privacy and confidentiality.

HMSV 2350. Coalitions, Community Development, and Grant Writing

Course Description

An exploration of best practices relating to community development, coalition building and grant writing. Students will learn roles and responsibilities of organizing a community and building effective coalitions to address social problems. The emphasis will be on assessing community needs, grant writing, growing the organization, cultural inclusiveness, and evaluation of data.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Define roles and responsibilities of community organizers and coalitions.
2. Describe the steps for effective coalition development.
3. Describe skills and techniques for collaborating with other organizations in a community.
4. Explain strategies for grassroots organizing and for acquiring and leveraging resources.
5. Delineate steps in participatory process in defining missions/goals and setting priorities.
6. Define strategies and skills in grant writing.
7. Describe the characteristics of a high functioning coalition.
8. Describe best practices for influencing policy change.

HMSV 2360. Public Policy and Social Change

Course Description

This course will provide an overview of the structures and processes of public policy. The course will examine how social change is brought about through the actions of various agents including interest groups, advocacy coalitions, and executive, legislative and judicial policymakers.

Student Learning Outcomes

Learn:

1. Be able to describe the governmental structures and processes by which policy is made.
2. Demonstrate understanding of the policy advocacy process
3. Be able to describe the process of policy implementation.

Think:

1. Engage in analysis of policy issues and solutions from a number of different points of view.
2. Demonstrate ability to critique various theoretical frameworks that are used to analyze the policy process.
3. Think critically about policy issues and processes.

Integrate

1. Demonstrate ability to find information relevant to policy issues and processes.

Act

1. Demonstrate ability to formulate an action plan for policy advocacy, implementation, and evaluation.

HMSV 2365.Resource & Information Literacy in Human Services

Course Catalog Description:

Covers basic concepts and skills of locating information and resources through research, critical thinking, and networking to develop resources for clients and client groups. Students are introduced to characteristics, formats, and organization of information, and learn to locate and select a variety of information that augments the human services helping process.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Formulate a research strategy to find information about a selected topic.
2. Locate materials from a variety of sources and obtain them for use.
3. Use search engines and directories to find information on the internet.
4. Evaluate information sources for accuracy, authority, objectivity, purpose, currency, and appropriateness.

HMSV 2370. Human Service Delivery Systems

Course Catalog Description:

Provides an overview of human service delivery systems from their origins to modern times, including analysis of social, political and ideological shifts that shape delivery systems. Basic strategies and tactics of human service delivery are emphasized, fostering an understanding and ability to navigate these systems in practice.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Define the purpose of various Human Service Delivery Systems.
2. Explain the functions of various Human Service Delivery Systems.
3. Explain the process of individual Human Service Delivery Systems.
4. To develop the ability, knowledge, and skills necessary to better utilize various Human Service Delivery Systems.

HMSV 2410. Principles of Prevention & Research in Alcohol & Drug Abuse

Course Description

This course provides a broad overview of the methods and effectiveness of primary, secondary, and tertiary prevention efforts. Emphasis is given to research supported strategies directed to individuals, communities and special populations. Prevention is examined from both risk factor and protective factor perspectives.

Student Learning Outcomes

Upon completion of this course the student should be able to:

1. The student will be able to describe alcoholism research and prevention that is progressive to the understanding and treatment of alcohol disorders.
2. The student will be able to describe the relationship between the successful development of research and prevention and be able to implement a cognitive behavioral approach to alcoholism.
3. The student will compare and contrast research on genetics and environmental factors of alcohol abuse.
4. The student will be able to describe recent and current research trends in alcohol use in the U.S.
5. The student will be able to describe the relationship between alcohol and the following: violent crimes, aggression, sex and emotions.

HMSV 2420. Principles of Treatment & Recovery in Alcohol and Drug Abuse

Course Description

This course defines the legal and ethical scope of practice for alcohol and drug counselors; surveys the research support for the effectiveness of alcohol and drug abuse treatments; provides an understanding of the processes of change, relapse, and recovery; and imparts skills in self-help facilitation, cognitive-behavioral techniques, and motivational interviewing approaches in individual counseling.

Student Learning Outcomes

Upon completion of this course the student should be able to:

1. The student will be able to demonstrate the ability to conduct and document a biopsychosocial interview, identify target behaviors & behavioral patterns, develop an appropriate treatment plan and compose a discharge plan.
2. The student will be able to demonstrate the ability to administer various assessments related to substance abuse.
3. The student will be able to compare and contrast aspects of individual treatment, group therapy, adolescent treatment and the family program.

HMSV 2430. Techniques of Assessment & Intervention

Course Description

The purpose of this course is to promote the knowledge, attitudes, and skills required for effective assessment practice and the selection of human services interventions.

Student Learning Outcomes

Upon completion of this course, students should be able to:

1. Distinguish between Screening, Assessment and Specialized Evaluation.
2. Describe the structure and goals of Screening, Assessment and Specialized Evaluation.
3. Display basic competency in completing a client screening exercise.
4. Describe the process and purposes of SBIRT (screening, brief intervention and referral to treatment).

HMSV 2440. Evidence-based Treatment and Skills for Substance Abuse Counseling

Course Description

This course reviews the principles and practice of evidence-based treatment in addiction treatment including the processes of using assessment information to guide treatment planning; examining treatment options across the continuum of care; and formulating and monitoring culturally relevant treatment goals.

Student Learning Outcomes

1. Incorporate individual and cultural relevance in concert with established situation-specific policies and procedures for crisis management and subscribe to constant professional development. Addiction Counseling Competencies, TAP 21 C.18, C.20-C.23.
2. Apply standards of clinical evaluation, including establishing rapport, data gathering and screening, analysis of substance abuse implications, treatment possibilities, initial actions, and documentation of findings and treatment recommendations. Addiction Counseling Competencies, TAP 21 C.24-C.36.
3. Use data to determine the appropriate referral service to professional, agencies, community programs or other resource, and clearly and specifically explain the referral service's role in treatment and contact information. Addiction Counseling Competencies, TAP 21 C.49, C.51-C.54.
4. Apply situation-specific service coordination, including relevant intake information, treatment options and insurance coverage, ongoing treatment and recovery options, ongoing communication with outsides resources, and documentation of all processes. Addiction Counseling Competencies, TAP 21 C.57-C.60, C.62-C.74.
5. Provide formal and informal education to clients and client advocates in substance abuse awareness, prevention and recovery programs. Addiction Counseling Competencies, TAP 21 C.99, C.101, C.104.
6. Apply principles of substance abuse disorders to individuals and groups to analyze the warning signs, symptoms and implications of the risk for, or resilience to, psychoactive use disorders, and the potential for prevention, treatment and recovery. Addiction Counseling Competencies, TAP 21 C.108-C.114.

HMSV 2450. Crisis Intervention, Coping & Stabilization

Course Description

This course is an introduction to crisis intervention for human services workers, it will explore: the history of crisis intervention; crisis intervention models; ethical issues; cultural sensitivity; suicide assessment; developmental crises; crises of loss; HIV/AIDS; domestic violence, and community disasters.

Student Learning Outcomes

At the conclusion of this course, the student should be able.to:

1. Define the elements of a crisis.
2. Trace the history of crisis intervention.
3. Describe the ABC Model of Crisis intervention.
4. Identify ethical issues that may emerge in crises.
5. Illustrate developmental crises.
6. Explain effective coping strategies for dealing with crises.
7. Assess suicidality of a client.
8. Illustrate client re-stabilization in five types of crises.

HMSV 2460. Post-traumatic Stress Disorder Diagnosis & Treatment

Course Description

An exploration of post-traumatic stress disorder (PTSD) diagnosis, treatment and recovery. This course will examine contributing factors to the development of PTSD including exposure to natural disasters, abuse; bullying, and violence; emigrations under duress; persecution and/or political unrest; terrorism and war. In addition, protective factors such as familial and social support, community networks, and the role of spirituality will be explored. Acute traumatic stress reactions will be differentiated from PTSD.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe the diagnostic criteria for posttraumatic stress disorder.
2. Evaluate assessment and treatment options for post-traumatic stress disorder.
3. Contrast risk and protective factors between adults and children.
4. Illustrate the presentation of acute, chronic, and delayed onset post-traumatic stress disorder.
5. Assess the prevalence and presentation of post-traumatic stress disorder among special populations.
6. Define secondary post-traumatic stress disorder and prevention strategies for trauma helping professionals.

HMSV 2470. Treatment Modalities

Course Description

This course will introduce the major intervention and treatment strategies for substance abuse. Special consideration will be given to the prediction of treatment outcomes.

Student Learning Outcomes

1. Identify the origins of modern treatment approaches
2. Identify empirically supported treatment protocols
3. Demonstrate an understanding of the various philosophies and treatment approaches used with specific treatment populations.
4. Demonstrate an awareness of the implications of Co-Occurring disorders on the treatment approaches used.
5. Design a treatment program for a “special need” population and determine an appropriate treatment approach. Determine the number of staff, licensure levels, and funding sources and identify supportive research for such a program.

HMSV 2480. Twelve Core Functions

Course Description

Putting it all together. Screening, intake, orientation, assessment, treatment plan, counseling, case management, crises intervention, client education, referral, records, and consultation.

Student Learning Outcomes

Specific Student Learning Outcomes will be met through a variety of teaching and learning experiences including; lectures, class discussions, field assignments, guest lecturers, assigned readings, and written assignments. By the conclusion of this course, students should be able to demonstrate.

1. An ability to research a psychotherapeutic treatment modality and make a presentation of their findings.
2. Provide a general biopsychosocial assessment of a specified character from a movie.
3. Demonstrate case management skills necessary for those working in substance abuse including: screening, intake, orientation, assessment, treatment plan, counseling, case management, crises intervention, client education, referral, records, and consultation.

HMSV 2510. Compassion Fatigue and Secondary Stress Disorder

Course Description

An examination of the possible "cost of caring" among those who help persons who have suffered trauma. "Compassion Fatigue" is a user-friendly term for secondary traumatic stress disorder. It applies to those emotionally affected by the trauma of another, such as those working with children, veterans, victims of domestic violence, terrorism, and major disaster survivors. Prevention strategies, effective treatment methods, and plans for recovery are considered.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify signs of helper stresses in community mental health services.
2. Evaluate assessment and treatment options for secondary traumatic stress disorder.
3. Describe helper stresses particular to those working with children.
4. Illustrate stress responses specific to disasters first responders.
5. Contrast compassion satisfaction with compassion fatigue.
6. Define prevention strategies for trauma helping professionals.

HMSV 2520. Principles of Diversity

Course Description

Principles of Diversity is a foundation course that challenges students to begin the process of becoming culturally competent helpers. The course teaches students to develop an awareness of personal cultures, beliefs, customs, and values; knowledge of others' cultures, beliefs, customs, and values; and teaches culturally appropriate interventions with diverse clients.

Student Learning Outcomes

Upon completion of this course, participants will be able to

1. Have increased awareness about racism, prejudice, oppression, and privilege, and the effects of these factors on themselves and their clients and client systems.
2. Gain a conceptual understanding of cultural competence and begin to develop an understanding of barriers to cross-cultural communication.
3. Improve their understanding of their own social and cultural identities and how they relate to clients of similar and different backgrounds and perspectives.
4. Address personal biases through continuing education, intentional exposure, and purposeful.

HMSV 2990. Social Work Practicum

Course Description

Varies

Student Learning Outcomes

Varies

HMSV 2993 Workshop in Human Services

Course Description

Varies
Student Learning Outcomes
Varies

HMSV 2996. Topics in Human Services
Course Description
Varies
Student Learning Outcomes
Varies

HMSV 2998. Internship in Human Services
Course Description
Varies
Student Learning Outcomes
Varies

HMSV 2999. Capstone in Human Services
Course Description
Varies
Student Learning Outcomes
Varies

Humanities (HUMN)

HUMN 1105. Being Human: An Introduction to the Humanities
Course Description
This course is an introduction to the academic study of the Humanities with a focus on the artistic, scientific, religious, and cultural expressions of New Mexico. It is inquiry and project based, providing students with a foundation of Humanistic thought and college level reading, writing and communication skills.
Student Learning Outcomes
1. Identify and analyze key ideas, contributions, and expressions from various cultures and time periods in the areas of the arts, sciences, politics, religion, architecture, music, and philosophy examined in the course.
2. Identify and analyze key expressions of New Mexico using Humanities vocabulary and theory.
3. Demonstrate knowledge of particular examples introduced in the course.
4. Demonstrate critical skills in interpretation, discussion, and in composing creative, analytical and/or objective responses to material

HUMN 1110. Introduction to World Humanities I
Course Description
This course is an interdisciplinary introduction to the cultural contributions and expressions in ancient world civilizations such as Mesopotamia, Greece, Rome, Asia, Africa, and the Americas, emphasizing artistic expression, philosophical thought, and religious practices in these civilizations, as well as historical, scientific, and technological developments.
Student Learning Outcomes
1. Identify and analyze key ideas, contributions, and expressions from the civilizations, cultures, and time periods in the areas of the arts, sciences, politics, religion, architecture, music, and philosophy examined in the course.

2. Recognize and distinguish between ideas, contributions, and expressions of various cultures and civilizations as well as identify connections.
3. Demonstrate knowledge of particular examples introduced in the course.
4. Demonstrate critical skills in interpretation, discussion, and in composing creative, analytical and/or objective responses to material.

HUMN 1115. The Medieval World

Course Description

An introduction to the cultural developments of world civilizations between the years 500 and 1500 CE, examining intellectual, scientific and artistic expressions and developments through an interdisciplinary method of study. Special attention is given to cultures of Asia and Africa, religious and ethnic minorities of Europe and the lives and roles of women. Connections to the historical eras prior and subsequent will be noted. The course will employ a thematic approach through topics such as art, music, religion, philosophy, science and technology in each culture as well as lasting influence, impact, contributions and social trends.

Student Learning Outcomes

1. Analyze what kinds of human achievements affect, alter and modify each culture.
2. Identify various contributions from each culture in art, architecture, music, philosophy, literature, religion, and science.
3. Explore transhistorical and transcultural connections and their lasting influence and impact.
4. Develop critical skills in reading, discussion, and composing papers of objective, analytical, and creative quality.

HUMN 1120. The Search for Meaning

Course Description

This topics course examines the personal search for meaning through the lens of the Humanities and within the social context. The course involves readings, discussions, research, and composition.

Student Learning Outcomes

1. Students will understand concepts related to the personal construct of *meaning* within the social environment
2. Students will demonstrate critical thinking skills through exploration and analysis of texts from various traditions
3. Students will demonstrate critical thinking skills through the study of ideas, issues, and problems as related to the concept of meaning

HUMN 1130. Media and Culture

Course Description

Not Available

Student Learning Outcomes

Not Available

HUMN 1133. German Culture Through Film

Course Description

This course explores German history from the end of the monarchy in 1918 up to the 21st century, using films ranging from the silent era, through Nazi documentaries and “rubble” films, up to modern treatments of reunified Germany. Students will learn film terminology, and analyze the director’s use of various techniques, as well as gain an understanding of important issues in recent European history.

Student Learning Outcomes

By the end of this course, students will:

1. Gain an understanding of how film works and what a director does.

2. Be able to use the terminology of film analysis and techniques, including in wrestling with what makes a film a classic whether one can appreciate a film separately from liking it.
3. Describe and reflect upon the historical and cultural movements and events in Germany from approximately 1920 to 2005; and
4. Explore how are these events/movements reflected in contemporaneous and retrospective films and vice versa.

HUMN 1150. Introduction to Culture and Gender Studies

Course Description

An interdisciplinary introduction to the study of culture and gender. Culture and gender pervade our everyday lives and shape our realities in profound ways. Politics, history, science, the arts, media, education, and human development shape and are shaped by culture and gender. This course provides a framework for ongoing study in the area.

Student Learning Outcomes

1. Demonstrate knowledge of the various definitions of both culture and gender.
2. Describe the interdisciplinary nature of culture and gender studies.
3. Describe and discuss the influence of gender and culture in society.
4. Critically evaluate the social, political, and historical construction of gender and culture.

HUMN 1180. The History of Native Americans in Media

Course Description

This course is designed to allow students to examine the careers and lives of American Indians with a focus on the history of American Indians in Media. Media is a word which encompasses a broad range of topics. Students will explore issues through film, the spoken word, the written word and live performance which may be relevant to the historical significance of how American Indians are viewed. This includes contemporary fiction/non-fiction writings, filmmaking and acting, theater performances, musical and spoken word recordings, and radio and television broadcasting with an emphasis on Native Language Revitalization. In addition, the course will attempt to broaden the student's ability to analyze and evaluate oral and written communication in terms of situation, audience, purpose, aesthetics and diverse points of view, while exploring the voices of North American Indigenous Peoples.

Student Learning Outcomes

1. Students will understand the Writing Process.
2. Students will gain knowledge about how to interpret creative works by various well known American Indian and non-native filmmakers and writers.
3. Students will be introduced to the nature of oral tradition and the challenges facing Native American readers from different Nations in preserving such materials.
4. Students will explore issues relevant to contemporary American Indians as portrayed in documentaries, dramas, comedies, horror, western, action adventure, and romance films.
5. Using anthropological and oral materials as background, we will consider how several major American Indian writers have combined old and new to develop innovative forms of expression.
6. Students will employ critical thinking and analysis skills including how to use M.O.O.D.L.E., the NTU online learning environment.
7. Students will attend class regularly, do assigned reading, take part in online/in class discussions, and participate in M.O.O.D.L.E. activities which include uploading Film Responses and a Final Electronic Portfolio of their best writing.

HUMN 1211. Leadership Development

Course Description

Integrates character education and moral development theory within the context of leadership. Stresses critical thinking through readings and films on fictional, historic, and contemporary leaders dealing with moral and ethical issues. Follows PTK curriculum.

Student Learning Outcomes:

By the end of this course, Cadets will be able to:

1. Develop a fundamental understanding of leadership and the skills manifest in effective leaders.
2. Identify their personal leadership assumptions and philosophies and enhance self-awareness for improvement and leadership capabilities.
3. Demonstrate effective techniques and strategies for articulating a vision.
4. Understand the steps involved in setting goals and applying them to personal, professional, and educational situations.
5. Discuss the complexities inherent in ethical leadership.
6. Employ the processes involved in effective decision-making.
7. Recognize the different types of conflict and appreciate the role a leader can plan in managing conflict.
8. Learn team-building strategies, identify team dysfunctions and engage in team-building activities.
9. Comprehend the concept of empowerment and the techniques of effective leaders to empower others.
10. Express the methods leaders can use to initiate change and help others adjust to change.
11. Expand their awareness of leadership to include the concept of servant leadership.
12. Articulate their personal leadership values and build lives of leadership based on those values.
13. Put short-term course outcomes into long-term practice through use and analysis.
14. Apply ethical considerations to multiple aspects of their lives.

HUMN 1220. Film Genres

Course Description

This course helps students become more aware of film as a constructed and contextually bound art form by providing students with the strategies to analyze films and genres. It also helps students see film as both conventional and a socio cultural-situated artifact. U.S. and foreign films are included. This class helps students develop their aesthetic sensibility, creativity, and collaboration. This will help make them well-rounded individuals valued in the workplace.

Student Learning Outcomes

By the end of this course, students should be able to

1. Discuss film as a constructed, conventional, and contextually bound art form.
2. Know film and genre analysis strategies.
3. Analyze different U.S. and international film genres and trans-genres.
4. Work collaboratively in viewing, critiquing, and presenting films.

HUMN 1230. History of Sci-Fi Dystopia

Course Description

Science fiction is more than pure escapism: science fiction allows us to imagine our future while also interrogating our past and present. This course provides a historical survey of modern advancements in science and technology through the lens of sci-fi narratives, examining the evolution of humanity's perceptions of, anxieties about, and relationship with technology and science.

Student Learning Outcomes

By the end of this course, students should be able to

1. Identify prominent works of science fiction.
2. Apply concepts related to media theory and science fiction as a genre to the critical analysis of narratives.
3. Understand key moments in the modern history of technology/science.
4. Analyze how sci-fi narratives reflect historical moments and cultural anxieties/aspirations surrounding technology/science.
5. Examine our current relationship with technology/science and potential future consequences of modern technologies/science.

HUMN 2110. Introduction to World Humanities II

Course Description

This course is an interdisciplinary introduction to the interrelationships of cultural contributions and values during the Renaissance, Baroque, Enlightenment, Romantic, and Modern eras in Europe as well as those during the same time periods in China, Japan, Africa, other parts of the Middle East, and Latin America. The course will emphasize artistic expression, philosophical thought, and religious practices in these regions, as well as historical and technological developments.

Student Learning Outcomes

1. Identify and analyze key ideas, contributions, and expressions from the civilizations, cultures, and time periods in the areas of the arts, sciences, politics, religion, architecture, music, and philosophy examined in the course.
2. Recognize and distinguish between ideas, contributions, and expressions of various cultures and civilizations as well as identify connections.
3. Demonstrate knowledge of particular examples introduced in the course.
4. Demonstrate critical skills in interpretation, discussion, and in composing creative, analytical and/or objective responses to material.

HUMN 2120. Comparative Religion

Course Description

To gain a familiarity with the major religious traditions in the world, you will examine various religious traditions and practices, focusing on the similarities and differences between their conception of the Divine and different religious conceptions of what it means to live the "good life." You will alternate between (a) reading secondary texts that compare religious traditions from an "outsider" perspective and (b) reading primary texts central to each religion.

Student Learning Outcomes

Not Available

HUMN 2130. World Mythology

Course Description

This course is an introduction to the nature and function of mythology. In this class we will study and compare mythologies of different cultures, keeping an eye on the ways in which myths expresses the inexpressible.

Student Learning Outcomes

1. Explore ways both individuals and cultures use myth, ritual, and ceremony.
2. Learn to read and interpret symbolic material.
3. Master the basic theoretical issues involved in mythological studies.
4. Recognize basic patterns and mythological motifs in both myths and in the presentation of everyday culture.

HUMN 2140. Hispanic Feminist Studies

Course Description

You will be introduced to the interdisciplinary field of Chicana Studies, including historical research on labor, political involvement, cultural studies, and feminism.

Student Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. Quote and discuss with a working understanding of historical research on labor, political involvement, cultural.
2. Research a specific historical event and examining historical research on labor, political involvement, cultural
3. Describe the two waves of feminism in the United States
4. Relate historical studies, and feminism studies, and feminism to one's own life experience.

HUMN 2150. Media and Gender

Course Description
An overview of media's contrition of gender and gender stereotyping and its influence on American society and culture. The course will explore various media forms such as magazines, television, film and the internet and the history of these media forms and how stereotypical gender depictions impact our society.
Student Learning Outcomes
1. Analyze and critically interpret significant media sources as agents in the construction of gender.
   2.Recognize and articulate the diversity of gender constructions across a range of historical periods and/or cultural perspectives.
3. Draw on historical and/or cultural perspectives to evaluate the media construction of gender.
4. Compare and contrast the processes of gender construction among magazines, television and film.
5. Describe the political, geographic, economic, social, cultural and psychological context of media and gender.

HUMN 2160. Foundations of Integrated Studies
Course Description
In the so-called real world, many problems are far too complex for any single discipline to tackle alone. Take global warming. Predicting changes in weather patterns involves meteorologists, geologists, oceanographers, and chemists. In order to solve the economic problems caused by global warming politicians are working with scientists, environmentalists, and business leaders. Even these efforts are far too limited. Similarly, understanding the psyche requires a complex approach, involving many different points of view. The inner climate of a human being is at least as complicated as the weather.

What we call "Integrated Studies" is a process of answering questions, solving problems, or addressing topics that are too complex to be dealt with adequately by a single discipline, tradition, or point of view. Integrated Studies teaches us how to reach beyond the artificial boundaries of the classroom. It also teaches us how to spot the blind spots of each viewpoint or discipline.
Student Learning Outcomes
In this course, you will learn the basic principles of interdisciplinary work. You will also learn about the problems you will encounter when trying to integrate knowledge from different disciplines.
At Northern New Mexico College, the Integrated Studies program consists of three inter-related concentrations: humanities, psychology, and Pueblo Indian Studies. In this course you will be introduced to your specific degree plan and learn how your own field can be strengthened by integrating knowledge from other disciplines.
As a gateway course to the Integrated Studies program, this class will lay a foundation for your B.A. In addition, you will learn to
1. Understand the nature of academic disciplines.
2. Solve complex problems through integrating conflicting insights from more than one tradition, perspective, or discipline.
3. Take into account your own personal and disciplinary bias.
4. Learn to identify the strengths and weaknesses of each discipline or perspective.

HUMN 2170. Latin American Food and Culture
Course Description
This course studies the relationship between food and culture in Latin America. Students will learn to appreciate Latin American food, and to express your appreciation for this food in conversation and in writing. Students will learn how culinary practices change throughout history, from the agrarian societies of Latin America prior to the Spanish conquest to the urban, industrialized societies of the present. You will also learn to think critically about how the foods people produce and consume relate to other aspects of their lives, including issues related to (but not limited to) social class, gender relations, ethnic identity, and political and religious beliefs.
Student Learning Outcomes

1. Identify many of the principal ingredients, dishes, and modes of preparation of Latin American cuisine throughout history, from the pre-Columbian period to the present.
2. Describe Latin American foods in detail and express your appreciation for them.
3. Explain how food production and consumption relates to historical processes of political, social, and technological change in Latin America.
4. Synthesize complex arguments about Latin American food and culture, drawing on academic and journalistic sources.
5. Formulate a thoughtful and detailed response to the basic course questions: what can we learn about life in Latin America through its food? And what can we learn about ourselves by studying Latin American food?

HUMN 2180. Latin American Popular Music

Course Description

This course examines some of the major forms of Latin American music, from early twentieth century genres such as tango and samba to contemporary genres such as cumbia, reggaeton, and funk. Students learn to identify key artists, songs, and albums; to narrate the histories of the different genres; and to recognize and appreciate each genre's formal qualities, including melodic, harmonic, and rhythmic elements. They also relate songs from each genre to their immediate significant historical, sociopolitical, cultural, and technological contexts. Finally, students develop a general understanding of how Latin American popular music circulates in the globalized societies of the twenty-first century.

Student Learning Outcomes

1. Identify many of the key singers, musicians, songs, albums, and genres of Latin American popular music.
2. Define key concepts related to the study of music and culture and apply those concepts to particular musical works in essays and class presentations.
3. Narrate the history of some of the principal genres of Latin American popular music (tango, salsa, samba/bossa nova, the corrido, cumbia, funk, and reggaetón), including each genre's origin, key recordings, and popularization.
4. Relate musical works to broader processes of political, economic, cultural, and technological change in modern Latin America.

HUMN 2410. Hackers, Politics and Culture

Course Description

In this course, students study the interwoven history of computer hacking, politics, and culture. Students see how the practice of computer hacking and modern hacker culture emerged from origin points like MIT's Tech Model Railroad Club, the 1960's American counterculture, and proto hacker "Phone Phreak" communities. Students will examine how legal and political institutions have responded to the growing phenomena of computer hacking and cyberwarfare, as well as how hacktivists and online activists have used digital technologies to push for political and social change. Students will also explore pop culture's growing interest in computer hacking and, more significantly, how works of pop culture and science fiction have directly influenced hacks and hackers throughout the history of computing. In the process, students will research and produce case studies of hacks or hacktivist actions, considering their objectives, tactics, tools, and impacts.

Student Learning Outcomes

By the end of class, students will:

1. Increase their understanding of the intertwined history of hacking, politics, and culture.
2. Learn how to evaluate hacker/hacktivist actions in terms of Objectives, Tactics, Tools, and Impacts.
3. Research the contexts and dialogs surrounding historical events.
4. Understand how legislation has responded to emerging technologies.
5. Analyze visual and written documents.
6. Integrate research and cite material to make compelling analytical arguments.
7. Communicate effectively in a variety of media.

8. See how computer hackers draw inspiration from popular culture and how popular culture responds to emerging technologies.

HUMN 2993. Workshop in Humanities
Course Description
Varies
Student Learning Outcomes
Varies

HUMN 2996. Topic in Humanities
Course Description
Varies
Student Learning Outcomes
Varies

HUMN 2998. Internship in Humanities
Course Description
Varies
Student Learning Outcomes
Varies

Information and Digital Literacy (IADL)

IADL 1110. Introduction to Information Studies
Course Description
Introduction to systems of information and how they impact our current social and cultural life. This course introduces organizing systems and classification, definitions of information, intellectual property and copyright, information formats, information ethics, and the history and structure of the internet. Other topics may include the history of information, social media, the attention economy, Wikipedia®, net neutrality, and algorithmic bias.
Student Learning Outcomes
1. Students will be able to articulate a practical definition of information in order to use it intentionally and effectively.
2. Students will be able to identify and use relevant and authoritative information formats appropriate to their information needs.
3. Students will be able to discuss how organizing systems work in order to retrieve and manage information stored in them.
4. Students will be able to engage in the iterative research process to create an information product.
5. Students will be able to make informed decisions about the information they use and share online.

IADL 1111. Introduction to Online Learning and Strategies for Success
Course Description
This course will introduce the fundamental knowledge and practice of online learning and learning strategies. Students will apply this knowledge and practice in online learning environments to be successful online lifelong learners.
Student Learning Outcomes
1. Understand the foundations of online learning.
2. Develop effective habits and skills for online learning success.

3. Follow ethical and professional standards in online learning.
4. Engage in meaningful and collaborative online interactions.
5. Use tools and technologies to enhance online learning.

IADL 1112. AI for Learners: Principles, Applications, and Ethical Considerations
Course Description
The goal of this course is to empower students with a strong foundation in AI literacy. This includes understanding AI principles, its applications in education, and the ethical considerations surrounding AI. We aim for students to confidently and effectively utilize AI tools and resources to enhance their academic performance, problem-solving skills, and information literacy throughout their academic and lifelong learning endeavors."
This version specifies what students will learn (AI principles, applications, and ethics), how they will apply their knowledge (using AI tools for academic and lifelong learning), and sets a clear expectation for the outcome (confidence and effectiveness in utilizing AI).
This course is designed to equip students with the knowledge and skills needed to thrive in an AI-driven world, where AI is not just a tool but a transformative force. Students will not only understand AI but also harness its potential effectively, making students confident and informed AI users both in their academic journey and beyond.
Student Learning Outcomes
1. Explain the fundamental principles and mechanisms underlying machine learning.
2. Recognize and articulate the diverse ways AI technologies contribute to daily life, especially in learning.
3. Employ AI tools and applications to enhance their learning journey, encompassing tasks such as composing written assignments, tackling technical projects, and conducting research.
4. Demonstrate an understanding of the constraints and shortcomings inherent in AI's role in learning.
5. Identify ethical dilemmas and concerns associated with the use of AI in educational contexts.
6. Apply AI tools and techniques in an ethically responsible manner within the realm of learning, ensuring that ethical considerations guide their utilization of AI resources.

Indigenous Studies (IDST)

IDST 1110. Introduction to Indigenous Liberal Studies
Course Description
Not Available
Student Learning Outcomes
Not Available

IDST 2110. Indigenous Inquiry
Course Description
Not Available
Student Learning Outcomes
Not Available

International Studies (INST)

INTS 1101. Introduction to International Studies
Course Description
Unlike many traditional academic concentrations, International Studies is interdisciplinary, allowing students to approach their course of study from multiple and combined academic perspectives such as historical, anthropological, political,

economic, and geographic. This gateway course is designed to reflect that approach while introducing students who are interested in International Studies to the degree requirements and expectations. To do so, this course will explore major issues and trends in contemporary global affairs. Students will acquire an understanding of how the past has and continues to shape the issues of our lives. Note: This is a survey course that is designed to introduce students to broad concepts that are crucial to International Studies; it is also geared toward helping students acquire some basic academic skills including critical reading, thinking, research and writing. To acquire a deeper understanding of any one particular topic introduced in this course, you will need to take more advanced courses that are geared to the intricacies of that specific topic. The following components will be emphasized simultaneously throughout the course: cross-disciplinary concepts of knowledge and learning; region-based issues and area studies; economic, cultural, and political globalization; the intersection of content topics such as peace and conflict, international institutions, gender, religion, indigenous populations.

Student Learning Outcomes

By the end of this course, you will:

1. Understand interdisciplinary scholarship as it applies to International Studies.
2. Be able to question dogmas and taboos in today's society.
3. Have developed an awareness of differing perspectives and diversity.
4. Understand world issues and trends.
5. Understand the impact and legacy of colonialism/imperialism in developing nations.
6. Have developed the skills to identify and critically engage with the transnational processes that define international issues in the contemporary world.
7. Understand the range and variety of career/graduate school options that International Studies makes possible.
8. Be aware of intercultural learning strategies/skills.
9. Be able to identify the UNM course offerings that satisfy the area concentration requirements for International Studies, including:
    a. Africa.
    b. Asia/Middle East (+ Eastern Russia).
    c. Europe (+ Western Russia).
    d. Latin America.
10. Be able to identify the UNM course offerings that satisfy the thematic concentration requirements for International Studies, including:
    a. Culture & Arts in the Contemporary World (CACW).
    b. Religion and Belief Systems (RABS).
    c. Indigenous, National and Transnational Identities (INTI).
    d. Women and Gender in the Contemporary World (WGCW).
    e. Global Markets, International Institutions, and Global Governance (GMGG).
    f. Conflict, Peace & Diplomacy (CPAD).

Italian (ITAL)

ITAL 1130. Accelerated Elementary Italian

Course Description

Intensive course for serious beginning students.

Student Learning Outcomes

By the end of the semester, you will be able to:

1. Hear, speak, read, and write basic Italian.

2. Converse and write on topics related to immediate personal needs, greetings, farewells, introductions, personal data, likes and dislikes, obligations and desires, daily routines, the home, working, basic food, body, health, weather, professions, the media, studies, travel, and so on.
3. Comprehend both artificial and authentic written and aural texts of short to moderate length on familiar topics.
4. Use a basic core vocabulary of about 2,000 words.
5. Use essential grammar concepts.
6. Attain an ACTFL oral proficiency level of Novice-High.
7. Identify key concepts, persons, and places important to Italian speakers.
8. Explain basic concepts and facts of everyday Italian life and social patterns.

ITAL 1140L. Italian Lab

Course Description

A self-paced language lab designed to accelerate, reinforce and support all levels of Italian. The course provides an opportunity to practice and strengthen listening, speaking, reading and writing skills through the use of software, audio and video tapes, and other technologies.

Student Learning Outcomes

At the conclusion of this course, the student should be able to demonstrate progress in the following areas:

1. Pronunciation
2. Vocabulary
3. Grammatical structure
4. Reading and listening comprehension skills
2. Writing and speaking skills
3. History and culture of the Italian speaking world

ITAL 2130. Accelerated Intermediate Italian

Course Description

Intensive course for serious beginning students.

Student Learning Outcomes

By the end of the semester, you will be able to:

1. Hear, speak, read, and write at a relatively complex intermediate level.
2. Converse and write on topics related to immediate personal needs, greetings, farewells, introductions, personal data, likes and dislikes, obligations and desires, daily routines, the home, working, basic food, body, health, weather, professions, the media, studies, travel, and so on.
3. Comprehend both artificial and authentic written and aural texts of short to moderate length on familiar topics.
4. Use essential grammar concepts.
5. Attain an ACTFL oral proficiency level of Intermediate-Mid.
6. Identify patterns of cultural behavior or customs which have been presented in class discussions.

Japanese (JAPN)

JAPN 1105. Introduction to Japanese

Course Description

Introduces the student to the sound system, pronunciation and basic vocabulary necessary for communication in Japanese. This course is recommended for students who have had no previous exposure to Japanese or any other foreign language.

Student Learning Outcomes

1. Use "survival" Japanese.
2. Feel comfortable with Japanese-speaking people.
3. Handle a good vocabulary (and dictionary) to build simple Japanese sentences.

JAPN 1110. Japanese I

Course Description

This course focuses on the basics of the Japanese language with a balanced approach to the development of four skills: listening, speaking, reading and writing. The course is designed to teach students to communicate with Japanese socially and to utilize culturally appropriate manners to engage in Japanese daily life. While conversational skills are emphasized, the student will also be introduced to the various Japanese scripts.

Student Learning Outcomes

1. Become introduced to the sound system of the Japanese language.
2. Gain a basic understanding of Japanese scripts.
3. Learn and utilize vocabulary needed for basic conversation.
4. Converse and write on topics related to immediate personal needs, greetings, introductions, personal data, daily routines and school.
5. Comprehend both artificial and authentic written and aural texts of short length on familiar topics.
6. Comprehend and use essential grammar concepts.
7. Identify patterns of cultural behavior or customs in Japan, including gestures, greetings, and body language.
8. Gain the ability to converse using Japanese idiomatic expressions.

JAPN 1120. Japanese II

Course Description

This course focuses on building upon the basics of the Japanese language with a balanced approach to the development of four skills: listening, speaking, reading and writing. The course is designed to teach students to communicate with Japanese socially and to utilize culturally appropriate manners to engage in Japanese daily life. Along with further developing conversational skills, the student will also continue to learn about and utilize various Japanese scripts.

Student Learning Outcomes

1. Understand and utilize in more depth the sound system of the Japanese language.
2. Gain a greater understanding of Japanese scripts.
3. Utilize expanded vocabulary in conversation.
4. Converse and write on topics related to personal, social, geographical, and political life.
5. Comprehend both artificial and authentic written and aural texts of longer, but still brief length, such as personal letters, messages, journals, and narrative accounts.
6. Comprehend and use essential and more complex grammatical concepts.
7. Continue to develop a sense of culturally appropriate conduct.
8. Build upon the ability to converse using Japanese idiomatic expressions.

JAPN 1130. First Semester Japanese Intensive

Course Description

This is the first semester of a two-semester sequence in first year Japanese. This course focuses on the basics of the Japanese language with a balanced approach to the development of four skills: listening, speaking, reading and writing. It is designed to teach students to communicate with Japanese socially and culturally appropriate manners to survive daily life. Basic reading and writing will be also covered in the cultural context. The course follows ACTFL guidelines, integrating the 5 Cs: communication, cultures, connections, comparisons and communities, to offer the student a well-rounded classroom experience. Students will attain ACTFL novice-high level in four skills.

Student Learning Outcomes

1. Communicate and exchange information about familiar topics, such as greetings, family, visiting friends, and basic shopping and traveling using phrases and simple sentences, sometimes supported by memorized patterns.
2. Usually handle short social interactions in everyday situations by asking and answering simple questions

3. Write short messages and notes in Japanese characters on familiar topics related to everyday life.
4. Often understand words, phrases, and simple sentences in Japanese related to everyday life.
5. Recognize pieces of information and sometimes understand the main topic of what is being said.
6. Understand familiar words, phrases, and sentences in Japanese characters within short and simple texts related to everyday life.
7. Sometimes understand the main idea of what they have read in Japanese characters.
8. Identify beliefs, behaviors and cultural artifacts of Japan.
9. Develop initial awareness of cultural similarities and differences.

JAPN 1135. Second Semester Japanese Intensive

Course Description

This is the second semester of a two-semester sequence in first year Japanese. This course continues with the basics of the Japanese language with a balanced approach to the development of the four skills: speaking, listening, writing and reading, and cultural enhancement. The course is designed to expand vocabulary, grammar and 145 Kanji to deal with daily activities. This class will be taught by having students interact and perform with each other in addition to the lectures to be given by the instructor in culturally as well as grammatically appropriate manners. Students will attain ACTFL novice-high level in four skills.

Student Learning Outcomes

1. Participate in conversations on a number of familiar topics, such as making appointments, visiting theater, making plans for holiday, talking about likes dislikes, sickness, using simple sentences.
2. Handle short social interactions in everyday situations by asking and answering simple questions.
3. Write briefly about most familiar topics in Japanese characters and present information using a series of simple sentences.
4. Understand the main idea in short, simple oral messages and presentations in Japanese on familiar topics.
5. Understand the main idea of short and simple texts in Japanese characters when the topic is familiar.
6. Describe and make comparisons between cultures about beliefs, behaviors and cultural artifacts in Japan.
7. Continue developing awareness of cultural similarities and differences.

JAPN 1140L. Japanese Language Lab

Course Description

A self-paced language lab designed to accelerate, reinforce and support all levels of Japanese. The course provides an opportunity to practice and strengthen listening, speaking, reading and writing skills through the use of software, audio and video tapes, and other technologies. Graded as Pass/Fail. May be taken twice for degree or certificate credit.

Student Learning Outcomes

At the conclusion of this course, the student should be able to demonstrate progress in the following areas:

1. Pronunciation
2. Vocabulary
3. Grammatical structure
4. Reading and listening comprehension skills
5. Writing and speaking skills
6. History and culture of the language-speaking world

JAPN 2110. Japanese III

Course Description

This course is designed for students who have completed 12 credit hours or the equivalent of Japanese study. This course continues to expand vocabulary, grammar and 209 Kanji to deal with daily activities. Its objective is to teach students to communicate in a meaningful way using all four language skills: speaking, listening comprehension, reading and writing.

Students will be able to manage not-complicated daily situation. Students will attain ACTFL intermediate-low level in four skills.

Student Learning Outcomes

1. Participate in conversations on familiar topics, such as applying part-time job, gift giving/receiving, planning a trip, lost and found, using sentences and short series of sentences.
2. Handle short social interactions in everyday situations by asking and answering a variety of questions.
3. Usually say what they want to say about themselves and their everyday life.
4. Write on a variety of familiar topics in Japanese characters using connected sentences.
5. Understand the main idea in messages and presentations in Japanese on a variety of topics related to everyday life and personal interests and studies.
6. Sometimes understand the main idea of conversations that they overhear.
7. Understand the main idea of texts in Japanese characters related to everyday life and personal interests or studies.
8. Describe and make comparisons between cultures about beliefs, behaviors and cultural artifacts in Japan.

JAPN 2120. Japanese IV

Course Description

This course is designed for students who have completed 15 credit hours or the equivalent of Japanese study. This course continues to expand vocabulary, grammar and 271 Kanji to deal with not-complicated daily situation with ease. Also, students acquire a competence for Japanese pragmatic usage. This course follows ACTFL language guidelines, integrating the five C's: communication, cultures, connections, comparisons and communities, to offer the student a well-rounded classroom experience. Students will attain ACTFL intermediate-mid level in four skills.

Student Learning Outcomes

1. Participate with ease and confidence in conversations on familiar topics, such as relationships, par-time job, shopping with a variety of request, meeting socially superiors.
2. Usually describe people, places, and things, and talk about events and experiences in various time frames.
3. Handle social interactions in everyday situations, sometimes even when there is an unexpected complication.
4. Write about topics related to school, work, and community in a generally organized way in Japanese characters.
5. Write some simple paragraphs in Japanese characters about events and experiences in various time frames.
6. Easily understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies.
7. Usually understand a few details of what they overhear in conversations, even when something unexpected is expressed.
8. Sometimes follow what they hear about events and experiences in various time frames.
9. Understand the main idea of texts in Japanese characters with topics related to everyday life, personal interests, and studies, as well as sometimes follow stories and descriptions about events and experiences in various time frames.
10. Describe and make comparisons between cultures about beliefs, behaviors and cultural artifact in Japan.
11. Start using languages in a culturally appropriate way based on the understanding of cultural similarities and differences, including the use of "honorific" and "humble" expression.

Landscape Architecture (LARC)

LARC 1110. Introduction to Landscape Architecture

Course Description:

Landscape Architecture is a versatile field with equally versatile practitioners. Designers of the outside spaces where humans interact with each other and with nature, we bring together a wide range of tools and experiences to solve the unique challenges of helping to create vibrant spaces. In this course you will develop an

understanding of why today, more than ever, the practice of Landscape Architecture plays a valuable and critical role in how humans understand, inhabit and help shape the world around us.

Student Learning Outcomes

Students will be able to:

1. Examine the relationship among environmental, socio-cultural, political, and economic systems as they interact with and affect the sustainability of the natural and human worlds.
2. Describe shared ethical responsibilities or moral norms among members of a group. Explain ethical issues or propose solutions based on ethical perspectives or theories.
3. Identify and communicate in various genres and mediums (oral, written, and digital) using strategies appropriate for the rhetorical situations (i.e., attending to audience, purpose, and context).
4. Apply strategies such as reading for main points; seeking key arguments, counterarguments, rebuttals; locating supportive documentation for arguments; reading with a specific stakeholder lens; applying a theoretical lens (e.g. cultural, political, economic) to understand and evaluate messages in terms of the rhetorical situation (audience, purpose, and context).
5. Evaluate the authority of sources in their own arguments and those of others; distinguish among supported claims, unsupported claims, facts, inferences, and opinions. In arguments, integrate support for their own claims with information from sources that are used and cited ethically and appropriately (using Chicago Style).
6. Develop conclusions, solutions, and outcomes that reflect an informed, well-reasoned evaluation.
7. Explain and support one's own position on specific local or global issues while recognizing that there may be multiple valid perspectives
8. Explain a range of personal, social, cultural, or social justice issues as they relate to one's own or others' perspectives.
9. Delineate a problem or question. Students state problem/question appropriate to the context.

LARC 1115. Landscape Literacy and Representation

Course Description

The landscape can be thought of as a tapestry, woven with many different intricate elements in many complex combinations and patterns. The ability to "read" and understand those qualities and relationships is crucial to understanding and interpreting the complexities at work in a landscape. It is equally valuable to be able to graphically represent landscapes, and landscape designs, that focus or reveal those relationships and patterns. In this course we will learn how to "read" a landscape through embodied ways of learning and traditional research methods. We will use analog and digital modes of representation to construct visual narratives of our growing body of knowledge. Primary methods of representation will include hand drawing, photography, collage, map making, diagrams and writing.

Student Learning Outcomes

Students will be able to demonstrate:

1. The ability to analyze an unfamiliar landscape through embodied observation and traditional inquiry and research.
2. The ability to use analog and digital modes of representation to explore hidden and obvious landscape systems.

3. The ability to synthesize findings into a rich and layered landscape narrative.

LARC 2411. LA design Studio; Speculation

Course Description'

This design studio will investigate issues of our time through speculation and critical questioning as a method to imagine and test diverse design propositions at multiple scales of landscape. Notions of beauty, wonder and poetics will compliment and challenge notions of utility and practicality to create rich and imaginative versions of landscape futures.

Student Learning Outcomes

1. Students demonstrate the ability to:
2. Construct a line of inquiry in response to a speculative prompt.
3. Conduct design propositions in response to lines of inquiry.
4. Graphically and verbally represent design propositions in a clear and engaging manner.
5. Write a clear abstract explaining the thesis question and design response.

Language, Literacy and Sociocultural Studies (LLSS)

LLSS 1110. Foundations of American Indian Education

Course Description:

This course is an exploration of American Indian Education from the past to the present. Topics include: boarding schools, Indigenous language issues, policies, practices, experiences, educational models, language and cultural maintenance, urban/rural schools. This course will look at curriculum, pedagogy, and the processes of education that empower students to draw on their personal strengths and lived experiences and to develop their confidence in their abilities to learn. We will explore ways to understand and appreciate students' background, and to foster learning that values the rich cultural and linguistic resources that children bring to the classroom, so that we can help learners successfully integrate the learning community of the school with their broader communities.

Student Learning Outcomes

1. To develop an appreciation of Indigenous forms of education that pre-date western forms of curriculum, instruction, and policies.
2. To examine government policies that shaped American Indian Education from the late 19th century to the present.
3. To analyze the impact of federal policies on the current status of languages and cultures of Indigenous Peoples.
4. To analyze factors and conditions that shape present-day manifestations of oppression in the education of Indigenous youth.
5. To recognize the significance of diversity among Indigenous People as it relates to schooling today.
6. To understand the nature, problems, and complexity of education through the study of current issues and trends.
7. To develop a critical awareness of the effects of race, class, gender, sexual orientation, and culture on educational experiences of Indigenous youth and educators.
8. To gain awareness of Indigenous models of education and their pedagogical utility for educators and Native youth.
9. To gain a deeper understanding of the interplay of education, power, and Indigenous communities.

LLSS 1996. Language, Literacy and Sociocultural Studies Topics

Course Description

Varies

Student Learning Outcomes

Varies

LLSS 2996. Language, Literacy and Sociocultural Studies Topics
Course Description
Varies
Student Learning Outcomes
Varies

Latin (LATN)

LATN 1110. Latin I
Course Description
Introduction to the Latin language; grammar, syntax and readings in Roman authors.
Student Learning Outcomes
If you consistently keep up with the classwork and homework, by the end of the semester, you will be able to:

1. Read and understand short, basic authentic Latin texts at the novice-mid level.
2. Accurately translate short, basic authentic Latin texts.
3. Use complex grammar skills to analyze Latin texts.
4. Identify patterns of cultural behavior or customs that have been discussed in class.
5. Express thoughts and opinions on a variety of issues related to the classical Roman world.

LATN 1120. Latin II
Course Description
Continuation of 1110. Introduction to the Latin language; grammar, syntax and readings in Roman authors.
Student Learning Outcomes

1. Read and understand short, basic authentic Latin texts at the novice-mid level.
2. Accurately translate short, basic authentic Latin texts.
3. Use complex grammar skills to analyze Latin texts.
4. Identify patterns of cultural behavior or customs that have been discussed in class.
5. Express thoughts and opinions on a variety of issues related to the classical Roman world.

LATN 2110. Latin III
Course Description
Systematic review of Latin grammar and syntax; readings in simple prose authors such as Cicero and Caesar; introduction to Latin poetry and scansion.
Student Learning Outcomes

1. Read and understand unabridged Latin at an intermediate level.
2. Accurately translate unabridged Latin texts.
3. Learn about discuss the cultural position and relevance of rhetoric and literature in ancient Rome. (the verb “learn” is too vague to be a valid objective)
4. Express thoughts and opinions on a variety of issues related to the classical world.

LATN 2120. Intermediate Latin IV
Course Description
Systematic review of Latin grammar and syntax; readings in simple prose authors such as Cicero and Caesar; introduction to Latin poetry and scansion.
Student Learning Outcomes
At the end of the semester, students will be able to

1. Read and understand unabridged Latin at an intermediate level.
2. Accurately translate unabridged Latin texts.
3. Learn about discuss the cultural position and relevance of rhetoric and literature in ancient Rome.
4. Express thoughts and opinions on a variety of issues related to the classical world.

Latin American and Latino Studies (LALS)

LALS 2240. Hispanics, Chicanos, and Latinx: History, Politics, Migration, Identities and Culture
Course Description
This interdisciplinary course explores the role of the Hispanic, Chicano and Latinx identity in our culture and society. This course questions the polit1cs of labeling these identities by examining migration and community formation histories; labor markets; race and racial formations; education and the politics of language; political activism; and popular culture.
Student Learning Outcomes
Not Available

Latin American Studies (LTAM)

LTAM 1110. Introduction to Latin American Studies
Course Description
An interdisciplinary survey of Latin American history, culture, economics, politics, and social relations.
Student Learning Outcomes
Students will be able to:
1. Describe the unique cultural and social traditions in the region
2. Identify the principal events, problems, and concerns faced by Latin Americans today within a cultural and historical context
3. Evaluate the role of race, class, and gender in the creation of Latin American societies
4. Analyze the impact of colonialism on the construction of unique Latin American societies, and on the region's indigenous peoples
5. Interpret the political, cultural, and environmental developments that have contributed to interrelations among current Latin American communities and nations

LTAM 1111 Latin American Film
Course Description
Latin American Film explores themes relevant to Latin American societies through the viewing and analysis of critically acclaimed films and documentaries from Latin America. Such themes include memory and oblivion, immigration, gender issues, marginalized people, and globalization
Student Learning Outcomes
1. Gain Knowledge and Understanding of Latin American Cultures
    a. Students demonstrate an understanding of the relationship between the practices and perspectives of Latin American cultures.
    b. Students demonstrate an understanding of the relationship between the products and perspectives of Latin American cultures.
2. Connect with Other Disciplines and Acquire Information
    a. Students reinforce and further their knowledge of other disciplines through Spanish and Portuguese language films and documentaries.
    b. Students acquire information and recognize the distinctive viewpoints that are only available through the Latin American cultures.
3. Develop insight into the Nature of Culture

a. Students demonstrate understanding of the concept of cultures through comparisons of Latin American cultures studied and their own.

LTAM 1996. Latin American Studies Topics
Course Description
Varies
Student Learning Outcomes
Varies

LTAM 2088. Latin American Studies Specialty
Course Description
This course is used to transfer approved courses from other colleges and universities. (Currently applicable for CNM only for transfer purposes).
Student Learning Outcomes
Varies

LTAM 2111. Tourism and Culture
Course Description
This course explores the extent to which colonialism and tourism have shaped Latin American communities as well as North Americans' conceptions of the region, through the lenses of imperialism, indigeneity, identity, and politics in Latin American tourist economies.
Student Learning Outcomes:
1. Identify and describe the legacies of colonialism in different present-day tourist sites in Latin America.
2. Evaluate the reasons for which indigenous peoples have both joined and opposed tourist ventures at different times and in different places.
3. Analyze the effects of tourism on the construction of cultural space and place.
4. Identify and evaluate relative power relations between tourists and local populations.

LTAM 2996. Latin American Studies Topics
Course Description
Varies
Student Learning Outcomes
Varies

LTAM 2998. Latin American Studies Internship
Course Description
Varies
Student Learning Outcomes
Varies

Liberal Arts (LBAR)

LBAR 1996. Topics in Liberal Arts
Course Description
Varies
Student Learning Outcomes
Varies

LBAR 2610. Liberal Arts Study Abroad

Course Description

This course provides students with an immersive study of culture and social relations in another country. In preparation for the in-country Study Abroad experience, students will explore interdisciplinary approaches to the study of that place and peoples.

Student Learning Outcomes:

1. Apply culturally specific knowledge to think comparatively about global and local issues.
2. Recognize and understand differences between their home culture and other cultures.
3. Demonstrate the ability to interact effectively and in a culturally sensitive way with people of different cultural backgrounds.
4. Demonstrate increased self-confidence and decision-making capabilities, as well as the ability to adapt to changing circumstances.

LBAR 2996. Liberal Arts Topics

Course Description

Varies

Student Learning Outcomes

Varies

LBAR 2999. Community Leadership: Liberal Arts Capstone

Course Description

Using an interdisciplinary approach, engages students in a local community action project, further developing skills in critical thinking and effective communication. Includes applying skills valued by employers such as problem-solving techniques, effective use of digital tools for research and communication, small group communication, and leadership.

Student Learning Outcomes

Varies.

Library (LIBS)

LIBS 1110. ePortfolio

Course Description

Not Available

Student Learning Outcomes

Not Available

LIBS 1120. Creative & Critical Inquiry

Course Description

Not Available

Student Learning Outcomes

Not Available

Library Science (LIBR)

LIBR 1110. Introduction to Research

Course Description
The goal of this course is to provide students with techniques and tools to become better researchers. This course introduces students to the research process, and the organization, location, and evaluation of information.
Student Learning Outcomes
After completing this course, students will be able to:

1. Develop a research plan based on an information need.
2. Find information efficiently and effectively using a variety of search tools.
3. Evaluate the reliability of an information resource.
4. Practice ethical behavior in using information.

LIBR 1111. Introduction to Information Literacy in an Electronic Environment
Course Description
Introduction to the basics of the research process; the organization, location and evaluation of information using print, non-print and electronic resources; and techniques of effective personal information management in a computerized setting. Uses a combination of active and hands-on learning methods as well as lectures.
Student Learning Outcomes

1. Develop a discipline-specific research guide based on an established subject area.
2. Select appropriate information sources and use them to find information efficiently.
3. Evaluate information and its sources.
4. Practice ethical behavior in using information.

Language, Letters and Liberal Arts (LLLA)

LLLA 1101. Foundations in Liberal Arts
Course Description
Liberal Arts Education is an approach to learning that empowers individuals and prepares them to deal with complexity, diversity, and change. It provides students with broad knowledge of the wider world (e.g., science, culture, and society) as well as in-depth study in specific areas of interest. A liberal arts education helps students develop a sense of social responsibility, as well as strong and transferable intellectual and practical skills such as communication, analytical and problem-solving skills, and a demonstrated ability to apply knowledge and skills in real-world settings. In this course, we will explore the concepts that inform the liberal arts, read and analyze texts that exemplify liberal arts learning, and discuss potential careers in the liberal arts. "In this course we will:
Student Learning Outcomes

1. Explore concepts that inform the liberal arts
2. Read and analyze texts that exemplify liberal arts learning
3. Practice written and oral communication skills
4. Research potential careers in the liberal arts

Linguistics (LING)

LING 1996. Topics in Linguistics
Varies
Student Learning Outcomes
Varies

LING 2110. Introduction to the Study of Language and Linguistics
Course Description

This course presents an introduction to the study of language through the basic aspects of linguistic analysis: the sound system (phonetics and phonology), the structure of words and sentences (morphology and syntax), and the ways in which language is used to convey meaning (semantics and pragmatics). In addition, the course will investigate how language is acquired and stored in the brain, and how differences in speech styles and dialects reflect different social and cultural backgrounds of individual speakers.

Student Learning Outcomes

1. Understand the basic concepts and terminology associated with phonetics, phonology, morphology, syntax, semantics, and pragmatics.
2. Comprehend how language evolves over history and over an individual's lifespan.
3. Describe some common, but mistaken, beliefs about language and to distinguish between descriptive and prescriptive approaches to language.
4. Describe the social, psychological, geographic and historical influences that lead to language dominance or language endangerment.
5. Be aware of the relations among various languages in the world, between dialects and slang, and between human and non-human languages.
6. Apply methods of linguistic analysis as introduced in the course.
7. Critically engage with the works of linguistic researchers.
8. Stimulate curiosity about language and what it reveals about the human mind.

LING 2151. Language in Advertising

Course Description

This course focuses on the role that language and other symbolic systems play in advertising, branding, and marketing persuasion. Students analyze and evaluate the social meaning that is conveyed through marketing language choices and become more critical consumers as a result. Questions of who is targeted by particular linguistic practices and how those marketing choices contribute to definitions of social and cultural groups are addressed. Students will have the opportunity to conduct mini research projects to extend their knowledge of concepts and test hypotheses presented in class. No prior knowledge of linguistics or marketing research is assumed.

Student Learning Outcomes

1. Understand the basic concepts and terminology associated with phonetics, phonology, morphology, syntax, semantics, and pragmatics.
2. Comprehend how language evolves over history and over an individual's lifespan.
3. Describe some common, but mistaken, beliefs about language and to distinguish between descriptive and prescriptive approaches to language.
4. Describe the social, psychological, geographic and historical influences that lead to language dominance or language endangerment.
5. Be aware of the relations among various languages in the world, between dialects and slang, and between human and non-human languages.
6. Apply methods of linguistic analysis as introduced in the course.
7. Critically engage with the works of linguistic researchers.
8. Stimulate curiosity about language and what it reveals about the human mind.

LING 2996. Topics in Linguistics

Course Description

Varies

Student Learning Outcomes

Varies

Management (MGMT)

MGMT 2110. Principles of Management

Course Description

An introduction to the basic theory of management including the functions of planning, organizing, staffing, leading, and controlling, while considering management's ethical and social responsibilities.

Student Learning Outcomes

Students should be able to:

Required:

1. Explain the major functions of management including planning, organizing, communications, controlling, motivating, leading, and staffing.
2. Recognize major developments in the history of management thought.
3. Describe the basic managerial processes including decision-making and other key skills necessary for managers to perform their roles.
4. Identify an organization's stakeholders and the importance of social and ethical responsibility of managers.
5. Explain the formulation and implementation of strategic planning, including the relationship between goals, plans, vision statements, and mission statements.
6. Describe the strategies managers use to help organizations adapt to changing internal and external environments.
7. Explain organizational change, forces for change, sources of resistance to change, and the techniques managers can use to implement and facilitate change.

MGMT 2993. Workshop in Management

Course Description

Varies

Student Learning Outcomes

Varies

MGMT 2996. Topics in Management

Course Description

Varies

Student Learning Outcomes

Varies

MGMT 2998. Internship

Course Description

Varies

Student Learning Outcomes

Varies

Marketing (MKTG)

MKTG 1111. PGA Golf Management Freshman Orientation

Course Description

To receive a specialty degree in PGA Golf Management, students are required to complete ALL three levels of the PGA's/PGM.

Student Learning Outcomes

Students should be able to:

1. Introduction to the PGA PGM
2. PGA History and Constitution
3. The Rules of Golf
4. Career Enhancement A
5. Tournament Operations A
6. Rules of Golf B
7. Career Enhancement B

MKTG 1112. Level 1, PGA's PGM Education Program (Part 1)

Course Description

To receive a specialty degree in PGA Golf Management, students are required to complete **ALL** three levels of the PGA's/PGM Educational Program. This course will cover material found in the Level 1 Work Experience Activities. The final exam will be a brief analysis of what has been covered throughout the semester, what remains for completion, and preparation for internship experiences.

Student Learning Outcomes

Customer Relations

1. Discuss the business value of effective customer relations
2. Describe the essential components of the PGA Customer Relations Model
3. Identify and define moments of truth
4. Recognize the four Interaction Strategies and apply them in a variety of routine and challenging customer situations
5. Identify the seven Interpersonal Skills and apply them in a variety of routine and challenging customer situations
6. Initiate the PGA Experience using a systematic greeting and engagement process

Business Planning

1. Describe the business planning process and the PGA Business Planning Model
2. Understand the difference between long-term and short-term planning
3. Use case studies to learn how to apply business
4. Define "the business" at the facility level in terms of vision, core values, facility characteristics, and mission
5. Assess the current state of the business
6. Identify internal and external factors that will impact business success
7. Conduct a SWOT analysis
8. Develop appropriate business goals and objectives based on the facility profile and SWOT analysis
9. Develop strategies to achieve long-term business goals and short-term business objectives
10. Analyze financial history and create financial forecasts
11. Prepare and operating budget
12. Monitor performance and modify the plan or operations, if required, at regular intervals

MKTG 1210. Advertising

Course Description

A survey of currently available advertising media. A psychological approach to consumer persuasion; applied techniques in media selection, layout mechanics, production methods, and campaign structures.

Student Learning Outcomes

Students should be able to:

1. Define advertising and the relevant application of psychology in delivering the message.
2. Explain the importance of various advertising media in the marketing mix.
3. Identify and explain the social, ethical and legal issues advertisers must consider.
4. Describe the significance of the marketing function in business.
5. Explain the importance of advertising and other marketing communication tools.

6. Demonstrate application of the planning process as it applies to marketing and advertising.
7. Describe the factors that ae weighted when considering the use of radio and television in the creative advertising mix.
8. Describe the relationship between market segment, consumer behavior and selection of advertising campaign types.
9. List the alternative means of reaching a target market and the technical challenges of each.

MKTG 1220. Small Business Marketing

Course Description

An overview of public relations principles, practices and purposes as applied to small business. Topics include basics of news release writing, media awareness, development and maintenance of a positive public image, branding, ethical marketing, and the relationships of public relations with advertising and marketing. Methods and practices used in small business are explored.

Student Learning Outcomes

Students should be able to:

1. Explain the importance of creating and sustaining a positive public awareness and image.
2. Identify public relations practices as they relate to the management and marketing processes.
3. Define branding and discuss its importance for small business.
4. Describe the value of business event management and promotion for small business.
5. Discuss how media relations, public relations, advertising and marketing efforts are interrelated and the importance of each.

MKTG 1230. Social Media Marketing

Course Description

An examination of social media platforms, techniques, strategies and tools. Topics include integrating social media technologies into a marketing plan, creating social media marketing campaigns, and analyzing effectiveness.

Student Learning Outcomes

Students should be able to:

1. Describe social media marketing strategies.
2. Create a social media strategy, plan, and campaign.
3. Integrate different social media techniques into a marketing plan.

MKTG 2110. Principles of Marketing

Course Description

Survey of modern marketing concepts and practices focusing on the marketing mix: product, pricing, promotion, and distribution strategies. Topics include the marketing environment, consumer behavior, marketing research, target marketing, and the ethical and social responsibilities of marketers.

Student Learning Outcomes

Students should be able to:

1. Describe the professional, ethical, and social responsibilities of marketers.
2. Explain the role of the product in the marketing mix, including the product life cycle, the relevance of product innovation, and product classifications.
3. Illustrate the role of promotion in the marketing mix, including the communication process and the promotional mix.
4. Explain the role of price in the marketing mix, including pricing objectives, pricing policies, and pricing methods.
5. Describe the operation of channels of distribution and supply chains, including functions of intermediaries and degrees of coverage.
6. Define the concepts of target markets and market segmentation with respect to elements of the marketing mix.
7. Explain the importance of market research and information systems in supporting marketing decision-making.

8. Describe the dynamic environment(s) in which marketing decisions must be made.

MKTG 2111. Level 1, PGA's PGM Education Program (Part2)

Course Description

To receive a specialty degree in PGA Golf Management, students are required to complete ALL three levels of the PGA/PGM Educational Program. This course will cover material found in the Level 1 Work Experience Activities. Quizzes will be given throughout the semester at the instructor's discretion. Your final grade will be based on work experience activities, exams, and attendance/class participation.

Student Learning Outcomes

Golf Car Fleet Management

1. Describe the importance of the golf car to the golfer, the golf facility, and the golf professional
2. Identify the characteristics of a well-managed, profitable golf car fleet
3. Describe the responsibilities of the fleet manager
4. Identify the essential policies and procedures that are the foundation of a sage and efficient golf car rental program
5. Describe the fleet staffing requirements of a typical golf facility
6. Identify the benefits and components of an effective maintenance program and a proper storage facility
7. Examine golf car needs in light of the facility's mission, customers, and physical characteristics
8. Describe how to acquire a fleet
9. Estimate fleet revenue, costs, and profit, and identify how budgeting changes will impact the financial bottom line
10. Perform a lease-versus-purchase analysis, and identify the benefits of each
11. Determine rental fees and promote ridership

Tournament Operations

1. Analyze the roe of tournament business at a golf facility
2. Identify tournament business objectives and the strategies used to achieve them
3. Define a tournament's purpose and develop an event that meets that purpose for the customer
4. Plan, organize, and promote events
5. Organize staff to meet tournament implementation schedules and budget requirements
6. Prepare the course and facility for an event
7. Communicate effectively with players, staff, and officials during an event
8. Describe all critical tasks required for tournament execution
9. Manage rules situations and make rulings during events
10. Review a tournament and suggest improvements for future events

MKTG 2112. Level 1, PGA's PGM Education Program (Part 3)

Course Description

The PGA Golf Management Program is a specialized program where students are required to complete Levels 1, 2, and 3 of the PGA/PGM Educational Program. This course will cover the Introduction to Teaching and Golf Club Performance portion of the PGA/PGM Educational Program. Students will learn the material necessary to complete the associated Work Experience Activities and Intro to Teaching Test. Students will also develop a foundation of knowledge and experience needed to complete the ensuing PGA teaching courses (Intermediate Teaching and Advanced Teaching).

Student Learning Outcomes

Knowledge of Learning:

1. Explain how students learn golf knowledge and skills and identify the implications for teaching.
2. Explain how students process information when learning golf skills.
3. Identify and explain the principles of effective practice.
4. Explain how juniors learn golf knowledge and skills and identify the implications for teaching.

Knowledge of Teaching:

1. Structure an effective golf lesson.
2. Analyze student's instructional needs and set clear, purposeful learning and practice goals.
3. Deliver effective explanations and demonstrations during a golf lesson.
4. Engage in self-assessment of teaching skills and competencies.

Knowledge of the Game:

1. Recognize and apply the appropriate clubhead path and clubface position information to improve a golfer's performance.
2. Conduct appropriate assessments to determine the skill level of the golfer.
3. Demonstrate basic knowledge of anatomy and physiology, and conduct a physical observation to identify movement capabilities and limitations that may affect a golfer's performance.
4. Define club performance terms and specifications, and describe their effect on ball flight and player performance.

MKTG 2120. Marketing Content Strategy and Branding

Course Description

This course is designed to give the student insight into branding and content strategy. It aims to push students to explore concepts such as consumer psychology, appropriate content, and strategy and search engine optimization. Students will have the opportunity to practice their writing and communication skills -- both vital skills for digital marketing.

Student Learning Outcomes

1. Discuss consumer psychology & buying motivations.
2. Develop a content marketing mission statement.
3. Create and analyze written content for blog posts that aligns with a brand messaging framework and target audience.
4. Apply best practices for visual design & text content for social media sites.

MKTG 2210. Agricultural Marketing

Course Description

This course explores the principles of marketing agricultural products and commodities. Instruction in the techniques of marketing services provided to agriculture related fields is also provided in this course. Development, analysis and decision-making associated with marketing of agricultural products and services are studied.

Student Learning Outcomes

Students should be able to:

1. Identify the role marketing plays in agricultural business as demonstrated on afaculty administer exam.
2. Recognize the different areas that make up the marketing environment as demonstrated on a faculty-administered exam.
3. Distinguish between the different parts of the agricultural business marketing system as demonstrated on a faculty-administered exam.
4. Explain the role of management in agricultural marketing as demonstrated on a faculty-administered exam.
5. Asses the function of organization and evaluation in agricultural marketing as evidence on faculty assigned projects.

MKTG 2215. Digital Marketing Fundamentals

Course Description

This course explores the importance of using new media in today's marketplace and using them effectively to build relationships with customers. Students will incorporate consumer expectations into a digital marketing plan, evaluate digital marketing delivery options, analyze website design, evaluate competitive digital marketing strategies, and explore the ethical and legal issues created by the new technology. Topics include the use of the internet in developing marketing strategy, conducting market research, and making marketing mix decisions. Inbound marketing techniques will also be explored. May be preparation for an industry certification exam.

Student Learning Outcomes

1. Describe the role of digital marketing in developing customer relationships and show how it fits within an organization's overall marketing strategy.
2. Explain the various media available for planning purposes and analyze factors to determine appropriate media selections.
3. Describe the differences between, and the convergence of, paid, earned, and owned media.
4. Explain and apply inbound marketing methodology.
5. Identify and incorporate various digital initiatives into an overall strategic marketing plan.

MKTG 2220. Digital Marketing

Course Description

This course focuses on planning to create and market a website. Internet marketing topics such as registering with search engines, increasing traffic, segmenting and targeting markets, establishing an online presence, developing a marketing plan and reshaping business for the Web market are covered.

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Describe how search engines work. (Use knowledge to make recommendations to a website on how it can improve its organic search rankings – perform search engine optimization)
2. Describe the various methods of online display advertising.
3. Determine the appropriate key performance indicators (KPIs) for any type of website.
4. Describe and implement best practices in marketing to a database of current and potential customers via email.
5. Utilize knowledge of social media tactics to design an effective social media campaign.
6. Implement online reputation management tactics to improve the online reputation of a brand.
7. Develop and present a digital marketing plan for a small, local business.

MKTG 2230.Marketing Analytics and Performance Optimization

Course Description

This course aims to give students the skills needed to analyze results of marketing efforts. Students will learn about factors that drive conversion and how to optimize their efforts using data and A/B testing. Students will understand what the key metrics for digital marketing are. Students will be assessed through three projects that give them an opportunity to get hands-on experience using spreadsheets, Google Analytics and analyzing an A/B test. The course is part of Facebook's Digital Marketing curriculum and is required to gain the Facebook Certification. Basic internet skills and an understanding of Microsoft Office applications are recommended.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Demonstrate ability to calculate key marketing metrics and understand their significance to determine strategic marketing optimization decisions.
2. Demonstrate the ability to A/B test various elements of marketing efforts to increase conversion rates.
3. Understand the factors that drive conversion and opportunities to optimize marketing performance.

MKTG 2231. Intermediate Social Media Marketing

Course Description

This course is designed to give students an understanding of the concepts involved in integrated marketing communication (IMC) with a focus on social media and the role they play in advertising, public relations, branding, and corporate communication strategies. Focus will be on the planning, research and creative skills needed to reach

promotional objectives through a social media campaign. May be preparation for an industry certification exam.

Student Learning Outcomes

1. Describe how integrated marketing attempts to meld all aspects of marketing, communication, and some aspects of customer experience to achieve a messaging unity through advertising, sales promotion, public relations, direct marketing, and social media.
2. Explain the design process for delivering a consistent message across channels to create a unified and seamless experience for consumers when they interact with a business or brand.
3. Evaluate the efficacy of different social media channels.
4. Describe best practices in the use of social media platforms and websites to promote a product, service, or event.
5. Develop a unified, integrated social media strategy for an organization or event

MKTG 2240. Email Marketing

Course Description

This course offers a deep dive into the world of email marketing, an incredibly effective marketing channel that can deliver great results for companies. In this course, students will learn about the role of email marketing in a company's marketing campaign, what stages of the customer journey email marketing is suited for, and best practices for email copy. The course will also touch upon more complex email practices such as automation and how to outline an email campaign. The students will be assessed on their performance on a capstone project which will entail outlining the components of an email campaign.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Recognize best practices and understand the lifecycle of an email campaign.
2. Understand how to generate an email list.
3. Familiarized with email automation tools and how they can help launch email campaigns.
4. Understand how to develop an email plan to launch multiple email campaigns at once.

MKTG 2245. Mobile, Email and Search Marketing

Course Description

Students explore and analyze the mobile marketing channels available to companies and gain exposure to different mobile strategies companies are using, including device-specific ad and location-based campaigns. As an essential component of a company's marketing mix, students will develop a plan for marketing to a database of current and potential customers via email. In addition, they explore the differences between Search Engine Marketing (SEM) and Search Engine Optimization (SEO) and how these contribute to overall strategy. Topics such as affiliate, paid and unpaid advertising, and performing site audits to improve SEO are also explored. Students develop skills in maximizing small marketing campaigns, understanding optimal audience outreach, and analyzing customer interactions and data. May be preparation for industry certification exams.

Student Learning Outcomes

1. Explain and implement best practices in mobile marketing.
2. Analyze different mobile channels and implement mobile strategies as part of a marketing plan.
3. Describe a responsive design and develop an email campaign responsive to mobile devices.
4. Evaluate a search engine marketing campaign and its effectiveness.
5. Describe changes that will improve a campaign's conversion rates.

MKTG 2410. Content Marketing and Branding

Course Description

This writing intensive course will focus on creating a brand identity and guidelines and gaining a better understanding of the essentials of creating, promoting, and measuring valuable and relevant content to attract and engage a profitable online presence and audience. Through practical exercises, different types of content embraced by social media will be explored along with how to leverage the value of content you generate. Best practices in digital storytelling will be utilized through effective writing of content such as blog posts, social media articles and posts, online journals, magazines, and digital newsletters. May be preparation for an industry certification exam.

Student Learning Outcomes

Upon successful completion of the course, students will be able to

1. Describe best practices for using content to support a brand strategy.
2. Employ best writing and posting practices for different types of content supported by social media.
3. Describe content tactics and challenges and how to leverage the value of created content.
4. Create a content marketing strategy, including sample pieces of marketing collateral.

MKTG 2250. Social Media Strategies

Course Description

This course focuses on the role social media plays in a digital marketing strategy. Topics include bid calculations, cost estimates, and various digital marketing platforms, as well as their practical application within the scope of a social media strategy. Students will also apply best practices to leverage social media in a time-specific marketing campaign to enhance social media skills.

Student Learning Outcomes

1. Summarize the role of social media in a marketing campaign and differences in voice and audience across various social media channels.
2. Identify best practices and describe the lifecycle of a social media campaign.
3. Calculate bids and explain the costs that come with social media advertising.
4. Demonstrate the ability to run a simulated social media campaign and the key metrics for optimization.

MKTG 2330. Website Design and Marketing

Course Description

Focusing on planning, creating, and marketing a website, topics in this course include developing a plan, segmenting and targeting markets, establishing an online presence,
increasing website traffic and exploring ways to achieve a higher search engine ranking (SEO). May be preparation for an industry certification exam. The course does not require coding or coding knowledge; however, students need to have basic computer skills.

Student Learning Outcomes

Upon successful completion of the course, students will be able to:

1. Create a measurable and goal-oriented marketing plan for a website.
2. Create an engaging website.
3. Explain different web design frameworks for improving conversion rates and apply these design frameworks to identify areas for website improvement.
4. Utilize analytics for decision making.
5. Explain how search engines work and make recommendations on a website can improve its organic search rankings.
6. Develop a toolset to assist in current and future website optimization and marketing efforts.

MKTG 2410. Content Marketing and Branding

Course Description

This writing intensive course will focus on creating a brand identity and guidelines and gaining a better understanding of the essentials of creating, promoting, and measuring valuable and relevant content to attract and engage a profitable online presence and audience. Through practical exercises, different types of content embraced by social media will be explored along with how to leverage the value of content you generate. Best practices in digital storytelling will be utilized through effective writing of content such as blog posts, social media articles and posts, online journals, magazines, and digital newsletters. May be preparation for an industry certification exam.

Student Learning Outcomes

Upon successful completion of the course, students will be able to

1. Describe best practices for using content to support a brand strategy.
2. Employ best writing and posting practices for different types of content supported by social media.
3. Describe content tactics and challenges and how to leverage the value of created content.
4. Create a content marketing strategy, including sample pieces of marketing collateral.

MKTG 2430. Display and Video Advertising

Course Description

This course focuses on the basics of display and video advertising, outlining a variety of topics including best practices, targeting, optimization, and audience strategy. Students learn how to design and successfully manage display and video advertising campaigns towards various marketing objectives, from research to implementation. May be preparation for industry certification exams.

Student Learning Outcomes

Upon successful completion of the course, students will be able to

1. Describe the various methods of online display advertising.
2. Describe the various methods of online video advertising.
3. Create an online display and video advertising campaign.
4. Describe and evaluate key metrics in measuring stages of the advertising funnel.

MKTG 2993. Workshop in Marketing

Course Description

Varies

Student Learning Outcomes

Varies

MKTG 2994. Marketing ePortfolio Capstone

Course Description

Through the marketing program, students develop an ePortfolio to show off skills gained to prospective higher education programs and employers. This is meant to help students stand out for careers that align with their passion for marketing. Along with polishing individual ePortfolios, in this capstone course, students will be provided resources to both pursue and enhance careers in the digital marketing field or transfer to another institution to pursue a bachelor's degree. Relevant experiences and examples will be shared on going beyond the resume to land challenging and rewarding career opportunities. Also explored will be higher education partnerships and scholarship opportunities.

Student Learning Outcomes

Upon successful completion of the course, students will be able to…

1. Establish a personal brand using integrated marketing communications concepts.
2. Develop an ePortfolio that showcases talents, skills, and previous work.
3. Develop a network of professional resources.
4. Explain career and/or educational searches and advance goals.

MKTG 2996. Topics in Marketing
Course Description
Varies
Student Learning Outcomes
Varies

Massage Therapy (MASS)

MASS 1110. Massage Therapy I
Course Description
Introduces students to the field of massage therapy. Students learn the history of massage and ethics as it pertains to massage therapy. The course provides hands-on training of safe and effective massage techniques.
Student Learning Outcomes

1. Describe the history of massage therapy.
2. Identify basic physiology as it pertains to massage therapy.
3. Examine basic pathology as it pertains to massage therapy.
4. Drape the massage therapy client in a safe and ethical manner.
5. Demonstrate proper body mechanics for massage.
6. Demonstrate proper sequencing when conducting a massage.
7. Perform introductory massage strokes and sequences.

MASS 1140. Kinesiology for Massage Therapy
Introduces kinesiology as it relates to massage therapy. Emphasis is placed on palpation of muscles, including muscle attachments and the muscle belly. Reviews musculoskeletal terminology, muscle structure and function, including range of motion as it applies to massage therapy. The risks and benefits of pathologies commonly encountered by massage therapists are thoroughly addressed.
Student Learning Outcomes

1. Identify and describe the kinesiological principles of the human body related to massage therapy.
2. Practice palpatin of the attachments and belly of muscles.
3. Identify and describe the effects of range of motion.
4. Identify and describe pathologies commonly encountered in the practice of massage.
5. Apply musculoskeletal terminology.

MASS 1240. Thai Massage Therapy Contraindications
Course Description
Identifies contraindications and areas of caution related to Thai massage therapy. The course covers when it is not appropriate or safe to treat a client and identifies precautions Thai massage therapists must take when working with special populations, pathologies and contraindications related to classes of medication.
Student Learning Outcomes

1. Identify contraindications and areas of caution related to Thai massage therapy.
2. Identify Thai massage therapy contraindications related to specific pathologies.
3. Describe Thai massage therapy contraindications related to special populations.
4. Demonstrate an understanding of Thai massage therapy contraindications related to classes of medications.
5. Assess and plan a Thai massage that safely manages contraindications.

MASS 1250. Thai Massage Therapy Professional Ethics

Course Description

This course covers difference in concepts of boundaries, professional practice, self-care and sustainability practices in Thai culture and Thai massage therapy practice as compared to massage therapy in the United States. Fundamentals in the difference between the history, traditions and culture in Thai massage therapy compared to massage therapy in the United States. Cultural appropriation and ethical practices as they relate to practices outside one's own culture. Overview of key Western massage concepts as preparation for the required National Massage Therapy Board Examination (MBLEx).

Student Learning Outcomes

1. Demonstrate respect and understanding of the traditions and ethics associated with the practice of Thai massage therapy.
2. Understand the history and development of Thai massage therapy as it relates to Thai Medicine, Buddhist Medicine and Thai ethics and culture.
3. Consider and understand cultural appropriation and ethical practices as they relate to practices outside one's own culture.
4. Ethics of communication, intake and relationship of the practitioner to their clients, other practitioners of massage and the tradition of Thai massage therapy.
5. Understand key Western massage concepts required for the MBLEX.

MASS 1340. Massage and Medically Complex Populations

Course Description

Introduces students to the field of medically complex massage therapy practices. This course covers basic guidelines of what to do for clients during during cancer treatment and the years post-treatment. Intake questions, precautions, contraindications and comfort techniques are reviewed.

Student Learning Outcomes

1. Identify basic types of medically complex populations as they pertain to massage therapy.
2. Describe basic guidelines for massaging during treatment and medical care.
3. Describe and practice intake questions appropriate for medically complex massage clients.
4. Identify and describe what precautions, contraindications and comfort techniques needed for medically complex populations.
5. Describe ethics as it relates to medically complex populations and massage therapy.

MASS 1370L. Sports Massage Therapy I Laboratory

Introduces massage therapy students to sports massage therapy techniques at community events. Identifies techniques specific to treating athletes and active individuals. Assessing and applying appropriate techniques to enhance performance in athletic events. Practice a variety of techniques such as stretching, range of motion, tapotement and vibration to a clothed individual at sports events.

Student Learning Outcomes

1. Identify basic contraindications and precautions of Sports Massage Therapy.
2. Identify benefits from the application and purpose of Sports Massage Therapy.
3. Practice pre-and-post event techniques to enhance performance and recovery.
4. Practice techniques such as range of motion, stretching, muscle energy, tapotement, vibration and relaxation.
5. Practice client intake with brief injury assessment.

MASS 1400. Introduction to Chair Massage Therapy

Course Description

Introduces students to the field of Chair Massage Therapy. Students practice a sequence of massage therapy techniques and hands-on treatment for the whole body. The treatment is focused on appropriate body mechanics and principles of massage for clients who are clothed.

Student Learning Outcomes

1. Practice the bodymechanics for Chair Massage Therapy.
2. Identify basic principles of Chair Massage Therapy.
3. Practice hands-on techniques following a sequence of strokes.
4. Describe ethics as it relates to people who would benefit from Chair Massage Therapy.

Mass 1410 Thai Massage Therapy I

Course Description

Introduces students to the field of Thai massage therapy. Students learn the history of Thai massage and ethics as it pertains to massage therapy. The course provides hands-on training of safe and effective Thai massage stretches, techniques and sequences.

Student Learning Outcomes

1. Describe the history of Thai massage therapy.
2. Evaluate ethical scenarios as they pertain to Thai massage therapy.
3. Bolster the massage therapy client in a safe manner.
4. Demonstrate proper body mechanics for Thai massage therapy.
5. Demonstrate proper sequencing when conducting a Thai massage session
6. Perform introductory Thai massage stretches, techniques and sequences

MASS 1420. Thai Table Massage Tools and Deep Tissue Techniques

Course Description

Introduces students to the field of Thai table Massage Therapy tools and deep tissue techniques. Reviews ethics as it relates to cultural appreciation and Buddhist medicine. Practice a variety of techniques such as basic full body compression ,rolling, Thai massage Deep Tissue techniques, traction and stretching sequences that are applicable to the massage table or the mat.

Student Learning Outcomes

1. Practice techniques using Thai Massage Therapy tools.
2. Describe the ethics of Thai Massage Therapy as it relates to cultural appreciation.
3. Practice deep tissue hands-on Thai massage techniques.

MASS 1430. Thai Table Massage Herbal Compress and Stretching

Course Description

Students practice Thai table massage hydrotherapy techniques using herbal compresses and stretching. Reviews ethics as it relates to cultural competency, and appreciation. Practice a variety of techniques such as use and application of herbal compresses, basic full body compression, traction and stretching sequences that are applicable to the massage table or the mat.

Student Learning Outcomes

1. Practice techniques using Thai table massage therapy herbal compresses.
2. Describe the ethics of Thai Massage Therapy as it relates to cultural competency.
3. Practice hands-on compression, traction and stretching sequences.

MASS 1440. Thai Table Massage Cupping and Myofascial Release

Course Description

Students practice Thai table massage therapy cupping techniques. Learn about the benefits of cupping to practitioner and clients. Reviews ethics as it relates to cultural appropriation and Buddhist medicine. Practice a variety of myofascial release techniques such as static cupping, moving cupping, massaging with cups, compression, holding and other Thai techniques that are applicable to the massage table or the mat.

Student Learning Outcomes

1. Practice advanced techniques using Thai table massage therapy cupping.
2. Describe the ethics of Thai massage therapy as it relates to cultural appropriation.
3. Demonstrate Thai cupping and myofascial release techniques.

MASS 1460. Introduction to Ortho Bionomy Part I

Course Description

Introduces students to the foundational principles and practices of Ortho-Bionomy®, a gentle, yet profound approach to somatic education and bodywork. Emphasizing the body's innate capacity for self-correction, the course explores key concepts such as movement away from pain, collaborating with the body and the use of positional release techniques to access self-corrective responses. Students gain hands-on experience applying Ortho-Bionomy methods to the spine while developing professional skills in communication, boundaries and ethical practices.

Student Learning Outcomes

1. Describe the history of Ortho-Bionomy.
2. Identify main principles and concepts.
3. Practice Ortho-Bionomy techniques for the spine.
4. Describe ethics as it relates to Ortho-Bionomy.

MASS 1470. Introduction to Ortho Bionomy Part II

Course Description

Introduces students to the foundational principles and practices of Ortho-Bionomy®, a gentle, yet profound approach to somatic education and bodywork. Emphasizing the body's innate capacity for self-correction, the course explores key concepts such as movement away from pain, collaborating with the body and the use of positional release techniques to access self-corrective responses. Students gain hands-on experience applying Ortho-Bionomy methods to the extremities while developing professional skills in communication, boundaries and ethical practices.

Student Learning Outcomes

1. Describe the history of Ortho-Bionomy.
2. Identify main principles and concepts.
3. Practice Ortho-Bionomy techniques for the extremities.
4. Describe ethics as it relates to Ortho-Bionomy.

MASS 1510. Thai Massage **Therapy II**

Course Description

An in depth, hands-on study and practice of safe and effective Thai massage skills. Learn applications of hydrotherapy techniques. Introduces Thai massage therapy theory and assessment. Students deepen their knowledge of anatomy and apply Thai massage therapy techniques.

Student Learning Outcome:

1. Plan, organize and perform an effective full body Thai massage.
2. Apply anatomical knowledge as it pertains to Thai massage therapy.
3. Utilize basic hydrotherapy techniques and skills.
4. Apply Thai massage theory and assessment to a session.

5. Perform full body Thai massage therapy.

MASS 1610. Thai Massage Therapy III

Course Description

Introduces students to the field of Thai deep tissue and myofascial release techniques and advanced stretching. Students deepen their knowledge of anatomy and theory as it pertains to Thai massage therapy and practice Thai massage fundamentals and techniques in a professional setting. Students give professional Thai massages under the supervision of an instructor to clients from the community.

Student Learning Outcome

1. Plan, organize and perform a Thai deep tissue and myofascial massage in the classroom setting.
2. Apply anatomical knowledge and theory as it pertains to Thai massage therapy.
3. Plan, organize and perform Thai massage sessions for clients in the community.

MASS 1980. Clinical Intensive in Massage Therapy

Course Description

Practice massage therapy fundamentals and techniques in a professional massage setting. Students give professional massages under the supervision of the instructor to clients from the community.

Student Learning Outcomes

1. Plan and organize full body massage to provide relief and well-being to clients from the community.
2. Practice verbal and written intake forms.
3. Model appropriate body mechanics, draping techniques and communication skills with clients.

MASS 2250. Massage Therapy I

Course Description

This course is for students accepted and enrolled in the UNM Massage Therapy Program. This course will develop student understanding of the healing art and science of professional touch, gain a basic understanding of the field of massage, and begin to provide the groundwork for students seeking professional licensure in the field of massage therapy.

In MAS I, students will gain a general understanding of the history of massage therapy, the scope of practice and ethics, and the professional requirements to practice massage therapy. Students will build on their knowledge of human anatomy and physiology throughout this course and understand the indications and contraindications of massage therapy.

Students will learn professionalism, quality, and definitions of healthy touch, proper and ethical practices of care, and universal precautions.

Students will also learn the basics of professional self-care practices such as body mechanics, healthy professional boundaries, and creating healthy environments for both practitioner and client.

You will learn basic massage techniques including but not limited to Swedish massage, Reflexology, Acupressure, and connective tissue manipulation. You will enhance your intuition, learn body reading, and begin to understand the overall effects of massage therapy technique choices. You will also learn and expand your awareness of the body/mind connections and how they relate to you as a therapist and your clients.

This course will provide the opportunity for students to learn the fundamentals of relaxation massage therapy techniques, as well as an opportunity to practice with hands-on contact hours. Students will continue developing their massage therapy hands-on techniques as they become exposed to new modalities throughout the course.

Students will provide and receive professional practice sessions in a safe, supportive, supervised, and professional environment.

Student Learning Outcomes

1. Learn, practice, and perfect a full Swedish Massage session, including proper draping, universal precautions, indications, and contraindications considerations, embrace appropriate timing and pacing for a complete massage therapy session, and use appropriate equipment, oils, linens, ambiance, and communication.
2. Have an understanding of the history of therapeutic massage, various massage modalities, and professionalism in massage therapy.
3. Perform advanced massage strokes and sequences.
4. Apply advanced draping procedures while massaging the client.
5. Demonstrate knowledge of basic pathologies, medical terminology, indications, and contraindications to massage.
6. Demonstrate an understanding of basic structural anatomy and how it applies to developing a massage sequence.
7. Begin to anticipate and develop a course of therapeutic plan of action and demonstrate a basic understanding of SOAP charting principles.
8. Demonstrate healthy respect, appropriate interpersonal conduct, and healthy professional communication strategies.
9. Demonstrate understanding and use of appropriate self- care techniques and modalities to support both the strenuous activity of this profession as well as personal development.
10. Demonstrate ability to receive and integrate healthy teaching/learning, critique, and adjustments for body mechanics, palpatory skills, manual therapy techniques, draping practice, professionalism, business practices, and ethical standards throughout the curriculum.

MASS 2251. Massage Therapy II

Course Description

This course is for students enrolled in the UNM Integrative Massage Therapy Program who have successfully completed Introduction to Massage and Massage Therapy I.

This course will provide the opportunity for students to refine their understanding of deep tissue and medical massage fundamentals as well as an opportunity to practice. Students will continue developing their skills in deep tissue massage. Students will learn application of hydrotherapy, energy techniques, introduction to oriental medicine, sports massage, contraindications, and disease education. Other massage modalities may be explored at the discretion of the instructor. Students will work on each other in a safe, supportive, and professional environment.

Student Learning Outcomes

1 .Perform basic visual and manual soft-tissue assessment.
2. Demonstrate appropriate professionalism, standard infection control and proper body mechanics.
3. Demonstrate knowledge of the safety issues and appropriateness of the application of hydrotherapy and other hot and cold body treatments.
4. Demonstrate basic medical massage treatment and how it applies to developing a massage sequence.

MASS 2252. Massage Therapy III

Course Description

This course is for students enrolled in the UNM Integrative Massage Therapy Certification Program who have successfully completed Massage Therapy II. This course will provide the opportunity for students to refine their understanding of Medical Massage fundamentals as well as an opportunity to practice.

Students will continue learning the application of hydrotherapy, sports massage, contraindications, and disease education. This course is meant to be taken in conjunction with the clinical practicum.

Other massage modalities may be explored at the discretion of the instructor. Students will work on each other in a safe, supportive, and professional environment.

Student Learning Outcomes

1. Demonstratethe application of medical massage techniques to specific pathologies.
2. Demonstrate how to work with specific pathologies such as HIV, HEPC, and Palliative Care.
3. Be certified in Heartsavers CPR and First Aid.
4. Know how to prepare for MBLEx National Exam.
5. Be guided in the application process for licensure in the state of New Mexico.

MASS 2253. Deep Tissues Techniques in Massage Therapy I

Course Description

This course is for students enrolled in the UNM Integrative Massage Therapy Program who have successfully completed Introduction to Massage and Massage Therapy I. This course will provide the opportunity for students to learn Deep Tissue Techniques in Massage as well as an opportunity to practice. Students will continue developing there skills in Swedish Massage while learning application of Deep Tissue theory and hands on modalities. Other massage modalities may be explored at the discretion of the instructor. Students will work on each other in a safe, supportive, and professional environment.

Student Learning Outcomes

1. Perform basic visual and manual soft-tissue assessment.
2. Demonstrate appropriate professionalism, standard infection control and proper body mechanics.
3. Demonstrate knowledge of the safety issues and appropriateness of the application of deep tissue techniques.
4. Demonstrate basic application of deep tissue techniques and how it applies to developing a massage sequence.

MASS 2254. Myofascial and Myoskeletal Techniques in Massage Therapy

Course Description

This course is for students enrolled in the UNM Integrative Massage Therapy Program who have successfully completed Deep Tissue Massage. Students will continue developing their skills in soft tissue manipulation while learning application of myofascial and myoskeletal techniques.

Other massage modalities may be explored at the discretion of the instructor. Students will work on each other in a safe, supportive, and professional environment.

Student Learning Outcomes

1. Facilitate basic visual assessment of soft tissues of client.
2. Demonstrate appropriate professionalism, standard infection control and proper body mechanics.
3. Demonstrate and apply myofascial techniques to a client.
4. Demonstrate and apply myoskeletal techniques to a client.

MASS 2255. Massage Clinic

Course Description

Students will learn to run a small clinic using online software platform Massagebook and practice the application of massage therapy to the general public. www.massagebook.com

Student Learning Outcomes

1. Demonstrate competence with the application of Therapeutic Massage Skills to the general public.
2. Demonstrate the ability to work as a team running the Massage Clinic.
3. Demonstrate developed skills that include scheduling clients, taking payment, sending appointment notification.
4. Demonstrate the ability to compile and maintain accurate SOAP notes.

MASS 2258. Eastern Modalities-Thai Massage

Course Description
This course is an introduction to some of the different forms of Eastern bodywork with a working emphasis on Thai Yoga Massage. Students will be given a solid foundation of knowledge on the histories of the modalities presented, Qi (Chi), Yin Yang theory, 5 Element theory, meridians and sen, as well as the principles of traditional Thai Massage.
Students must have massage training to enroll in this course.

Student Learning Outcomes

1. Relate basic Traditional Thai Massage theory and technique to a massage practice.
2. Repeat basic entry level Thai Massage therapy skills.
3. Interpret the varied histories of Asian modalities, 5 element theory, the differences and similarities between the presented modalities and the influences of one another.
4. Recognize and explain distinguishing indicators and contraindications for therapeutic Thai Massage.

MASS 2259. Exercise Physiology

Course Description
Students will learn how body systems respond during exercise through the disciplines of Anatomy, Physiology and Kinesiology. Students will learn tools to evaluate an appropriate nutrition and exercise program and how to apply it to a client. Students will learn application of kinesiology to the human form and movement as it is related to normal physiological range of motion.

Student Learning Outcomes

1. Perform basic visual and manual assessment.
2. Demonstrate knowledge of the safety issues and appropriateness of the application of kinesiology techniques.
3. Demonstrate basic application of functioning of the body during physical activity.

MASS 2263. Cranial Sacral I

Course Description
This course is for students who would like to gain a foundation in biodynamic craniosacral therapy. Students should have some knowledge of the human anatomy and physiology as this course will begin with cranium anatomy and advancing the understanding of the craniosacral system. Specific techniques for treating the craniosacral system vis-à-vis the cranium will be taught and practiced.

Student Learning Outcomes

1. Describe the scientific foundation and principles of CranioSacral Therapy - and why it's the key to relieving pain and dysfunction at their source.
2 Demonstrate finely tuned palpation skills you can rely on as highly sensitive and intuitive healthcare tools.
3 Identify the subtle craniosacral rhythm and interpret its patterns to accurately evaluate dysfunction and improvements.

MASS 2267. Cranial Sacral II

Course Description
This course is a continuation for students who would like to gain a foundation in biodynamic craniosacral therapy. Students should have some knowledge of the human anatomy and physiology as this course will begin with cranium anatomy and advancing theunderstanding of the craniosacral system. Specific techniques for treating the craniosacral system vis-à-vis the cranium will be taught and practiced.

Student Learning Outcomes

1 Locate the source of physical problems by traveling through the fascial system, that complex web of tissue that impacts all body structures and systems.

2. Release dural tube restrictions to enhance interactions between the central nervous system and the rest of the body.
3. Use techniques that produce dramatic health and relaxation effects, including Direction of Energy and Still-Point Induction.

MASS 2270. Eastern Modalities-Shiatsu

Course Description

This course is an introduction to some of the different forms of Eastern bodywork with a working emphasis on Shiatsu Massage. Students will be given a solid foundation of knowledge on the histories of the modalities presented, Qi (Chi), Yin Yang theory, 5 Element theory, meridians and tsubos, as well as the principles of Shiatsu Massage and how it is directly applicable to massage sequencing.

Student must have massage training to enroll in this course.

Student Learning Outcomes

1. Relate basic Shiatsu Massage theory and techniques to a massage practice.
2. Repeat intermediate strokes and sequence procedures in Shiatsu while massaging a client.
3. Interpret the varied histories of Asian modalities, 5 Element theory, the differences and similarities between the presented modalities and the influences of the Traditional Chinese Medicine healing model.
4. Recognize and explain distinguishing indicators and contraindications for therapeutic Shiatsu Massage.

MASS 2280. Massage Anatomy and Physiology

Course Description

This course is for students enrolled in the UNM Integrative Massage Therapy Program who have successfully completed Introduction to Massage and Massage Therapy I. Anatomy & physiology. This course will provide the opportunity for students to learn how body systems affect the ability to move and how movement in turn influences the body systems, deepening an understanding of the concept ‘movement as medicine’. Also examining how correct nutrition, diet and supplementation can enhance overall health. We will promote a deeper understanding of human anatomy at a conceptual and tactile level, a portion of the class will involve hands on exploration of concepts with related massage techniques. Students will work on each other in a safe, supportive, and professional environment.

Student Learning Outcomes

1. Gain better understanding of human movement, through the anatomical and physiological systems.
2. Gain the ability to understand and help counteract the stress of chosen exercises.
3. Understand how to meet their own fitness goals.
4. Create a diet, exercise and lifestyle plan to fit their individual needs.

MASS 2610. Professional Ethics in Massage Therapy

Course Description

This course covers the ethical guidelines and standards of practice essential for massage therapy certification. Students will explore key topics including scope of practice, confidentiality, record keeping, professional boundaries, informed consent, and dual relationships between therapists and clients.

Student Learning Outcomes

1. Identify and describe the guidelines for professional conduct as outlined.
2. Explain appropriate client boundaries in role-playing scenarios and articulate self-care strategies.
3. Define the limitations and guidelines of massage therapy scope of practice in a written response, and be able to identify situations requiring referral to another professional.
4. Analyze case studies demonstrating ethical client considerations.

5. Identify methods for obtaining informed consent.

MASS 2620. Business for Self-Employment and Massage Therapy
Course Description
Best business and marketing practices for partially or fully self-employed professionals and independent contractors. Covers the fundamentals of business success including branding, marketing, client communications, charting and record keeping. Practice basic financial literacy, billing and tax practices; licensing and registration following applicable state and federal laws in self-employment. Discuss office space and the merits of renting, owning or sharing spaces as well as the office layout, equipment and following local regulations.
Student Learning Outcomes
1. Describe best business practices for partially or fully self-employed professionals and independent contractors.
2. Describe the fundamentals of business success.
3. Demonstrate basic financial literacy, billing and tax practices.
4. Identify licensing and registration following applicable state and federal laws in self-employment.
5. Describe office space options and the merits of renting, owning or sharing spaces as well as the office layout, equipment and following local regulations.

MASS 2996. Massage Therapy Topics
Course Description
Varies
Student Learning Outcomes
Varies

Materials Engineering (MLTS)

MLTS 1110L. Materials Science & Engineering Laboratory
Course Description
Hands-on laboratory experience with some fundamental concepts in Materials engineering: classification of solids, gelation processes, particulate dispersions, nucleation and growth of crystals, phase diagrams, magnetic domains, (explosive) welding, and composite design. Course provides a glossary of terms and concepts used in the field of Materials science and engineering.
Student Learning Outcomes
1. State the four major classes of materials.
2. Identify (by sight/feel) common engineered materials.
3. Identify several of the seven crystal systems.
4. Perform batching calculations, express composition as weight and volume percentages.
5. Read/interpret a simple binary phase diagram.
6. Measure density and viscosity of a fluid.
7. Measure and calculate strengths of materials (simple compression, bending).
8. Explain the differences between fusion welding and solid-state welding.
9. Distinguish between different types of magnetism.
10. Follow procedural instructions and conduct experiments.
11. Safely utilize basic laboratory apparatus (hot plate, Bunsen burner, balance, etc.).
12. Identify critical parts of and properly use a reflecting light microscope.
13. Plot data using contemporary software (e.g. Excel, MATLAB, etc.).

MTLS 2202. Materials Engineering I
Course Description

The course is an introduction to the important concepts in materials science and engineering with a goal of building the foundations for all other courses related to materials.The course introduces the perspectives needed to think about materials in other areas of engineering and the physical sciences. The structure, properties, and processing of metals, ceramics, polymers, and composite materials are discussed. Topics covered include atomic bonding, crystal structures and symmetry, metal alloys, strength, microstructures, glasses, defects, diffusion, elasticity, fracture, and phase diagrams.

Student Learning Outcomes

1. Describe the major bond type(s) in the four major classes of materials.
2. Identify the common crystal structures of metals.
3. Compute atomic packing factors in metal structures.
4. Identify directions and planes within a crystalline unit cell.
5. Describe the mechanisms of deformation of metals, polymers and ceramics.
6. Explain the common methods of strengthening metals and alloys.
7. Describe the common crystal defects.
8. Calculate diffusion rates and concentrations.
9. Use phase diagrams to calculate compositions of binary alloys.
10. Use phase diagrams to predict microstructures of binary alloys.
11. Describe why heat treatments work and how to use them.
12. Explain the common steel alloys.
13. Describe the common forms of corrosion.

MTLS 2202L. Materials Engineering I Laboratory

Course Description

Laboratory experiments addressing elementary design problems involving optimal use of Materials. Designed to reinforce principles discussed in MTLS 2202.

Student Learning Outcomes

1. Explain the proper safety procedures for a materials lab.
2. Describe the operation of a scanning electron microscope.
3. Explain how to obtain texture and compositional information from metal samples.
4. Convert the 2-theta angle of the XRD peaks to the lattice parameter.
5. Polish and etch a metal sample in order to reveal its microstructure.
6. Use an optical microscope.
7. Measure the hardness of a sample and convert it to the approximate strength.
8. Describe the effect of extreme temperatures on the properties of materials.
9. Use tensile test data to calculate the elastic modulus, yield strength, tensile strength, and maximum elongation.

MTLS 2235. Materials Engineering II

Course Description

Survey of technologically important Materials including ceramics, glasses, semiconductors, polymers and composites. The objective is to understand the chemical composition, structure, processing and property relationships in material systems. The student will obtain a basic understanding of the principles of electronic transport, dielectric, thermal, optical and mechanical properties of engineered solids. Undergraduate students majoring in Materials Engineering must take MTLS 2235L concurrently.

Student Learning Outcomes

1. Perform stoichiometric batching calculations and steps to fabricate a polycrystalline ceramic.
2. Accurately measure the bulk density of ceramic via Archimedes method.
3. Design, batch and make a soda-lime-silica glass.
4. Locate a glass composition on a ternary diagram.

5. Calculate average molecular weights and degree of polymerization of a common polymer.
6. Compute/predict polymer molecule size (extended, random coil).
7. Measure viscosity of polymer solutions.
8. Cite differences between reinforced plastics and advanced composites.
9. Describe the major steps involved in IC manufacturing.
10. Explain the difference between low-K and high-K dielectrics and their applications.
11. Build a simple parallel plate capacitor using a dense ceramic and conducting paste.
12. Measure capacitance using an impedance analyzer and calculate the dielectric constant.
13. Follow written procedures in performing laboratory experiments.
14. Design and create professional engineering tables and graphs to analyze collected data.
15. Describe experimental results and relate to known phenomena.
16. Draw sound conclusions.
17. Write concise and coherent engineering reports.

MTLS 2235L. Materials Engineering II Lab

Course Description

Laboratory experiments introducing the fabrication of technical Materials and the measurement of their properties. Designed to reinforce principles discussed in MTLS 2235.

Student Learning Outcome

1. Use Paulings Rules to predict crystal structures of simple ceramic compounds.
2. Calculate theoretical density of a crystalline ceramic.
3. Perform stoichiometric batching calculations.
4. Label all critical points and phase fields in a binary phase diagram.
5. Describe the characteristics of a refractory.
6. Explain the effects of network formers & network modifiers in a common glass composition.
7. Describe how glass is tempered.
8. Explain why ceramics are brittle.
9. Compute the flexural strength of a ceramic from 3pt bending fracture.
10. Identify/recognize the chemical-molecular structure of common engineering polymers.
11. Calculate average molecular weights and degree of polymerization.
12. Compute/predict polymer molecule size (extended, random coil).
13. Describe the geometric variations (isomers, copolymers) occurring in polymers.
14. Cite the differences between thermoplastics and thermosets.
15. Distinguish between addition and condensation polymerization.
16. Sketch the stress-strain behavior of typical polymers (linear, network, elastomer).
17. Discuss the influence of mol. weight, structure & crystallinity on thermo-mechanical behavior.
18. Use mixing rules to compute the elastic modulus of particle and fiber reinforced composites.
19. Cite the relative advantages/disadvantages of PMCs, MMCs, CMCs.
20. Describe the electrical behavior of materials with reference to the electron band diagrams.
21. Compute the carrier concentration and conductivity of a metal according to free electron theory.
22. Compute the carrier concentration and conductivity of intrinsic and extrinsic semiconductors.
23. Explain an ohmic vs a rectifying contact.
24. Explain the operation of a field effect transistor.
25. Describe the four frequency-dependent polarization mechanisms possible in materials.
26. Calculate the dielectric constant of a material from capacitance in a parallel plate configuration.

Mathematics (MATH)

MATH 1009. Mathematics for the Elementary Teacher
Course Description

Course offers an in-depth look at the representations of rational numbers, including base-ten and decimal numbers, integers, fractions, arithmetic operations on these sets and number properties using student activities and investigations. Problem solving is emphasized throughout.

Student Learning Outcomes

1. Decompose numbers to demonstrate place value.
2. Identify and define the whole numbers, the integers, and the rational numbers.
3. Compare and contrast the various appropriate uses of whole numbers, integers, and rational numbers.
4. Represent rational numbers using concrete models, number lines, and symbolic representations, and flexibly move between representations.
5. Represent decimal numbers (including whole numbers) in different ways that demonstrate their place value structure (e.g., bundled objects and the number line).
6. Use concrete models number lines to demonstrate the equivalence of numbers, including equivalent fractions and fractions and decimals.
7. Use concrete models and number lines to compare numbers.
8. Explain procedures for rounding and comparing numbers using place value.
9. Convey the relative sizes of integers, and rational numbers written as decimals and fractions.
10. Recognize and produce appropriate definitions for addition, subtraction, multiplication, and division of whole numbers and rational numbers with particular attention to how these operations generalize from whole numbers to rational numbers.
11. Model addition, subtraction, multiplication, and division using concrete models and contextual situations.
12. Communicate the relationship among the operations.
13. Identify an operation that applies to a given problem and explain why it is appropriate.
14. Identify geometric models (e.g., area and volume models) used to represent numbers and operations.
15. Accurately use standard and non-standard algorithms for the arithmetic operations of whole numbers, fractions, and decimals.
16. Demonstrate and explain the relationship between place value, the properties of arithmetic, and the algorithms (standard and alternative) used for operations on decimal numbers including whole numbers.
17. Perform and describe strategies for mental computation and estimation using fact families, the structure of base-ten numbers, and the properties of arithmetic.
18. Evaluate computed answers for their reasonableness and give answers at an appropriate level of precision.
19. Use powers and scientific notation to express and compare large and small numbers.
20. Illustrate the associative, commutative and distributive properties of arithmetic and demonstrate their use in common arithmetic procedures.
21. Recognize and produce appropriate examples demonstrating the importance of the properties of arithmetic fact fluency, estimation, problem solving, and algebra and that these properties apply to all branches of mathematics and at all levels.
22. Make sense of problems and persevere in solving them.
23. Reason abstractly and quantitatively.
24. Construct viable arguments and critique the reasoning of others.
25. Model with mathematics.
26. Use appropriate tools strategically.
27. Attend to precision.
28. Look for and make sense of structure.

29. Use mathematical notation properly.

MATH 1010. Math for School Teachers
Course Description
Not Available
Student Learning Outcomes
Not Available

MATH 1101. Methods of Problem Solving
Course Description
Not Available
Student Learning Outcomes
Not Available

MATH 1110. Math for Teachers I
Course Description
Investigates the representation of rational numbers and rational number arithmetic, including base ten and decimal numbers, fractions, and arithmetic operations on these sets. Connections to basic geometric concepts are included. Explanation and problem solving is emphasized throughout.
Student Learning Outcomes

1. Unpack arithmetic.
    a. Component 1: Explain procedures for doing addition, subtraction, and multiplication with whole numbers, integers, and fractions.
    b. Component 2: Do addition, subtraction, and multiplication of multi-digit numbers in several different ways.
    c. Component 3: Analyze student work, assess validity of arguments, and identify mathematical misconceptions in mistakes.
    d. Component 4: Use the decomposition of whole numbers to find factors, multiples, and prime numbers.
    e. Component 5: Use the relationships between operations, to solve simple algebraic equations.
2. Apply mathematical concepts.
    a. Component 1: Recognize the difference between multiplicative and additive situations.
    b. Component 2: Solve problems involving fractions.
3. Represent mathematical concepts.
    a. Component 1: Use tactile representations, including base blocks and integer chips to represent numbers and operations.
    b. Component 2: Use visual representations, including discrete pictures, number lines, and rectangles, to represent operations.
    c. Component 3: Use tactile and visual representations to explain how estimation and rounding work.
    d. Component 4: Use concrete applications to represent operations.
4. Communicate mathematical concepts.
    a. Component 1: Describe the equivalence between different representations of numbers and operations.
    b. Component 2: Create justifications for properties and procedures in arithmetic.
    c. Component 3: Use correct terminology and notation.

MATH 1111. Problem Solving with Formulas, Measurements, and Algebra
Course Description

This course presents strategies for solving mathematical problems; topics include ratios, proportions, per cents (increase and decrease), precision in measurement, use of scientific notation, units' conversion and dimensional analysis. The emphasis is on critical thinking and quantitative reasoning using relevant math skill.

Student Learning Outcomes

1. **Create and apply algebraic models to solve problems.**
   a. Component 1: Create linear algebraic models by constructing ratios and proportions and use to solve problems.
   b. Component 2: Apply basic exponential algebraic models including compound interest and percent increase and decrease to solve applied problems
   c. Component 3: Solve applied problems related to measurement
2. **Use quantitative reasoning to solve problems.**
   Component 1: Select and use appropriate formulas to solve problems.
   Component 2: Solve a formula for a specific variable
   Component 3: Use appropriate notation (including scientific notation), level of precision, and terminology when solving problems and communicating answers.
   Component 4: Use appropriate unit conversions and apply dimensional analyses as needed to solve problems.
   Component 5: Apply non-algebraic techniques, such as drawing pictures, performing multiple arithmetic calculations, and using trial and error to solve problems.
3. **Use critical thinking techniques**
   Assess whether the outcome of a given calculation is reasonable through quick mental estimation, checking answers against recommended ranges, and/or solving a problem using multiple methods.

MATH 1112. Problem Solving with Statistics and Probability

Course Description

This course presents an introduction to statistics and probability. Topics include constructing and interpreting graphical representations of data, finding and interpreting measures of central tendency (mean, median, mode), finding and interpreting measures of dispersion (standard deviation, range), calculating probability for single and compound events using probability rules.

Student Learning Outcomes

1. **Describe and summarize data graphically and numerically to solve problems**
   Component 1: Represent data using graphs and tables such as histograms and frequency distribution tables.
   Component 2: Interpret graphical displays of data
   Component 3: Calculate measures of central tendency including mean, median, mode and quartiles and use them to characterize and interpret data.
   Component 4: Calculate measures of dispersion including range and standard deviation and use them to characterize and interpret data.
   Component 5: Calculate probability for single and compound events using probability rules to solve problems
2. **Use critical thinking techniques**
   Assess whether the outcome of a given calculation is reasonable through quick mental estimation, checking answers against recommended ranges, and/or solving a problem using multiple methods.

MATH 1113. Problem Solving with Geometry and Trigonometry

Course Description

This course presents strategies for solving mathematical problems; topics include practical plane and solid geometry and right triangle trigonometry.

Student Learning Outcomes

1. Use plane geometry to solve problems.
   Component 1: Accurately measure angles and classify as acute, obtuse or right angles.

Component 2: Use simple geometric relationships involving intersecting lines
Component 3: Identify and find the area and perimeter of geometric shapes including circles, squares, rectangles, parallelograms, trapezoids and hexagons
Component 4: Apply the Pythagorean theorem to find the sides of a right triangle
Component 5: Solve applied problems involving area and perimeter of plane figures

2. Use the properties of solid figures to solve problems.
   Component 1: Identify and find the surface area of volume of solid objects including prisms, cubes, cones, cylinders, pyramids, spheres, and frustums.
   Component 2: Solve applied problems involving solid figures
3. Use triangle trigonometry to solve applied problems.
   Component 1: Convert angles between decimal degrees, degrees and minutes, and radians
   Component 2: Find the values of trigonometric ratios
   Component 3: Solve right triangles using exact values for special triangles and approximate values for other right triangles. Use a calculator to approximate angle values using inverse trigonometric functions.
4. Use critical thinking techniques
   Assess whether the outcome of a given calculation is reasonable through quick mental estimation, checking answers against recommended ranges, and/or solving a problem using multiple methods.

MATH 1114. Problem Solving with Consumer Mathematics

Course Description

This course presents strategies for solving mathematical problems in Consumer Mathematics. Students will develop a personal budget, then learn the mathematics of topics such as interest, mortgage, rent and leasing, credit cards, loans (such as is needed to purchase a vehicle), depreciation, annuities, investments, and stocks and bonds.

Student Learning Outcomes

1. Use, organize and graphically display data to model a personal budget.
   Component 1: Use the percent formula to allocate amounts of a given income to each budget category.
   Component 2: Use technology to construct pie charts illustrating a personal budget.
   Component 3: Interpret graphical displays of budget data.
2. Use compound interest to solve applied problems.
   Component 1: Demonstrate how compound interest impacts financial decisions related to mortgages, credit cards, loans or car buying.
   Component 2: Demonstrate how compound interest impacts financial decisions related to investments such as retirement funds, bank savings, stocks, bonds, or crypto currencies.
   Component 3: Compare and analyze interest-rate based financial options
   Component 4: Calculate and analyze investment goals.
3. Use critical thinking techniques
   Assess whether the outcome of a given calculation is reasonable through quick mental estimation, checking answers against recommended ranges, and/or solving a problem using multiple methods.

MATH 1115. Math for Teachers II

Course Description

Develops basic geometric concepts including rigid transformations and congruence; dilations and similarity; length, area and volume; systems of measurement and unit conversions; and connections to coordinate geometry. Explanation and problem solving is emphasized throughout.

Student Learning Outcomes

1. Apply arithmetic.
   Component 1: Use and justify formulas relating to measurement.

Component 2: Recognize operations required by problems involving geometric figures.

2. Represent geometric concepts.
   Component 1: Use tactile representations, such as pattern blocks, geoboards, and nets, to represent geometric problems.
   Component 2: Use a compass, protractor, and ruler.
   Component 3: Create representations of 3-dimensional figures.
3. Communicate geometric concepts.
   Component 1: Use correct terminology and notation.
   Component 2: Describe geometric objects including shapes, transformations, and measurements using appropriate units.
   Component 3: Create justifications for properties and procedures in geometric classification and in measurement.
4. Apply proportional reasoning when appropriate.
   Component 1: Recognize growth factors in different dimensions.
   Component 2: Solve problems involving congruent and similar objects.
   Component 3: Convert between units of measurement in various dimensions.

MATH 1116. Mathematics for the Elementary Teacher II

Course Description

Algebra from the viewpoint of the elementary curriculum with emphasis on proportional and linear relationships. Additional topics include number theory, ratio, percent, probability and statistics. Student activities, investigations and problem solving are emphasized throughout.

Student Learning Outcomes

1. Interpret a composite number as the product of prime factors.
2. Use factors and multiples to solve problems.
3. Use tests for divisibility
4. Differentiate between prime or composite numbers using various techniques including factoring and the
5. Sieve of Eratosthenes
6. Discuss the Fundamental Theorem of Arithmetic
7. Compare and contrast the sets of rational, irrational and real numbers
8. Express percent of a quantity as a rate per 100
9. Use proportional reasoning in common applications
10. Represent a quantity as a fraction, percent, and decimal
11. Use proportional relationships to solve percent problems
12. Represent, analyze, and interpret a variety of patterns with tables, graphs, words and equations
13. Explain how formulas represent relationships between quantities
14. Solve and graph linear equations
15. Define and identify functions
16. Represent functions with words, tables, equations and graphs
17. Interpret the slope of a line as a ratio between quantities or a unit rate in contextual situations
18. Analyze linear relationships and identify the slope and y-intercept in a graph, equation, and applied situation
19. Select, create, and use appropriate graphical representations of data including frequency tables, pictographs, line plots, bar graphs, line graphs, histograms, box plots, and scatterplots
20. Identify graphic misrepresentations and distortions of data sets such as unequal interval size, axis range, and scaling
21. Summarize and interpret data using mean, median and quartiles and explain the appropriateness and limitations of each measure
22. Compute theoretical probabilities using organized lists, tree diagrams, area models, and formulas for simple and compound events

23. Compare probabilities estimated using empirical data to those computed theoretically.
24. Discuss the importance of randomness
25. Compare and contrast population and sample
26. Use the vocabulary of probability to generate convincing arguments, draw conclusions, and make informed decisions.
27. Use measures of center and measures of variability to draw informal comparative inferences about two populations
28. Explain and compute standard deviation and inter-quartile range
29. Make sense of problems and persevere in solving them.
30. Reason abstractly and quantitatively.
31. Construct viable arguments and critique the reasoning of others.
32. Model with mathematics.
33. Use appropriate tools strategically.
34. Attend to precision.
35. Look for and make sense of structure.
36. Use mathematical notation properly.

MATH 1117. Math for Elementary & Middle School Teachers

Course Description

Develops basic geometric concepts including rigid transformations and congruence; dilations and similarity; length, area and volume; systems of measurement and unit conversions; connections to coordinate geometry. Student activities, investigations and problem solving are emphasized throughout.

Student Learning Outcomes

1. Classify polygons based on properties such as number of sides, side lengths, and angle measures
2. Identify and draw polygons and circles that have given properties
3. Identify, describe, and draw rectangular solids and other polyhedral, cylinders, spheres and cones
4. Define length, area and volume and explain the differences through models
5. Define perimeter and find the perimeter of polygons
6. Explain and demonstrate why multiplication applies to the area of a rectangle and volume of a rectangular solid
7. Decompose polygonal regions into simpler polygons to find the area
8. Develop and use formulas for parallelograms, triangles, and prisms
9. Measure objects with appropriate tools with standard and non-standard units
10 Describe the metric system and US customary system and convert units within a system
11. Estimate and measure angles
12. Solve problems involving measurements of time, length, area, volume, and mass
13. Calculate the circumference, radius, diameter and area of circle and explain the relationship between Pi and circumference and area.
14. Use the properties of parallel lines and parallel line cut by a transversal to reason and solve problems about angles
15. Know and use the Pythagorean Theorem and its converse.
16. Solve problems
17. Find the volume of prisms, pyramids, cylinders, cones and spheres
18. Describe the effect of scaling on length, area, and volume
19. Use units that are products and units that are rates in application problems
20. Explain the process for unit conversion
21. Define congruent triangles and use their properties to solve problems
22. Prove or disprove congruence of triangles using the SSS, SAS, ASA properties of congruent triangles
23. Define similar triangles and use their properties to solve problems
24. Compare and contrast congruent and similar figures

25. Describe translations, reflections, and rotations using informal language and formal terminology
26. Identify and describe the image of a polygon under a specified transformation
27. Recognize that length, area, volume, and angle measurement are preserved by rigid transformations
28. Describe the relationship between congruence and rigid transformations
29. Describe the connection between symmetrical and rigid transformations
30. Describe dilations using informal language and formal terminology
31 Identify and describe the image of a polygon under a dilation in the Euclidean and coordinate plane
32. Describe the effect of dilation on length, area, volume, and angle measurement
33. Describe the relationship between similarity and dilation
34. Solve problems using points in the coordinate system

MATH 1118. Math for Elementary and Middle School Teachers I

Course Description

Course offers and in-depth look at rational numbers, arithmetic operations, and basic geometric concepts. Problem solving is emphasized throughout.

Student Learning Outcomes

1. Represent numbers and operations with models.
    a. Use visual models, including physical objects, drawings of counts, lengths, and area, number lines, and symbols to represent numbers and operations, and flexibly move between representations.
    b. Explain the relationship between contexts and the appropriate mathematical operations.
2. Identify and use the deeper structures of arithmetic.
    a. Analyze and perform multiple methods for doing addition, subtraction, multiplication, and division.
    b. Analyze student work, assess the validity of arguments, and identify mathematical misconceptions in mistakes.
    c. Describe and use the relationships between operations to represent and solve problems.
    d. Describe and use strategies for mental computation and estimation using fact families, the structure of base-ten numbers, and the properties of arithmetic.
3. Explain concepts in arithmetic.
    a. Explain procedures for doing addition, subtraction, multiplication and division with base-10 numbers using correct mathematical terminology and notation.
    b. Explain why the commutative and associative properties of addition and multiplication and the distributive property of multiplication over addition make sense.
    c. Explain how estimation and rounding work using models and correct mathematical terminology and notation.
4. Explain concepts in geometry.
    a. Describe, using appropriate vocabulary and representations, how points, lines, and angles relate to each other and to applications in the real world.
    b. Explain different ways to classify two-dimensional shapes based on their properties.

MATH 1125. Discovering the Art of Mathematics

Course Description

This course provides an inquiry-based approach to investigating the connections between mathematics, art, culture, and nature. Students will explore a variety of topics and problems which may include (but are not limited to): Geometry, Number Theory, Group Theory, Game Theory, and Calculus. Students' satisfactory completion of collaborative classroom activities, projects, homework, and presentations will be integral to success in this course.

Student Learning Outcomes

1. Students will take greater personal **responsibility** for their learning.
    Consistently attend classes on time in their entirety

Consistently participate and engage in in-class activities
Consistently complete reading and homework assignments on time.
Take notes from readings, class activities, and follow up on graded assignments.

2. Students will strengthen their ability to **communicate** mathematical arguments.
   Explain ideas and arguments both orally and in writing.
   Ask questions that seek clarification, expands on, or challenges ideas presented in the text and in class activities.
3. Students will demonstrate strong mathematical **reasoning** and problem-solving skills.
   Justify steps in mathematical proofs and solutions
   Formulate and evaluate conjectures and hypotheses
   Formally critique the reasonings of the one's own arguments as well as the arguments of others.
4. Students will understand the mathematical patterns underlying perspective and fractal geometry.
   Explain how to determine the viewing targets and viewing points of 2 dimensional pictures using mathematics.
   Describe fractals as a mathematical concept.
   Create projects that expands on ideas covered in class.

MATH 1127. College Mathematics/Quantitative Reasoning
Course Description
Not Available
Student Learning Outcomes
Not Available

MATH 1130. Survey of Mathematics
Course Description
This course will develop students' ability to work with and interpret numerical data, to apply logical and symbolic analysis to a variety of problems, and/or to model phenomena with mathematical or logical reasoning. Topics include financial mathematics used in everyday life situations, statistics, and optional topics from a wide array of authentic contexts.
Student Learning Outcomes

1. Construct and analyze graphs and/or data sets.
   a. Gather and organize information.
   b. Understand the purpose and use of various graphical representations such as tables, line graphs, tilings, networks, bar graphs, etc.
   c. Interpret results through graphs, lists, tables, sequences, etc.
   d. Draw conclusions from data or various graphical representations.
2. Use and solve various kinds of equations.
   a. Understand the purpose of and use appropriate formulas within a mathematical application.
   b. Solve equations within a mathematical application.
   c. Check answers to problems and determine the reasonableness of results.
3. Understand and write mathematical explanations using appropriate definitions and symbols.
   a. Translate mathematical information into symbolic form.
   b. Define mathematical concepts in the student's own words.
   c. Use basic mathematical skills to solve problems.
4. Demonstrate problem solving skills within the context of mathematical applications.
   a. Show an understanding of a mathematical application both orally and in writing.
   b. Choose an effective strategy to solve a problem.
   c. Gather and organize relevant information for a given application.

MATH 1130L. Survey of Mathematics Workshop

Course Description

Provides support to students taking MATH 1130 Survey of Mathematics. Students review mathematical concepts and skills and develop learning strategies to support their success in Survey of Mathematics.

Student Learning Outcomes

1. Construct and analyze graphs and/or data sets
    a. Gather and organize information
    b. Understand the purpose and use of various graphical representations such as tables, line graphs, tilings, networks, bar graphs, etc.
    c. Interpret results through graphs, lists, tables, sequences, etc.
    d. Draw conclusions from data or various graphical representations
2. Use and solve various kinds of equations
    a. Understand the purpose of and use appropriate formulas within a mathematical application
    b. Solve equations within a mathematical application
    c. Check answers to problems and determine the reasonableness of results
3. Understand and write mathematical explanations using appropriate definitions and symbols
    a. Translate mathematical information into symbolic form
    b. Define mathematical concepts in the student's own words
    c. Use basic mathematical skills to solve problems
4. Demonstrate problem solving skills within the context of mathematical applications
    a. Show an understanding of a mathematical application both orally and in writing
    b. Choose an effective strategy to solve a problem
    c. Gather and organize relevant information for a given application

MATH 1130Q. Survey of Mathematics Support Lab

Course Description

This course provides review and support for the skills necessary to succeed in MATH 1130 Survey of Mathematics. Students will discuss and practice prerequisite topics for Survey of Mathematics, review and practice Survey of Mathematics topics in preparation for assessments and develop study and test-taking skills. Topics covered include problem solving techniques, mathematical language and notation, exploration of mathematical diagrams and graphs, understanding and utilizing mathematical formulas, and use of technology for solving a variety of problems.

Student Learning Outcomes

1. Apply an appropriate problem-solving strategy which may include selecting the correct formula, trial and error, drawing a diagram, dimensional analysis, etc.
2. Employ critical thinking to analyze quantitative information to evaluate, interpret, and draw objective conclusions.
3. Communicate mathematical ideas clearly using correct mathematical terminology and proper mathematical notation.
4. Summarize, interpret, and draw inferences from data using diagrams, basic descriptive statistics and probability, graphs, and tables.
5. Distinguish between different mathematical formulas and correctly utilize them within application.
6. Utilize technology as an effective aid to execute advanced mathematical computations.

MATH 1131. Companion to Conceptual Mathematics

Course Description

Instructs students in the knowledge of basic mathematics necessary for success in Math 130? (Should this be MATH 1130). Topics include basic arithmetic, simplifying and solving algebraic equations, conversions, scientific notation, percent, ratios and proportions, basic geometry, introduction to basic financial literacy, introduction to statistics, formulas and the introduction of variable expressions and linear equations.

Student Learning Outcomes

1. Algebraic Expressions and Equations
    a. Translate a verbal/written model to an algebraic model.
    b. Evaluate algebraic expressions.
    c. Manipulate algebraic expressions using commutative, associative, and distributive law.
    d. Add, subtract, multiply, and divide real numbers.
    e. Define absolute value geometrically and algebraically.
    f. Simplify algebraic expressions using the order of operations.
    g. Perform operations on exponential expressions.
2. Equations and Problem Solving
    a. Solve linear equations.
    b. Manipulate algebraic formulas.
    c. Solve linear equations.
    d. Solve word problems using linear equations.
3. Graphs
    a. Analyze graphs and tables.
    b. Graph linear equations.
    c. Visualize and compute rates and slopes from graphical, numerical, and algebraic representations.
    d. Recognize and convert linear functions from numerical, graphical, and algebraic representations.
4. Intro to Statistics and Finance
    a. Intro to interest and statistics: central and standard deviation.
5. Exponents
    a. Simplify exponential expressions using the rules of exponents.
    b. Convert numbers between standard and scientific notation.
    c. Perform operations using scientific notation.

MATH 1134. Fundamentals of Elementary Mathematics I

Course Description

Numbers and the four operations of arithmetic. Understanding and comparing multiple representations of numbers and operations, in particular how these representations build from whole numbers to integers to fractions and decimals. Applying properties of numbers and operations in contextual situations. Reasoning, communicating, and problem solving with numbers and operations. Applications to ratio, and connections with algebra. Taught primarily through student activities and investigations. Restricted to: EDUC, EPAR,E ED,ECED majors.

Student Learning Outcomes

1. As future elementary teachers you will be teaching mathematics to children.
2. In order to teach a subject well you need not only to know the material that you will teach, but you need to know more than what you will teach, and know it well, in order to be able to answer questions, understand student reasoning, give alternate explanations when your students do not understand something, and be able to adjust to changes in the mathematical curriculum.
3. Furthermore, even if you hope to teach a given grade, you should be prepared to teach a variety of grades since what a person ends up teaching is often not what they planned to do.
4. We will explore ideas of arithmetic in a way to help you improve your mathematical ability, gain confidence in your ability, introduce to you different ideas and models, and to see a variety of mathematical activities that are appropriate for people of all ages.
5. Everything we study will be done with the aim of developing your ability to relate to the mathematics of elementary school and to help children develop mathematical understanding.

MATH 1135. Numbers and Society

Course Description

This course introduces logic, the process of collecting, analyzing, and displaying data. Students will understand concepts in statistics, carry out basic procedures of data analysis, and interpret data using quantitative and logical thinking and reasoning. Students will make connections between the use of statistics in society and in their lives.

Student Learning Outcomes

1. Students will take greater personal responsibility for their learning.
   Consistently attend classes on time in their entirety.
   Consistently participate and engage in in-class activities.
   Consistently complete reading and homework assignments on time.
   Take notes from readings, class activities, and follow up on graded assignments.
2. Students will strengthen their ability to communicate mathematical arguments.
   Explain ideas and arguments both orally and in writing.
   Ask questions that seek clarification, expands on, or challenges ideas presented in the text and in class activities.

3.Students will demonstrate strong mathematical reasoning and problem-solving skills.
   Justify steps in mathematical proofs and solutions.
   Formulate and evaluate conjectures and hypotheses.
   Formally critique the reasonings of the one's own arguments as well as the arguments of others.

4. Students will understand the mathematical concepts underlying politics and decision making.
   Effectively utilize precise definitions in reasonings.
   Be able to summarize important theorems and explain their significance.
   Be able to summarize important theorems and explain their significance.
   Create a project that expands on ideas covered in class.

MATH 1140. Geometry for Design

Course Description

Presents the mathematical basis of geometric practices used in structural and decorative design. Surveys the major historical approaches to geometric study: Euclidean, descriptive, transformational, combinatorial, and ornamental. Compares aesthetic and technological issues in cultural context.

Student Learning Outcomes

1. Apply theorems of EUCLIDEAN GEOMETRY.
   a. measure plane figures.
   b. prove congruence of plane figures.
   c. use similarity to solve proportions and scaling problems.
   d. solve triangles with trigonometry.
2. Use construction tools of DESCRIPTIVE GEOMETRY.
   a. reproduce the basic constructions.
   b. draw arcs, polygons, tracery, and arches.
   c. solve construction problems.
3. Apply operations of TRANSFORMATIONAL GEOMETRY.
   a. transform plane figures.
   b. identify transformations in context.
4. Analyze elements of COMBINATORIAL GEOMETRY.
   a. analyze tessellations and polyhedra.
   b. design new tessellations.
   c. build models of polyhedra.
5. Classify elements of ORNAMENTAL GEOMETRY.

a. identify linear and planar symmetries.
b. compare symmetries in world folk designs
c. analyze fractals.

6. Compare ideas about VISUAL PERCEPTION.
    a. analyze archetypal symbols and logos.
    b. compare cultural geometric styles and meanings.

MATH 1150. Business Math

Course Description

Studies finite math topics used in business, biology, and social science including systems of linear equations, matrices, linear programming, counting techniques, probability, and math of finance.

Student Learning Outcomes

Students will:

1. Display, analyze, and interpret data.
2. Demonstrate knowledge of problem-solving strategies.
3. Construct valid mathematical explanations.
4. Display an understanding of the development of mathematics.
5. Demonstrate an appreciation for the extent, application, and beauty of mathematics.

MATH 1155. Math for Health Careers

Course Description

This course introduces the computational skills needed to study in health careers programs. Topics include operations on fractions, decimals, percents, as well as the use of formulas, ratio and proportion, and measurement. Students will solve word problems specific to medication orders.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to …

1.1 Add, subtract, multiply and divide integers and simplify expressions of integers and decimals.
1.2 Add, subtract, multiply and divide rational numbers and simplify rational expressions.
1.3 Read and write Roman numerals.
1.4 Apply computational and calculator skills to appropriate applications for health career areas.
1.5 Apply commutative, associative and distributive laws in simplifying and solving equations involving integers and fractions.
1.6 Use ratios and proportions to solve problems of direct variation in appropriate applications for health career areas.
1.7 Convert percents to fractions and vice-versa to solve problems in appropriate applications for health career areas.
1.8 Apply logarithms in appropriate applications for health career areas.
1.9 Use angles in appropriate applications for health career areas.
2.1 Appropriately convert units of length, weight, volume and dosage measurement systems (i.e. Metric, English, Apothecaries' and Household).
2.2 Use and read mathematical medical abbreviations.
2.3 Use and read military time.
3.1 Calculate correct dosages for given medications in all forms (i.e. tablets, liquids, intravenous).
3.2 Be able to read and construct graphs (i.e., table, bar, circle, line, etc.).
3.3 Understand and apply basic statistics.
3.4 Compute range, mid-range, median, mode, mean, and standard deviation.
3.5 Compute 1,2 and 3 standard deviations on either side of the mean of the normal distribution

MATH 1155A. Health Careers Math w/skills review

Course Description

This course is designed for students needing pre-algebra concepts review and Math for Health Careers. This course reviews the basics of computational skills involving integers, fractions, decimals, and percents to prepare students for the skills used in this course. This course also introduces the computational skills needed to study in health careers programs. Topics include more difficult operations on fractions, decimals, and percents, as well as the use of formulas, ratios and proportions, and measurements. Students will solve word problems specific to medication orders, the combined gas law, and medical related unit conversions as well as pH and pOH calculations.

Student Learning Outcomes

This course is designed for students needing pre-algebra concepts review and Math for Health Careers. This course reviews the basics of computational skills involving integers, fractions, decimals, and percents to prepare students for the skills used in this course. This course also introduces the computational skills needed to study in health careers programs. Topics include more difficult operations on fractions, decimals, and percents, as well as the use of formulas, ratios and proportions, and measurements. Students will solve word problems specific to medication orders, and medical related unit conversions.

Upon successful completion of the course, the student will be able to …

1.1 Perform operations (addition, subtraction, multiplication, division and exponentiation) with decimals, whole numbers, signed numbers and fractions
1.2 Apply commutative, associative and distributive laws in simplifying and solving equations involving integers and fractions.
1.3 Find the prime factorization of a number
1.4 Find the least common multiple and greatest common factor of a given set of numbers
1.5 Correctly apply the order of operations to a given set of numbers
1.6 manipulate simple algebraic expressions and solve elementary equations
1.7 Convert between standard and scientific notation, perform arithmetic operations on numbers written and scientific notation
1.8 Truncate and round numbers
1.9 Apply algebraic rules to expressions in exponential forms
1.10 Recognize when to estimate, approximate or compute exact values
1.11 Apply the rules for simplifying expressions
1.12 Read and write Roman numerals.
2.1 Articulate the significance of and need for units of measurement
2.2 Measure angles and Use angles in appropriate applications for health career areas.
2.3 Appropriately convert units of length, weight, volume and dosage measurement systems (i.e., Metric, English, Apothecaries' and Household).
2.4 Use and read mathematical medical abbreviations.
2.5 Use and read military time.
3.1 Setup ratios and understand what they represent
3.2 Set up and solve proportions
3.3 Use ratios and proportions to solve problems of direct variation in appropriate applications for health career areas.
3.4 Convert percents to fractions and vice-versa to solve problems in appropriate applications for health career areas.
3.5 Calculate rates and unit pricing
3.6 Compute percents, convert numbers to percents and percents to numbers
3.7 Codel applications requiring percents
3.8 Calculate percents of change
3.9 Calculate discounts
4.1 Calculate correct dosages for given medications in all forms (i.e., tablets, liquids, intravenous).
4.2 Be able to read and construct graphs (i.e., table, bar, circle, line, etc.).
4.3 Understand and apply basic statistics.

4.4 Compute range, mid-range, median, mode, mean, and standard deviation.
4.5 Compute 1, 2 and 3 standard deviations on either side of the mean of the normal distribution.
4.6 Apply computational and calculator skills to appropriate applications for health career areas.
4.7 Apply logarithms in appropriate applications for health career areas.

MATH 1165. Finite Mathematics
Course Description
Not Available
Student Outcomes
Not Available

MATH 1170. Technical Math
Course Description
This course is designed for students in technical trades, Allied Health, and Tech Prep programs. There is an expectation for minimal background in mathematics (meet high school graduation requirements). For some of you, several topics may be "easy," for others these same topics may present a challenge, especially if it has been some time since you have done mathematical calculations and solved problems algebraically. We will begin with basic arithmetic operations on real numbers (whole numbers, fractions, decimals). We will delve into measurement in both the American Standard and International (metric) systems. We will do some algebra and work with geometric formulas. There are also sections on trigonometry and statistics. All of this will give you an overview of the types of mathematics you will likely use in technical and health fields.
Student Learning Outcomes
Upon completion of this course, students will demonstrate competence (70% or better) in the following areas:
Course Goal #1: Communication
1. Students will use correct mathematical notation and terminology.
2. Students will correctly interpret graphical representations of information.
3. Students will explain (orally and/or in writing) the steps needed to solve a problem.
4. Students will analyze solutions to equations and formulas and give them contextual meaning.

Course Goal #2: Real Number Arithmetic
1. Students will correctly add, subtract, multiply, and divide common fractions.
2. Students will correctly add, subtract, multiply, and divide decimal fractions.
3. Students will correctly add, subtract, multiply, and divide integers.
4. Students will correctly evaluate exponents and radicals.
5. Students will correctly perform calculations and solve problems in which some values are percents.
6. Students will correctly convert between common fraction, decimal fraction, and percent notation.
7. Students will correctly use the Order of Operations.
8. Students will correctly solve proportional equations.

Course Goal #3: Measurement
1. Students will correctly use tools to find accurate measurements in both the American Customary and Metric measurement systems.
2. Students will correctly convert between units within and between both the American Customary and Metric measurement systems.
3. Students will correctly interpret significant digits from recorded measurements.

Course Goal #4: Basic Algebra
1. Students will correctly solve for a variable in linear and quadratic equations.
2. Students will correctly solve for the indicated variable in a formula.

3. Students will correctly add, subtract, multiply, and simplify algebraic expressions.
4. Students will correctly convert contextual statements (word problems) into algebraic expressions and equations.
5. Students will correctly complete calculations with scientific notation.

Course Goal #5: Plane Geometry and Solid Figures (2-D and 3-D)

1. Students will correctly compute perimeter, circumference, area, volume, and surface area of 2-D and 3-D geometric figures.
2. Students will correctly measure various attributes of 2-D and 3-D geometric figures.
3. Students will correctly solve contextual problems involving 2-D and 3-D geometric figures.

Course Goal #6: Triangle Trigonometry

1. Students will correctly use the Pythagorean Theorem to solve problems as applied to right triangles.
2. Students will correctly use basic trigonometric ratios to solve problems as applied to right triangles.
3. Students will correctly use the Law of Sines and/or the Law of Cosines to solve problems as applied to oblique triangles.

Course Goal #7: Statistics

1. Students will correctly read and construct graphs from data.
2. Students will correctly calculate measures of central tendency.

MATH 1170L. Technical Math Supplemental Instruction

Course Description

Supplementary instruction as a co-requisite for Math 1170.

Student Learning Outcomes

Technical Math Supplemental Instruction provides time for students to work on problems from Technical Mathematics under the guidance of the instructor.

MATH 1215. Intermediate Algebra

Course Description

A study of linear and quadratic functions, and an introduction to polynomial, absolute value, rational, radical, exponential, and logarithmic functions. A development of strategies for solving single-variable equations and contextual problems.

Student Learning Outcomes

1. Students will build on their knowledge of linear and quadratic functions and begin to build an understanding of absolute value, polynomial, rational, power, radical, exponential and logarithmic functions in the following contexts:
2. Demonstrate appropriate use of basic function language and notation.
3. Convert between equivalent forms of algebraic expressions.
4. Solve single-variable equations of the types listed above.
5. Interpret and communicate algebraic solutions graphically and numerically.
6. Demonstrate contextual problem-solving skills that include setting up and solving problems and interpreting solutions in context.
7. Apply appropriate problem-solving methods from algebraic, graphical, and numerical.

MATH 1215Q Intermediate Algebra Support Lab

Course Description

This course provides support through materials and activities to prepare students for the Intermediate Algebra learning outcomes. This course acts as review and support for the skills necessary to succeed in MATH 1215 Intermediate Algebra. Students will discuss and practice prerequisite topics for Intermediate Algebra, review and practice the Algebra topics in preparation for assessments and develop study and test-taking skills. Topics covered include mathematical operations on real numbers, linear equations, graphing lines, and mathematical operations on polynomials. Registering for Intermediate

Algebra and Intermediate Algebra Support Lab during the same term allows students to bypass any prerequisite math courses.

Student Learning Outcomes

1. Compute the operations of addition, subtraction, multiplication, and division with real numbers.
2. Produce the graph of a linear equation in two variables by point plotting, x and y intercepts, and slope and y intercept.
3. Compute the operations of addition, subtraction, multiplication, and division with polynomials.
4. Use a general factoring strategy for factoring polynomials.
5. Apply an appropriate problem-solving strategy which may include selecting the correct formula, trial and error, drawing a diagram, etc.
6. Communicate mathematical ideas clearly using correct mathematical terminology and proper mathematical notation.

MATH 1215X. Intermediate Algebra IA (1/3)

Course Description

A study of linear and quadratic functions, and an introduction to polynomial, absolute value, rational, radical, exponential, and logarithmic functions. A development of strategies for solving single-variable equations and contextual problems. This is the first course in a three-part sequence.

To receive transfer credit for MATH 1215, all courses in this sequence (MATH 1215X, MATH 1215Y, MATH 1215Z) must be taken and passed. MATH 1215X, MATH 1215Y, and MATH 1215Z together are equivalent of the single course MATH 1215 Intermediate Algebra.

Student Learning Outcomes

Student Learning Outcomes for all 3 parts of Math 1215: When the course is over student should be able to

1. Demonstrate appropriate use of basic function language and notation.
2. Simplify and perform operations on algebraic expressions.
3. Solve single-variable equations of the types listed above.
4. Interpret and communicate algebraic solutions graphically and numerically.
5. Demonstrate contextual problem-solving skills (this includes setting up and solving problems and interpreting solutions in context).
6. Apply appropriate algebraic, graphical, and numerical problem-solving methods.

MATH 1215Y. Intermediate Algebra IB (2/3)

Course Description

A study of linear and quadratic functions, and an introduction to polynomial, absolute value, rational, radical, exponential, and logarithmic functions. A development of strategies for solving single-variable equations and contextual problems. This is the second course in a three-part sequence.

To receive transfer credit for MATH 1215, all courses in this sequence (MATH 1215X, MATH 1215Y, MATH 1215Z) must be taken and passed. MATH 1215X, MATH 1215Y, and MATH 1215Z together are equivalent of the single course MATH 1215 Intermediate Algebra.

Student Learning Outcomes

Student Learning Outcomes for all 3 parts of Math 1215: When the course is over student should be able to

1. Demonstrate appropriate use of basic function language and notation.
2. Simplify and perform operations on algebraic expressions.
3. Solve single-variable equations of the types listed above.
4. Interpret and communicate algebraic solutions graphically and numerically.
5. Demonstrate contextual problem-solving skills (this includes setting up and solving problems and interpreting solutions in context).

6. Apply appropriate algebraic, graphical, and numerical problem-solving methods.

MATH 1215Z. Intermediate Algebra IC (3/3)

Course Description

A study of linear and quadratic functions, and an introduction to polynomial, absolute value, rational, radical, exponential, and logarithmic functions. A development of strategies for solving single-variable equations and contextual problems. This is the third course in a three-part sequence.

To receive transfer credit for MATH 1215, all courses in this sequence (MATH 1215X, MATH 1215Y, MATH 1215Z) must be taken and passed. MATH 1215X, MATH 1215Y, and MATH 1215Z together are equivalent of the single course MATH 1215 Intermediate Algebra.

Student Learning Outcomes

Student Learning Outcomes for all 3 parts of Math 1215: When the course is over student should be able to

1. Demonstrate appropriate use of basic function language and notation.
2. Simplify and perform operations on algebraic expressions.
3. Solve single-variable equations of the types listed above.
4. Interpret and communicate algebraic solutions graphically and numerically.
5. Demonstrate contextual problem-solving skills (this includes setting up and solving problems and interpreting solutions in context).
6. Apply appropriate algebraic, graphical, and numerical problem-solving methods.

MATH 1216. Preparatory Algebra

Course Description

Graphing, equations, inequalities, functions, and factoring. Focused preparation for MATH 1220, College Algebra.

Learning Outcomes

1. The student will be able to use properties of real numbers.
2. The student will be able to solve linear equations and inequalities.
3. The student will be able to understand and use the basic concepts of graphing linear equations and functions in two variables.
4. The student will be able to solve systems of linear equations.
5. The student will be able to apply the laws of exponents and perform operations using polynomials.
6. The student will be able to simplify expressions and solve equations containing rational expressions.
7. The student will be able to simplify expressions and solve equations containing rational exponents and radicals.
8. The student will be able to solve Quadratic Equations.

MATH 1217. General Supplemental Instruction I

Course Description

Collaborative workshop for students enrolled in Intermediate Algebra. S/U Grading (S/U, Audit).

Student Learning Outcomes

1. Intermediate Algebra Workshop provides time for students to work on problems from Intermediate Algebra under the guidance of their instructor.

MATH 1218. Foundations for Statistics

Course Description

Gives the student a deeper understanding of mathematics through classroom and group interaction. Students will read and understand the relevant scenarios from non-technical fields and be able to justify their findings and conclusions in multiple ways. An understanding of mathematical notation and equation solving will be emphasized. Students will use technology throughout the course to research, collect and analyze data as well as to make predictions and present findings.

Student Learning Outcomes

1. The student will use the language of statistics and apply the key elements to any statistical problem.
2. The student will utilize different methods for describing sets of data.
3. The student will develop an understanding of statistical probability as a measure of uncertainty.
4. The student will develop the notion of a random variable.

MATH 1220. College Algebra

Course Description

The study of equations, functions and graphs, reviewing linear and quadratic functions, and concentrating on polynomial, rational, exponential and logarithmic functions. Emphasizes algebraic problem-solving skills and graphical representation of functions.

Student Learning Outcomes

Students will build on their knowledge of polynomial, rational, absolute value, radical, exponential and logarithm functions in the following contexts:

1. Use function notation; perform function arithmetic, including composition; find inverse functions.
2. Identify functions and their transformations given in algebraic, graphical, numerical, and verbal representations, and explain the connections between these representations.
3. Graph and interpret key feature of functions, e.g., intercepts, leading term, end behavior, asymptotes.
4. Solve equations algebraically to answer questions about graphs and use graphs to estimate solutions to equations.
5. Solve contextual problems by identifying the appropriate type of function given the context and creating a formula based on the information given.
6. Communicate mathematical information using proper notation and verbal explanations.

MATH 1220L. College Algebra Workshop

Course Description

College Algebra Workshop provides time for students to work on problems from College Algebra under the guidance of their College Algebra instructor.

Student Learning Outcomes

Students will build on their knowledge of polynomial, rational, absolute value, radical, exponential and logarithm functions in the following contexts:

1. Use function notation; perform function arithmetic, including composition; find inverse functions.
2. Identify functions and their transformations given in algebraic, graphical, numerical, and verbal representations, and explain the connections between these representations.
3. Graph and interpret key features of functions, e.g., intercepts, leading term, end behavior, asymptotes.
4. Solve equations algebraically to answer questions about graphs and use graphs to estimate solutions to equations.
5. Solve contextual problems by identifying the appropriate type of function given the context and creating a formula based on the information given.

MATH 1221. General Supplemental Instruction II

On CCNS matrix for NMSU System, SENMC and SJC

Course Description

Collaborative workshop for students enrolled in College Algebra. ~~S/U Grading (S/U, Audit).~~

Student Learning Outcomes

Not Available

MATH 1230. Trigonometry

Course Description

A study of plane trigonometry including the definitions of the fundamental trig functions using right angle triangle and unit circle approaches. Trig functions of any real number will be evaluated, and the functions graphed along with their transformations. Trigonometric identities will be developed and demonstrated including multiple angle identities and identities developed from them. Inverse Trigonometric functions will be developed and used to solve trigonometric equations. Trigonometric applications will be solved using right angle trigonometry and the laws of sines and cosines. Trigonometric methods will be applied to complex numbers and the use of 2-D vectors and vector dot products.

Student Learning Outcomes

1. Students will be able to define and evaluate the trigonometric functions as functions of angle in both degree and radian measure using the definitions in terms of x, y, and r; as the ratio of sides of a right triangle; using the unit circle; using reference angles, commonly used (0 o, 30 o, 45 o, 60 o, 90o) angles and using a calculator.
2. Students will be able to solve right triangles. They will be able to draw a sketch in an applied problem when necessary.
3. Students will be able to solve non-right triangles using the law of sines and the law of cosines.
4. Students will be able to prove trigonometric identities and apply addition and subtraction, double-angle, half-angle and power reduction formulas.
5. Students will be able to graph the six trigonometric functions, their transformations and their inverses.
6. Students will be able to use algebraic methods, including the use of identities and inverses, to solve trigonometric equations and demonstrate connections to graphical and numerical representations of the solutions.
7. Students will be able to add and subtract vectors in two dimensions. They will be able to use the dot product to project one vector onto another and to determine the angle between two vectors. They will be able to solve a variety of word problems using vectors.
8. Students will be able to work with polar coordinates; this includes graphing in polar coordinates and transforming an equation with polar coordinates into one with rectangular coordinates, and vice versa.
9. Students will be to work with the trigonometric form of complex numbers, including using De Moivre's formula.

MATH 1240. Pre-Calculus

Course Description

This course extends students' knowledge of polynomial, rational, exponential and logarithmic functions to new contexts, including rates of change, limits, systems of equations, conic sections, and sequences and series.

Student Learning Outcomes

1. Functions
    a. Reinforce recognizing a function from its graph and from its algebraic expression.
    b. Reinforce identification of a one-to-one function graphically and from its algebraic expression.
    c. Reinforce identification of inverse functions graphically and algebraically.
    d. Reinforce combining functions arithmetically and compositionally.
    e. Be able to calculate the average rate of change of a function using the difference quotient and depict it graphically.
    f. Be able to find a limiting value of a function and be able to identify and use the notation that describes this.
2. Graphing
    a. Reinforce using key characteristics of functions to graph them.
    b. Be able to graph conic sections from their key characteristics such as foci, eccentricity and asymptotes.
    c. Be able to identify all functions mentioned from their graphs, describing their key aspects.
3. Solving
    a. Exponential/Logarithmic equations using the rules of exponents and logarithms
    b. Systems of linear equations by elimination.
    c. Non-linear systems algebraically and graphically.
4. Applications

    a. Modeling with functions with an emphasis on exponential and logarithmic functions, growth and decay.
5. Sequences and series
    a. Understand the concept and notation of a sequence.
    b. Understand the concept and notation of a series.
    c. Be able to find limits of basic sequences.
    d. Be able to find sums of basic series.

MATH 1250. Trigonometry & Pre-Calculus

Course Description

Trigonometry & Pre-Calculus includes the study of functions in general with emphasis on the elementary functions: algebraic, exponential, logarithmic, trigonometric and inverse trigonometric functions. Topics include rates of change, limits, systems of equations, conic sections, sequences and series, trigonometric equations and identities, complex number, vectors, and applications.

Note: 80% of course must include 80% of Trigonometry SLOs and 80% of Pre-Calculus SLOs.

Student Learning Outcomes - Trigonometry

1. Students will be able to define and evaluate the trigonometric functions as functions of angle in both degree and radian measure using the definitions in terms of x, y, and r; as the ratio of sides of a right triangle; using the unit circle; using reference angles, commonly used (0 o, 30 o, 45 o, 60 o, 90o) angles and using a calculator.
2. Students will be able to solve right triangles. They will be able to draw a sketch in an applied problem when necessary.
3. Students will be able to solve non-right triangles using the law of sines and the law of cosines.
4. Students will be able to prove trigonometric identities and apply addition and subtraction, double-angle, half-angle and power reduction formulas.
5. Students will be able to graph the six trigonometric functions, their transformations and their inverses.
6. Students will be able to use algebraic methods, including the use of identities and inverses, to solve trigonometric equations and demonstrate connections to graphical and numerical representations of the solutions.
7. Students will be able to add and subtract vectors in two dimensions. They will be able to use the dot product to project one vector onto another and to determine the angle between two vectors. They will be able to solve a variety of word problems using vectors.
8. Students will be able to work with polar coordinates; this includes graphing in polar coordinates and transforming an equation with polar coordinates into one with rectangular coordinates, and vice versa.
9. Students will be to work with the trigonometric form of complex numbers, including using De Moivre's formula.

Student Learning Outcomes - Pre-Calculus

1. Functions
    a. Reinforce recognizing a function from its graph and from its algebraic expression.
    b. Reinforce identification of a one-to-one function graphically and from its algebraic expression.
    c. Reinforce identification of inverse functions graphically and algebraically.
    d. Reinforce combining functions arithmetically and compositionally.
    e. Be able to calculate the average rate of change of a function using the difference quotient and depict it graphically.
    f. Be able to find a limiting value of a function and be able to identify and use the notation that describes this.
2. Graphing
    a. Reinforce using key characteristics of functions to graph them.
    b. Be able to graph conic sections from their key characteristics such as foci, eccentricity and asymptotes.
    c. Be able to identify all functions mentioned from their graphs, describing their key aspects.
3. Solving
    a. Exponential/Logarithmic equations using the rules of exponents and logarithms

b. Systems of linear equations by elimination.
c. Non-linear systems algebraically and graphically.

4. Applications
    a. Modeling with functions with an emphasis on exponential and logarithmic functions, growth and decay.
5. Sequences and series
    a. Understand the concept and notation of a sequence.
    b. Understand the concept and notation of a series.
    c. Be able to find limits of basic sequences.
    d. Be able to find sums of basic series.

MATH 1250L. Trigonometry & Pre-Calculus Laboratory
Course Description
Not Available
Student Learning Outcomes
Not Available

MATH 1251. Trigonometry & Pre-Calculus Support
Course Description
Supports students in the study of algebra and other concepts necessary for success in MATH 1250.
This is the corequisite support option for Math 1250. Students are required to attend and work in appropriate/applicable software related to Math 1250. Students will build on their knowledge of linear and quadratic functions and will begin to build an understanding of absolute value, polynomial, rational, power, radical, exponential, and logarithmic functions.
Student Learning Outcomes:

1. Demonstrate appropriate use of basic function language and notation.
2. Convert between equivalent forms of algebraic expressions.
3. Solve single-variable equations of the types listed above.
4. Interpret and communicate algebraic solutions graphically and numerically.
5. Demonstrate contextual problem-solving skills that include setting up and solving problems and interpreting solutions in context.

MATH 1300. Statistical Literacy
Course Description
Participants will study social statistics encountered by consumers. Study statistics as numbers in context and as evidence in arguments. Study influences statistics and techniques to mitigate these influences. Strong focus on confounding.
Student Learning Outcomes

1. Can use ordinary English to distinguish association from causation and to form arithmetic associations of numbers and ratios.
2. Can identify and evaluate influences (confounding, assembly, randomness and error/bias) on a statistic.
3. Can identify, evaluate and use various techniques to take control of – or control for – these influences.
4. Can use ordinary English to describe and compare statistics as presented in statements, tables and graphs.
5. Can evaluate the strength of evidence provided by statistics in the everyday media, press releases and journal articles.

MATH 1350. Introduction to Statistics
Course Description
This course discusses the fundamentals of descriptive and inferential statistics. Students will gain introductions to topics such as descriptive statistics, probability and basic probability models used in statistics, sampling and statistical inference,

and techniques for the visual presentation of numerical data. These concepts will be illustrated by examples from a variety of fields.

Student Learning Outcomes

1. Explain the general concepts of statistics.
    a. Explain and evaluate statistics used in the real world (from a news article, research project, etc.).
    b. Use statistical vocabulary appropriately.
    c. Distinguish between descriptive and inferential statistics.
    d. Distinguish between qualitative and quantitative data.
    e. Distinguish between populations and samples, and parameters and statistics.
    f. Give examples of independent and dependent variables.
2. Presentation and description of data.
    a. Present data graphically using histograms, frequency curves and other statistical graphs.
    b. Interpret graphs of data, including histograms and shapes of distributions.
3. Summarize data using measures of central tendency and variation.
    a. Calculate and interpret the mean, median, and mode to describe data.
    b. Calculate and interpret range, variance, and standard deviation to describe data.
4. Present the concepts of probability.
    a. Interpret basic probabilities.
    b. Calculate probabilities using compound probability rules and the binomial distribution.
    c. Calculate probabilities using the standard normal distribution and relate them to areas under the curve.
    d. Determine if the binomial distribution can be approximated with the normal distribution.
    e. Describe the relationship between the sampling distribution and the population distribution.
    f. Use the central limit theorem to approximate the probability distribution and calculate probabilities.
5. Compute point and interval estimates.
    a. Determine the confidence interval for a parameter.
    b. Interpret the confidence level and margin of error.
    c. Determine whether a statistical technique is appropriate under stated conditions.
6. Perform hypothesis tests.
    a. Determine whether a statistical test is appropriate under stated conditions.
    b. Identify null and alternative hypothesis.
    c. Perform and interpret statistical tests (e.g., z-test, t-test, one-tailed and two-tailed, one-sample, two-sample) and determine whether data is statistically significant.
    d. State the conclusion of a hypothesis test.
    e. Interpret a p-value as compared to a significance level.
    f. Explain why a test can lead us to reject a null hypothesis, not accept one.
    g. Distinguish between Type I and Type II errors.
7. Analyze data using regression and correlation.
    a. Explain the difference between correlation and causation.
    b. Construct and interpret scatter plots.
    c. Calculate and interpret the linear correlation coefficient.
    d. Determine and use the equation of a least-squares regression line between two variables to make predictions.
    e. Interpret the meaning of the coefficient of determination.
8. Optional topics.
    a. Inter-quartile range, boxplots, stem-and-leaf plots.
    b. Combinations and permutations.
    c. The Poisson distribution.

d. Statistical power.
e. Chi-square.
f. Analysis of variance.

MATH 1350Q. Introduction to Statistics Support Lab

Course Description

This course provides review and support for the skills necessary to succeed in MATH 1350 Introduction to Statistics. Students will discuss and practice prerequisite topics for MATH 1350, review and practice in preparation for assessments, and develop study and test-taking skills. Topics covered include arithmetic readiness, ratios and percentages, linear equations and inequalities, lines, and an introduction to basic probability and statistics.

Student Learning Outcomes

1. Create and apply linear algebraic models which may include ratios, proportions, slope formula, slope intercept form, etc.
2. Summarize, interpret, and draw inferences from data using basic descriptive statistics and probability, graphs, and tables.
3. Apply an appropriate problem-solving strategy which may include selecting the correct formula, trial and error, drawing a diagram, dimensional analysis, etc.
4. Communicate mathematical ideas clearly using correct mathematical terminology and proper mathematical notation.
5. Employ critical thinking to analyze quantitative information to evaluate, interpret, and draw objective conclusions.

MATH 1350L. Introduction to Data Analysis Using Technology

Course Description

The objective of this course is to expose students to basic data analysis techniques using computer methods to organize data, view and display data graphically for interpretation, to obtain statistics and to find proper tests for the interpretation of sampled data sets. Students learn various statistical diagnostics for analysis and interpretation in order to make comparisons between data sets. This course is supplemental to the main 1330 course which develops a detailed explanation of statistical practices. Graphic and computer methods for organizing and analyzing data are discussed using the Excel® spreadsheet software.

Student Learning Outcomes

1. Know how to use data sets, the variables within the dataset, their data type and how to import data sets between different software packages: Students will be able to know how to apply spreadsheet techniques to qualitative and quantitative datasets and understand basic sampling methods from populations.
2. Present data in graphically and descriptively using a spreadsheet software package: This means the student will be able to use graphical techniques to present data (e.g., histograms, boxplots), calculate descriptive statistics of datasets (means, standard deviations, medians), and to normalize datasets using the Z-score.
3. Compute models two-variable data using regression using a spreadsheet software package: Students will be able to obtain a regression line of a two-variable dataset, know how to calculate the correlation and r-squared values of a regression function, create scatter diagrams and be able to interpret potential regression functions that model the data. Student will also understand the ideas about residuals and residual plots using the software.
4. Know the concept of probability distributions using software: Students will be able to create probability distributions for discrete data sets and calculate probabilities using the spreadsheet software. Students will be able to understand the difference between sampling, population and data distributions, and understand the Central Limit Theorem.
5. Compute interval estimates for a point estimator (Mean, and Proportion) using spreadsheet software: Using computer software, students are able to estimate the population mean for a quantitative variable from the sample's estimated mean value and its associated confidence-interval: estimate the population proportion for a qualitative variable from the sample's proportion value and its associated confidence-interval: know how to calculate a sample

size given a margin of error for a random variable, and explain the meaning of confidence level and margin of error. Students will perform exploratory data analysis using software to find potential outliers and skewed data distributions.

6. Perform hypothesis tests using spreadsheet software: Students will be able to perform a z-test or t-test to determine the validity or non-conclusive decision of a claim or conjecture about a population parameter, know the difference between Type-I and Type-II errors, and be able to explain the meaning of significance, the P-value and the significance level.

MATH 1351. Introduction to Statistics Support

Course Description:

Instructs students in the knowledge of basic mathematics necessary for success in Math 1350, Introduction to Statistics. Topics include basic computation of real numbers, rounding, simplifying expressions and fractions, solving simple algebraic equations, interval notation, inequalities, decimals, finding percent, scientific notation, properties of sets, slope-intercept form, absolute value, and other topics necessary for the calculation and interpretation of statistical formulas.

Student Learning Outcomes:

1. Basic computation of real numbers
    a. Identify rational and irrational numbers and subsets of real numbers (natural numbers, whole numbers, integers, etc.)
    b. Add, subtract, multiply, and divide real numbers
    c. Applying order of operations
    d. Problem solving with real numbers
    e. Plot numbers on the real number line
    f. Compare real numbers using inequalities (less than, less than or equal to, greater than, etc.)
    g. Convert inequalities to interval notation and interval notation to inequalities
    h. Convert numbers between standard and scientific notation
2. Fractions, Decimals, and Percent
    a. Convert between fractions and mixed numbers
    b. Convert from decimal to fraction and fraction to decimal
    c. Convert between fraction and percent and percent to fraction
    d. Perform division, multiplication, addition, and subtraction of fractions and decimal numbers
    e. Reduce fractions
    f. Find Least Common Multiple
3. Properties of Sets
    a. Find the union, intersection, and complement of sets
    b. Recognize and apply the correct notation for sets
    c. Express sets in set-builder notation
    d. Represent sets visually using Venn diagrams
4. Algebraic Expressions, Equations, and Inequalities
    a. Translate a verbal/written model to an algebraic model
    b. Evaluate algebraic expressions
    c. Manipulate algebraic expressions using commutative, associative, and distributive properties
    d. Simplify algebraic expressions using the order of operations
    e. Solve linear equations
    f. Manipulate algebraic formulas
    g. Solve word problems using linear equations

h. Graph linear equations
i. Solve linear inequalities
j. Express compound inequalities using inequality notation and graphically on the real number line

5. Absolute Value
    a. Find the absolute value of a real number
    b. Solve absolute value equations and inequalities
    c. Graph solutions of absolute value equations on the real number line
    d. Express solutions of absolute value equations using interval notation
6. Exponential and Radical Expressions
    a. Evaluate an exponential and radical expression
    b. Perform operations on exponential and radical expressions
    c. Simplify exponential expressions using the rules of exponents
7. Cartesian Coordinate System and linear equations
    a. Plot ordered pairs on the x-y plane
    b. Create a scatter plot
    c. Graph linear equations
    d. Express a linear equation in slope-intercept form
    e. Calculate and interpret slope
8. Other topics may include
    a. Perform operations using scientific notation
    b. Analyze graphs and tables
    c. Compute area of simple geometric shapes such as rectangles and triangles

MATH 1430. Applications of Calculus I

Course Description

An algebraic and graphical study of derivatives and integrals, with an emphasis on applications to business, social science, economics and the sciences.

Student Learning Outcomes

Students will:

1. Find limits algebraically and graphically and use limits to analyze continuity.
2. Find the derivative of a function by applying appropriate techniques (limit of the difference quotient, general derivative rules, product rule, quotient rule, chain rule, and higher order derivatives).
3. Perform implicit differentiation. Use implicit differentiation to solve related rate application problems.
4. Use the derivative to describe the rate of change and slope of a curve in general and at particular points. Compare and contrast average rates of change to instantaneous rates of change.
5. Find the maxima, minima, points of inflections, and determine concavity of a function by applying the first and second derivatives. Use these results to sketch graphs of functions and to solve optimization problems in context.
6. Find the antiderivative and indefinite integral functions to include integration by substitution. Apply the Fundamental Theorem of Calculus in computing definite integrals of functions.
7. Approximate the area under the curve using Riemann sums.
8. Use the integral to determine the area under a curve and to find the accumulated value of a function in context.
9. Solve contextual problems by identifying the appropriate type of function given the context, creating a formula based on the information given, applying knowledge of algebra and calculus, and interpreting the results in context.
10. Communicate mathematical information using proper notation and verbal explanations.

MATH 1435. Applications of Calculus I

Course Description
Intuitive differential calculus with applications to engineering.
Student Learning Outcomes
Students will:

1. Find limits algebraically and graphically and use limits to analyze continuity.
2. Find the derivative of a function by applying appropriate techniques (limit of the difference quotient, general derivative rules, product rule, quotient rule, chain rule, and higher order derivatives).
3. Learn derivative rules for polynomial, exponential, logarithmic, trigonometric and inverse trigonometric functions.
4. Perform implicit differentiation. Use implicit differentiation to solve related rate application problems.
5. Find the maxima, minima, points of inflections, and determine concavity of a function by applying the first and second derivatives. Use these results to sketch graphs of functions and to solve optimization problems in context.
6. Find partial derivatives and find maxima, minima in three dimensions.
7. Find the linear approximation of a function.
8. Find Maclaurin and Taylor series.
9. Find limits via L'Hospital's rule.
10. Communicate mathematical information using proper notation and verbal explanations.

MATH 1440. Applications of Calculus II
Course Description
Topics in this second course of Applications of Calculus include functions of several variables, techniques of integration, an introduction to basic differential equations, and other applications.
Student Learning Outcomes
Students will:

1. Find definite and indefinite integrals using integration by parts, integral tables, and numerical integration.
2. Analyze multivariable functions using partial derivatives and double integrals, and apply these techniques to applications such as optimization, least squares, and volumes.
3. Solve differential equations graphically, numerically, and algebraically using separation of variables, and apply differential equations in context.
4. Apply differentiation and integration to other areas, for example to Taylor polynomials and Taylor series, probability, trigonometric functions, etc.

MATH 1480. Exploring Careers in Mathematics
Course Description
Introduction and preparation for students planning to major in Mathematics or Statistics. The course will emphasize career options, concentrations, research and job opportunities. We will also perform activities to engage students in the mathematical area.
Student Learning Outcomes

1. Identify and describe a range of career options in mathematics, including roles in academia, industry, government, and non-profit sectors.
2. Demonstrate an understanding of how certain core mathematical concepts, such as statistics, mathematical modeling, algebra, calculus, and discrete math, are applied in real-world job environments.
3. Analyze the educational qualifications necessary for various mathematical careers, including the value of advanced degrees, certifications, and specialized training.
4. Engage in self-reflection to identify their personal interests and strengths within the field of mathematics, which will help inform their decisions on potential career paths.

MATH 1510. Calculus I

Course Description

Introduces the intuitive, numerical and theoretical concepts of limits, continuity, differentiation and integration. Includes the study of extrema, curve sketching, and applications involving algebraic, exponential, logarithmic and trigonometric functions. Designed for mathematics, science and engineering majors.

Student Learning Outcomes

1. Limits
    a. Use limit notation.
    b. Compute limits or determine when a limit does not exist.
    c. Use limits to decide if a function is continuous.
    d. Use limits to decide if a function is differentiable.
    e. Use limits to determine asymptotes.
2. Derivatives
    a. Determine the derivative of a simple function, at a point as well as more generally, using the definition of the derivative.
    b. Determine the derivatives of algebraic and transcendental functions using the General Power, Product, Quotient, Chain Rules, implicit differentiation and the linearity of the differential operator.
    c. Describe the meaning of the derivative as a rate of change in a variety of contexts.
    d. Use derivatives to sketch graphs of functions with details showing critical points and their natures, inflection points, noting monotonicity, and concavity, connecting these to features found algebraically, such as intercepts and asymptotes.
    e. Compute local linear approximation.
3. Integrals
    a. Compute definite integrals using the limit definition and sigma notation.
    b. Approximate definite integrals using finite sums.
    c. Compute indefinite integrals by identifying them with antiderivatives.
    d. Compute definite and indefinite integrals using substitution.
    e. Describe the meaning of the integral in a variety of contexts.
4. Applications of calculus
    a. Solve optimization problems, related rate problems and motion problems involving position, velocity, speed and acceleration using differentiation and integration.
    b. Compute area bounded by functions and vertical lines.
    c. Be able to apply theorems of calculus such as the Fundamental Theorem, the Intermediate Value Theorem, the Mean Value Theorem, the Mean Value Theorem of Integration, and the Extreme Value Theorem.

MATH 1511. Calculus and Analytic Geometry I

Course Description

Limits and continuity, theory and computation of derivatives, applications of derivatives, extreme values, critical points, derivative tests, L'Hopital's Rule**.**

Student Learning Outcomes

1. The goals are to present the concepts of calculus, stressing techniques, applications, and problem solving, and emphasizing numerical aspects such as approximations and order of magnitude.
2. Overall, the goals are to illustrate the power of calculus as a tool for modeling situations arising in physics, science, engineering and other fields.
3. In fulfillment of these goals, this and later courses will stress topics such as polynomial approximation, setting up integrals, as well as the use of appropriate technology

MATH 1512. Calculus I

Course Description

Limits. Continuity. Derivative: definition, rules, geometric interpretation and as rate-of-change, applications to graphing, linearization and optimization. Integral: definition, fundamental theorem of calculus, substitution, applications such as areas, volumes, work, averages.

Student Learning Outcomes

Students that successfully complete the course, will, by the end of the course, be able to

1. State, motivate and interpret the definitions of continuity, the derivative, and the definite integral of a function, including an illustrative figure, and apply the definition to test for continuity and differentiability. In all cases, limits are computed using correct and clear notation. Student is able to interpret the derivative as an instantaneous rate of change, and the definite integral as an averaging process.
2. Use the derivative to graph functions, approximate functions, and solve optimization problems. In all cases, the work, including all necessary algebra, is shown clearly, concisely, in a well-organized fashion. Graphs are neat and well-annotated, clearly indicating limiting behavior. English sentences summarize the main results and appropriate units are used for all dimensional applications.
3. Graph, differentiate, optimize, approximate and integrate functions containing parameters, and functions defined piecewise. Differentiate and approximate functions defined implicitly.
4. Apply tools from pre-calculus and trigonometry correctly in multi-step problems, such as basic geometric formulas, graphs of basic functions, and algebra to solve equations and inequalities.
5. State the main theorems of calculus correctly, including all conditions, and give examples of applications. These include the Intermediate Value Theorem, the Mean Value Theorem, the Extreme Value Theorem, and the Fundamental Theorem of Calculus.
6. Solve simple first and second order differential equations, either initial or boundary value problems, including problems where the derivative is given by a piecewise function, or when the initial value problem is described in words, such as in applications from physics, biology and engineering. Be familiar with the harmonic oscillator and describe period, amplitude, and phase shift of the trigonometric functions that appear.
7. Compute integrals using the method of substitution, including changing the bounds in the case of definite integrals.

MATH 1520. Calculus II

Course Description

Continues course of study begun in Calculus I. Covers integration techniques, numerical integration, improper integrals, some differential equations, sequences, series and applications.

Student Learning Outcomes

1. Integration
    a. Determine the indefinite integrals and compute definite integrals of algebraic and transcendental functions using various techniques of integration including integration by parts, trigonometric substitution, and partial fraction decomposition.
    b. Compute improper integrals using the appropriate limit definitions.
    c. Solve problems involving separable differential equations.
2. Sequences and Series
    a. Compute the limit of sequences.
    b. Compute the sum of a basic series using its nth partial sum.
    c. Compute the sum of geometric and telescoping series.
    d. Determine if a series converges using the appropriate test, such as the nth term, integral, p-series, comparison, limit comparison, ratio, root, and alternating series tests.
    e. Determine if a series converges absolutely, converges conditionally or diverges.
3. Properties of power series
    a. Compute the radius and interval of convergence of a power series.

b. Compute the Taylor polynomials of functions.
c. Compute basic Taylor series using the definition.
d. Compute Taylor series using function arithmetic, composition, differentiation, and integration.
e. Compute limits with Taylor series.
f. Approximate definite integrals with Taylor series and estimate the error of approximation.
g. Determine the sum of a convergent series using Taylor series.

4. Applications of integration
   a. Compute volumes and areas of surfaces of solids of revolution.
   b. Compute length of curves.
   c. Apply integration using alternative coordinate forms and using a parameter.

MATH 1521. Calculus and Analytic Geometry II

Course Description

Riemann sums, the definite integral, antiderivatives, fundamental theorems, techniques of integration, applications of integrals, improper integrals, Taylor polynomials, sequences and series, power series and Taylor series.

Student Learning Outcomes

1. Recognize the interplay between Riemann sums and definite integrals
2. Use the Fundamental Theorem of Calculus to compute definite and indefinite integrals
3. Demonstrate and understand of the relationship between the derivative and the definite integral
4. Evaluate integrals numerically using standard rules (midpoint, trapezoid, Simpson's)
5. Evaluate integrals analytically using standard methods (substitution, integration by parts, trigonometric substitution and identities, inverse functions and partial fractions
6. Use integration to solve problems in geometry, physics, science, engineering and other fields
7. Use appropriate methods such as L'H*ô*pital's Rule to evaluate improper integrals
8. Approximate functions using Taylor polynomials
9. Apply standard tests to determine convergence or divergence of sequences and series
10. Find a power series representation for a function and determine where it converges
11. Identify and evaluate first order differential equations

MATH 1522. Calculus II

Course Description

Transcendental functions, techniques of integration, numerical integration, improper integrals, sequences and series, Taylor series with applications, complex variables, differential equations.

Student Learning Outcomes

Students that successfully complete the course, will, by the end of the course, be able to

1. Know the definitions, graphs, special values, derivatives and integrals (when possible) of transcendental functions, including exponential, logarithmic, inverse trigonometric and hyperbolic functions.
2. Use the methods of substitution, integration by parts, partial fractions and trigonometric substitution to compute proper and improper integrals. Evaluate improper integrals using correct mathematical limit notation.
3. Use rectangles or trapezoids to approximate integrals. Explain the difference between a first order and a second order approximation method.
4. Solve separable differential equations. Plot direction fields and solution curves. Find equilibrium solutions.
5. State the definition of the value of a series, as well as necessary conditions for convergence. Use the definition to determine the value of a series. Determine the value of known Taylor series at particular points. State various tests for convergence, including all conditions, and apply them. Approximate alternating series and estimate the error.
6. Determine the asymptotic behavior of functions f(x) as $x \to \pm\infty$, and the limit of indeterminate forms.

7. State the definition of the Taylor series of a function and describe its properties. Find Taylor series using the definition, or by substitution into, or differentiation or integration of known series, and determine their interval/radius of convergence. Approximate functions by Taylor polynomials within the domain of convergence and estimate the error. Include approximations of definite integrals or quantities depending on parameters, such as arise in applications in physics, biology and engineering.
8. Use Taylor series to derive Euler's formula for the exponential of a complex number. Evaluate sums, products, powers, roots, and exponentials of complex numbers. Evaluate integrals of complex functions.

MATH 1526. Vector Calculus
Course Description
An introduction to topics in two and three dimensions of vector calculus such as curl and divergence, line integrals and surface integrals, the Fundamental Theorem of Line Integrals, Green's Theorem, Stokes' Theorem and the Divergence Theorem will be covered.
Student Learning Outcomes
1. Compute line integrals and test for independence of path
2. State and use Green's Theorem, Stokes' Theorem, and the Divergence Theorem.

MATH 1531. Introduction to Higher Mathematics
Course Description
Logic; sets, relations, and functions; introduction to mathematical proofs**.**
Student Learning Outcomes
1. The primary objective of this course is to serve as a bridge between the calculus courses you have taken, where the focus is on computations and solving problems, to more abstract mathematics courses.
2. We will discuss logical reasoning, definitions, proofs, and certain basic building blocks such as sets, functions, and relations.
3. By the end of the course, you should be able to understand and construct well written proof of basic mathematical arguments involving simple properties of the real numbers, integers, sets, functions, and relations using universal and existential quantifiers, absolute values and inequalities, modular arithmetic, and proof by induction.

MATH 1988. Mathematic Problems
Course Description
Varies
Student Learning Outcomes
Varies

MATH 1991. Mathematics Undergraduate Research Experience
Course Description
Varies
Student Learning Outcomes
Varies

MATH 1996. Mathematics Topics
Course Description
Topics to be announced in the Schedule of Classes. Maximum of 3 credits per semester.
Student Learning Outcomes
Varies

MATH 1997. Mathematics Independent Study
Course Description
Varies
Student Learning Outcomes
Varies

MATH 2088. Math Specialty
Course Description
This course is used to transfer approved courses from other colleges and universities. (Currently applicable for CNM students only)
Student Learning Outcomes
Varies

MATH 2110. Math for Teachers III
Course Description
Investigates algebra from the viewpoint of the elementary curriculum with an emphasis on proportional and linear relationships. Connections to statistics, probability, data analysis, and geometry from the elementary curriculum are included. Problem solving is emphasized throughout.
Student Learning Outcomes

1. Analyze arithmetic.
   Component 1: Graph functions.
   Component 2: Analyze the behavior of different operations.
   Component 3: Recognize operations required by problems involving geometric figures.
2. Apply mathematical concepts.
   Component 1: Recognize growth factors in different dimensions.
   Component 2: Solve problems involving congruent and similar objects.
   Component 3: Analyze linear functions.
   Component 4: Interpret probabilities.
3. Represent mathematical concepts.
   Component 1: Interpret the results of probability experiments.
   Component 2: Design simulations.
   Component 3: Draw the image of a polygon given a specific transformation.
   Component 4: Create graphs showing data.
   Component 5: Create graphs of functions.
4. Communicate mathematical concepts.
   Component 1: Use correct terminology and notation.
   Component 2: Describe geometric objects including shapes and transformations.
   Component 3: Translate between symbols, graphs, and verbal descriptions
   Component 4: Describe data using graphs and descriptive statistics.

MATH 2115. Math for Middle School Teachers
Course Description
Development of mathematical concepts from the viewpoint of the middle school curriculum. Topics include: in-depth development of algebraic thinking, connections between algebra and geometry, and applications. Problem solving is emphasized throughout.
Student Learning Outcomes

Course Goal 1: Extend understanding of numbers and operations.

SLO 1.1: Analyze and perform operations on number sets beyond positive rationales and on variables.

SLO 1.2: Use visual models and symbols to represent real numbers and variables and their operations and move flexibly between representations.

Course Goal 2: Identify and use mathematical reasoning to explore deeper structure of algebra and geometry.

SLO 2.1: Analyze student work, validity of arguments, mathematical misconceptions.

SLO 2.2: Appropriately use and interpret algebraic problem-solving strategies and graphical representations.

SLO 2.3: Use informal arguments to explain geometric relationships (ex. transformations and Pythagorean Theorem).

SLO 2.4: Use informal arguments to explain 3-D geometry and measurement concepts.

Course Goal 3: Apply and extend understanding of algebra and geometry.

SLO 3.1: Apply proportional reasoning to solve application problems in the area of statistics and probability.

SLO 3.2: Solve application problems using algebraic reasoning and geometric models.

MATH 2118. Math for Elementary and Middle School Teachers III

Course Description

Algebra from the viewpoint of the elementary curriculum with emphasis on proportional and linear relationships. Also included: data analysis and other topics with connections to the elementary curriculum. Problem solving is emphasized throughout.

Student Learning Outcomes

Course Goal 1: Understand data analysis from the viewpoint of elementary school curriculum, such as making and interpreting dot plots, pictographs, and bar graphs.

SLO 1: By the end of the course, students will be able to display, analyze, and interpret data.

Course Goal 2: Know how to use appropriate vocabulary, notation, and reasoning in valid mathematical explanations.

SLO 2: By the end of the course, students will be able to construct valid mathematical explanations.

Course Goal 3: Understand problem solving in the context of mathematical applications.

SLO 3: By the end of the course, students will be able to model and solve a variety of mathematical applications using various approaches relevant to the K-8 curriculum.

Course Goal 4: Understand the interconnectedness of elementary mathematical concepts and relate these concepts to application problems.

SLO 4: By the end of the course, students will be able to describe real-world situations that model expressions and equations.

Course Goal 5: Understand algebraic concepts from the viewpoint of elementary school curriculum.

SLO 5: By the end of the course, students will be able to demonstrate understanding of algebraic concepts of the K-8 curriculum.

MATH 2120. Introduction to Data Science

Course Description

This course provides an accessible introduction to the core ideas and practices of modern data science for beginning university students. Through a combination of conceptual lectures and hands-on activities, students learn how data are collected, represented, visualized, and interpreted to answer real-world questions.

Student Learning Outcomes

1. Describe and classify different types of data (quantitative, categorical, structured, and unstructured) and their appropriate uses.
2. Use Python and Jupyter notebooks to load, clean, manipulate, and visualize datasets using libraries such as NumPy, pandas, and matplotlib.
3. Apply basic matrix operations and explain their roles in representing and analyzing data.

4. Interpret relationships in data through simple linear regression, classification, and clustering examples.
5. Summarize and communicate findings using descriptive statistics, visualizations, and clear written explanations.
6. Recognize ethical issues in data collection, analysis, and communication, and explain the importance of fairness, accuracy, and transparency in data science.

MATH 2132. Understanding Elementary Math I

Course Description

This is the first of two courses that focus on developing the mathematical understanding of students who are preparing to be licensed as Elementary Teachers.

Student Learning Outcomes

Chapter 1 Objectives (Mathematics and Problem Solving)

Students will be able to understand and explain:

1. The four-step problem solving process.
2. How to solve problems using various problem-solving strategies.
3. Finding patterns and determining if a pattern holds.
4. Deductive and inductive reasoning and when to use them.
5. Different types of sequences, such as arithmetic and geometric.
6. Finding the nth term of certain sequences.
7. Using differences to find a pattern for neither arithmetic nor geometric sequences.

Chapter 2 Objectives (Introduction to Logic and Sets)

Students will be able to understand and explain:

1. Quantifiers and their effects on statements.
2. Different forms of statements.
3. How to determine if two statements are logically equivalent.
4. How to develop logical arguments.
5. How to determine whether an argument is valid.
6. Set language and structure as applied to elementary mathematics.
7. Connections between finite sets and whole numbers.
8. Uses of one-to-one correspondence.
9. Relations between set operations and logic connectives.
10. Properties of set and logic operations.
11. Venn diagrams to sort and reason with data.

Chapter 3 Objectives (Numeration Systems and Whole Number Operations)

Students will be able to understand and explain:

1. Numbers, their origin, and their representation in numerals and models.
2. Different numeration systems, including the Hindu-Arabic system.
3. Place value and counting in base ten and other bases.
4. Issues in learning with different numeration systems.
5. Number relationships including comparing and ordering.
6. The meaning of addition and subtraction by studying various models and in turn learn addition and subtraction facts.
7. Properties of addition and subtraction and how to use them to develop computational strategies.
8. The inverse relationship between addition and subtraction.
9. Meanings of multiplication and division by examining various models.
10. The inverse relationship between multiplication and division.
11. Properties of multiplication and division and how to use them to develop computational strategies.
12. The special cases of multiplication and division by O and l.
13. Models to develop algorithms for addition and subtraction.

14. Addition and subtraction algorithms including the standard algorithms and how to use them to solve problems.
15. Number bases other than ten to provide insight into base-ten algorithms.
16. Mental addition and subtraction computational skills and estimation techniques to check reasonableness of answers.
17. Properties of exponents and how these can be used to develop multiplication and division algorithms.
18. Models to develop algorithms for multiplication and division.
19. Multiplication and division algorithms and how to use them to solve problems.
20. Bases other than ten to provide insight into base-ten multiplication and division.
21. Mental multiplication and division skills and estimation techniques.

Chapter 4 Objectives (Number Theory)

Students will be able to understand and explain:

1. Divisibility, factors, and multiples.
2. Divisibility tests for 2, 3, 4, 5, 6, 8, 9, 10, and 11.
3. That the set of factors is finite, and the set of multiples is infinite for any given natural number.
4. Prime and composite numbers.
5. The number of divisors of any whole number.
6. The Fundamental Theorem of Arithmetic.
7. The factorization of whole numbers.
8. The greatest common divisor and the least common multiple of two or more whole numbers by using a variety of methods.
9. Applications of GCD and LCM to word problems and their solutions.
10. The Euclidean algorithm in relation to the greatest common divisor.

Chapter 5 Objectives (Integers)

Students will be able to understand and explain:

1. The meaning of the integers and their representation on a number line.
2. Models for addition and subtraction of integers.
3. Properties of addition and subtraction of integers.
4. Models for multiplication of integers.
5. Properties of multiplication of integers.
6. Integer division.
7. Order of operations on integers.
8. Inequalities with integers.

Chapter 6 Objectives (Rational Numbers and Proportional Reasoning)

Students will be able to understand and explain:

1. Different representations for rational numbers.
2. Equal fractions, equivalent fractions, and the simplest form of fractions.
3. Ordering of rational numbers.
4. Denseness property of rational numbers.
5. Addition and subtraction of rational numbers with like and unlike denominators.
6. Rational numbers as mixed numbers.
7. Properties of addition and subtraction of rational numbers.
8. Estimation with rational numbers.
9. Multiplication and division of rational numbers.
10. Properties of multiplication and division of rational numbers.
11. Estimation of multiplication and division with rational numbers.
12. Extension of exponents to include negative integers.
13. Ratios and their relation to rational numbers.

14. Proportions and their properties.
15. Scaling.

Chapter 7 Objectives (Rational Numbers as Decimals and Percent)

Students will be able to understand and explain:

1. Decimal notation.
2. Connections between fractions and decimals using various models and strategies.
3. Why terminating decimals occur and how to tell if a decimal will terminate.
4. Ordering terminating decimals.
5. How concrete models, drawings, and strategies can be used to develop efficient algorithms for decimal operations.
6. Exponential and scientific notation for decimals.
7. Strategies for decimal mental computations and estimations.
8. Why repeating decimals occur and how to tell if a decimal will repeat.
9. How a fraction can be converted to a repeating decimal and vice versa.
10. Ordering repeating decimals efficiently.
11. That 0.999999 ... = 1 and investigate various ways to show this is true.
12. Fractions, decimals, and percents as representations of rational numbers with conversions from one form to another.
13. Proportional relationships to solve percent problems.
14. Techniques to solve problems including discounts, interest, compound interest, and percent increase and decrease.
15. Strategies for percent mental computation and estimation.

MATH 2133. Understanding Elementary Math II

Course Description

This is the second of two courses that focus on developing the mathematical understanding of students who are preparing to be licensed as Elementary Teachers.

Student Learning Outcomes

Chapter 8 Objectives (Real Numbers and Algebraic Thinking)

Students will be able to understand and explain:

1. Real numbers
2. Operations on real numbers
3. nth roots and in particular square roots
4. how and are defined and why they are defined in this way
5. Expressions involving radicals and radical exponents
6. Variables to translate word phrases into algebraic expressions
7. Solving equations and word problems
8. The formulas for the nth term of arithmetic and geometric sequences
9. Properties of equality and equations
10. Solutions of equations using properties of equations
11. Solutions of word problems
12. The concept of a function including domain and range
13. Different representations of functions
14. Derivation of the formulas for the sum of n terms arithmetic and geometric sequences
15. The concept of a relation

Chapter 9 Objectives {Probability)

Students will be able to understand and explain:

1. How probabilities are determined
2. Experimental or empirical probabilities versus theoretical probabilities

3. Properties of probabilities
4. Mutually exclusive and non-mutually exclusive events
5. Geometric probabilities
6. Multistage experiments
7. Independent events
8. Conditional probability
9. Modeling games
10. Simulations in probability
11. Odds
12. Expected value

Chapter 10 Objectives {Data Analysis/Statistics)

Students will be able to understand and explain:

1. Designing experiments to collect data
2. Variability in data and how it relates to the study of statistics
3. The difference between a survey population and a sample population
4. Biased questions
5. Simple data analysis methods and interpretation across grade levels
6. Categorical and numerical data
7. Simple plots and graphs
8. Stem and leaf plots
9. Histograms and bar graphs
10. Circle graphs
11. Line graphs
12. Scatterplots for two variables
13. Relationship between a pair of variables using a scatterplot
14. Trend lines
15. Positive association, negative association, and no association

Chapter 11 Objectives (Introductory Geometry)

Students will be able to understand and explain:

1. Basic undefined and defined terms in geometry
2. Basic geometrical shapes and learn the notation associated with each shape
3. Attributes and properties of basic geometrical shapes and the relationships among them
4. Names, classifications, and measurement of angles
5. Properties of polygons
6. Naming and classifying triangles and quadrilaterals
7. Hierarchy among selected polygons
8. Symmetries and their relation to planar figures
9. Vertical, supplementary, and complementary angles
10. Parallel lines and angles associated with them
11. Measures of interior and exterior angles of polygons
12. Simple closed surfaces and polyhedral
13. How to draw three-dimensional shapes
14. Why there are only five regular polyhedral
15. Simple closed surfaces that are not polyhedral

Chapter 12 Objectives (Congruence and Similarity with Constructions)

Students will be able to understand and explain:

1. Geometric constructions leading to the 555, SAS, and HL congruence properties

2. Isosceles triangle properties
3. Altitudes and perpendicular bisectors
4. Circles circumscribing triangles and quadrilaterals
5. Geometric constructions leading to the ASA and AAS congruence properties
6. Properties of quadrilaterals
7. Similar figures
8. Theorems for determining similarity for triangles
9. Properties of proportion for similar triangles
10. Indirect measurements using similar triangles

Chapter 14 Objectives (Area, Pythagorean Theorem, and Volume)

Students will be able to understand and explain:

1. The English system of linear measures
2. The metric system of linear measures
3. Conversions among measures
4. Dimensional analysis
5. Perimeter and circumference
6. Ratios of linear measures of similar figures
7. Areas of rectangles, parallelograms, triangles, kites, trapezoids, regular polygons, circles, and sectors of circles
8. Conversion of area units
9. Ratio of area measures of similar figures
10. Pythagorean theorem and its converse
11. Measures of sides in special right triangles
12. Distance formula
13. Equation of a circle
14. Surface areas of right prisms, right circular cylinders, right regular pyramids, right circular cones, and spheres
15. Volumes of prisms, cylinders, pyramids, cones, and spheres
16. Converting metric measures of volume
17. Converting English measures of volume
18. Ratios of volumes of similar figures
19. Measures of mass and capacity
20. Measures of temperature

MATH 2134. Fundamentals of Elementary Math II

Course Description

Geometry and measurement. Multiple approaches to solving problems and understanding concepts in geometry. Analyzing and constructing two- and three-dimensional shapes. Measurable attributes, including angle, length, area, and volume. Understanding and applying units and unit conversions. Transformations, congruence, and symmetry. Scale factor and similarity. Coordinate geometry and connections with algebra. Reasoning and communicating about geometric concepts. Taught primarily through student activities and investigations.

Student Learning Outcomes

1. The primary objectives are mathematical: to understand some of the basic concepts of geometry, and measurement with an appropriate level of rigor; to appreciate the historical, cultural and educational contributions and potential applications in real life situations; and to gain problem solving skills using these concepts.
2. The secondary goal is to appreciate the importance of this material in the elementary school curriculum.

MATH 2140. Introduction to Numerical Computing

Course Description

This course will introduce solutions of non-linear equations of one variable, solutions of linear equations in many variables (matrices), interpolation, approximation of integration and differentiation of functions, computational solutions of initial-value problems for ordinary differential equations, and programming with mathematical software.

Student Learning Outcomes

At the end of this course the student will be able to:

1. Find roots of non-linear equations
    a. Bisection
    b. Newton-Rhapson
    c. Secant
2. Interpolate functions using
    a. Lagrange polynomials
    b. Hermite polynomials
    c. Cubic splines
3. Numerically differentiate functions
4. Numerically integrate functions with
    a. Trapezoid rule
    b. Simpsons rule
5. Solve initial-value problems
    a. Euler's method
    b. Runge-Kutta
6. Solving linear equations
    a. Gaussian elimination
    b. Iterative methods

MATH 2234. Fundamentals of Elementary Mathematics III

Course Description

Probability, statistics, ratios, and proportional relationships. Experimental and theoretical probability. Collecting, analyzing, and displaying data, including measurement data. Multiple approaches to solving problems involving proportional relationships, with connections to number and operation, geometry and measurement, and algebra. Understanding data in professional contexts of teaching. Taught primarily through student activities and investigations.

Student Learning Outcomes

1. In order to teach a subject well you need not only to know the material that you will teach, but you need to know more than what you will teach, and know it well, in order to be able to answer questions, give alternate explanations when your students do not understand something, and be able to adjust to changes in the mathematical curriculum.
2. Furthermore, even if you hope to teach a certain grade, you should be prepared to teach anything between kindergarten and 8th grade.
3. You also need to be aware of where a student is coming from in order to make adjustments in their curriculum.
4. A strong elementary school teacher must understand where his/her students are headed in order to most effectively direct them there.
5. This is especially true in mathematics, where students continue to build on the concepts they learn each year.

MATH 2350. Statistical Methods

Course Description

Exploratory data analysis. Introduction to probability, random variables and probability distributions. Concepts of Central Limit Theorem and Sampling Distributions such as sample mean and sample proportion. Estimation and hypothesis testing

single population parameter for means and proportions and difference of two population parameters for means and proportions. Analysis categorical data for goodness of fit. Fitting simple linear regression model and inference for regression parameters. Analysis of variance for several population means. Techniques in data analysis using statistical packages.

Student Learning Outcomes

1. Summarize Data through graphs and Descriptive statistics.
    a. Define qualitative and quantitative data.
    b. Provide examples of a population, a sample, independent and dependent variables, parameters and statistics.
    c. Construct and interpret histograms, stem plots, bar charts, and boxplot.
    d. Summarize distributions with numerical measures such as mean, median, standard deviation, percentiles, interquartile range.
2. Present the concepts of probability.
    a. Explain related to probability axioms (e.g., mutually exclusive events and independent events).
    b. Apply applications of probability rules.
    c. Apply Conditional probability and Bayes Rule.
3. Distinguish between discrete and continuous random variables.
    a. Calculate probabilities using Binomial and Poisson distributions.
    b. Calculate probabilities using the standard normal distribution by finding the area underneath the curve.
4. Explain the Central Limit Theorem.
    a. Introduce the concept of a sampling distribution.
    b. Discuss the distribution of the sample mean and sample proportion under repeated sampling.
    c. Generate and interpret a sampling distribution using repeated sampling.
    d. Determine if the Binomial and Poisson distribution can be approximated with the normal distribution.
5. Estimate a population parameter.
    a. Determine confidence interval for population mean, proportion, difference of means, and difference of proportions.
    b. Interpret the confidence interval and margin of error.
    c. Explain the dependence of margin of error on sample size and confidence level.
6. Perform hypothesis tests for population parameters (population mean, proportion, difference of means, and difference of proportions).
    a. Describe the logic and framework of the inference of hypothesis testing.
    b. Make a decision using a p-value and draw an appropriate conclusion.
    c. Distinguish between Type I and Type II errors.
    d. Explain power of the test.
7. Perform Hypothesis Tests for Categorical data.
    a. Determine and analyze Chi-square test for Independence.
    b. Determine and analyze Chi-square test for Goodness of fit.
8. Analyze data using regression and correlation.
    a. Construct scatterplots and analyze the scatter plots.
    b. Calculate the linear correlation coefficient and determine whether a linear relationship exists between two variables.
    c. Fit the least-squares regression line between two variables.
    d. Predict the response variable from the regression line.
    e. Apply statistical inference to regression parameters.
9. Perform analysis of variance.
    a. State hypotheses for the test of several population means.
    b. Construct the AVOVA Table.

    c. Explain the significance of multiple comparisons.
10. Demonstrate the appropriate use of technology (e.g., Excel®, an appropriate graphing calculator or other software (Minitab, SAS).

Math 2371. Machine Learning

Course Description:

This course covers aspects of machine learning including supervised and unsupervised learning, clustering, classification, dimensionality reduction, logistic regression, neural networks, and time series. Prerequisite: MATH 1220. (3T+0L)

Student Learning Outcomes:

1. Explain the difference between supervised and unsupervised learning.
2. Use Python to perform data analysis algorithms.
3. Apply supervised learning techniques to data.
4. Apply unsupervised learning techniques to data.
5. Apply neural networks to classify data.
6. Use time series for prediction.

Math 2372. Data Analysis using R

Course Description

This course covers how to use R to perform statistical tests (t-test, ANOVA, Mann-Whitney U, Chi-squared), how to create graphs and visual representations of data, and how to program in R. Prerequisite: MATH 1350 (2T+0L)

Student Learning Outcomes

1. Perform statistical tests in R a. T-test b .ANOVA c. Mann-WhitneyU d. Chi-squaredtest
2. Create visual representations of data with R a. Plots(xy) and bargraphs b. Boxandwhiskerplots c. Distributions
3. Programing R to process data a. Loops b. Conditional statements c. Input and output

MATH 2410. Applied Ordinary Differential Equations

Course Description

An introduction to differential equations. Students will be able to classify, construct, and solve different types of equations. Systems of equations, Laplace transforms, series solutions, and numerical methods are introduced. This course is not designed for students seeking a degree in mathematics.

Student Learning Outcomes

Students will learn to verify solutions to differential equations, be able to classify differential equations by order, linearity, and homogeneity, and be able to identify an appropriate technique to solve the differential equation as outlined below.

1. First-order equations
    a. Solve linear, separable, exact, and Bernoulli equations.
    b. Use phase lines and direction fields to analyze the behavior of first-order equations.
2. Higher-order, constant-coefficient, linear equations
    a. Solve linear, constant-coefficient homogeneous equations.
    b. Solve linear, constant-coefficient non-homogeneous equations using undetermined coefficients and variation of parameters.
    c. Demonstrate that a set of solutions is a fundamental one.
    d. Determine a solution to an equation through reduction of order.
3. Laplace transforms
    a. Compute Laplace transforms and inverse-Laplace transforms of basic functions.
    b. Solve initial-value problems using the Laplace transform.

    c. Solve linear equations with discontinuous forcing functions involving the unit step function and the Dirac delta function.
    d. Apply convolutions with Laplace transforms.
4. Systems of equations
    a. Solve systems of linear, constant-coefficient, homogeneous equations.
    b. Use a phase plot to analyze the behavior of a system of equations.
5. Series solutions and non-constant-coefficient linear equations
    a. Determine a series solution of an equation about an ordinary point.
    b. Determine a series solution of an equation about a regular singular point.
    c. Determine the radius of convergence of a series solution.
6. Numerical methods
    a. Use a computational program to approximate solutions to an equation.
    b. Identify limitations of numerical methods.
    c. Use a computational program to analyze the behavior an equation or system of equations.
7. Applications
    a. Create a differential equation or system of equations that models a given application.
    b. Analyze a differential equation the models a given application to determine the behavior of the model.

MATH 2415. Introduction to Linear Algebra

Course Description

Systems of equations, matrices, vector spaces and linear transformations. Applications to computer science.

Student Learning Outcomes

1. Use row reduction and echelon forms of a matrix to solve linear systems of equations.
2. Use matrix operations, inverse matrices, and matrix factorizations to solve matrix equations.
3. Study the properties of vector spaces and subspaces (e.g., the null and column spaces of a matrix); linear transformations, isomorphisms and kernels; linear independence, bases, and dimension.
4. Apply appropriate matrix manipulations to perform a change of basis.
5. Understand determinants and their properties.
6. Find eigenvalues and eigenvectors and use them to diagonalize matrices.
7. Understand inner product spaces and apply them to real-world problems.

MATH 2420. Applied Linear Algebra

Course Description

An introductory study of the analysis and application of systems of linear equations, vector spaces, matrices, and linear transformations, including computer-based linear algebra.

Student Learning Outcomes

1. Analyze and solve systems of equations.
    a. Determine if a system is linear.
    b. Determine if a system is consistent and whether or not solutions are unique.
    c. Solve systems using row reduction and analyze the system using pivot positions and free variables.
    d. Solve systems using matrix factorizations.
    e. Solve systems using matrix inverses.
    f. Apply Cramer's rule.
2. Analyze and use the properties of vectors and vector spaces.
    a. Use vector algebra.
    b. Determine whether or not a set of vectors is linearly independent.
    c. Determine whether or not a set of vectors and its operations constitute a vector space.

d. Determine whether or not a subset of a vector space is a subspace.
e. Determine whether or not a set of vectors spans or is a basis for a vector space.
f. Compute a basis for and determine the dimension of a vector space.
g. Compute the coordinates of a vector with respect to a basis.
h. Compute the transition matrix between two bases.
i. Determine whether a set and its product constitute an inner product space.
j. Compute lengths, angles, distances, and orthogonal projections of vectors.
k. Verify orthonormal bases and compute them using the Gram-Schmidt process.

3. Analyze and use the properties of matrices and linear transformations.
    a. Use matrix algebra.
    b. Compute the inverse, determinant, transpose, and eigenpairs of a matrix.
    c. Compute and apply decompositions of matrices, such as LU decompositions, singular-value decompositions, diagonalizations, and orthogonal diagonalizations of symmetric matrices.
    d. Use the Invertible Matrix Theorem.
    e. Compute a basis for the row, column, and null spaces of a matrix.
    f. Determine the rank and nullity of a matrix and know how they are related.
    g. Determine whether or not a transformation is linear.
    h. Determine whether or not a transformation is injective (one-to-one), surjective (onto), or bijective (both).
    i. Compute the standard matrix, kernel, and range of a linear transformation.
4. Solve applied problems and use technology
    a. Set up and solve applied problems such as flow networks, electric circuits, population dynamics, Markov chains, etc.
    b. Solve least-squares problems.
    c. Use a computer program to perform the computational outcomes above.

MATH 2430. Discrete Mathematics

Course Description

An introductory course encompassing set theory, logic, induction, number theory, matrices, combinatorics, graph theory, trees, and models of computation.

Student Learning Outcomes

Upon successful completion of the course, the student will:

1. Mathematical logic and Mathematical Reasoning.
    1. Know what propositions are and how to obtain their truth values.
    2. Be able to test for propositional equivalences using truth tables.
    3. Be able to work with predicates and quantifiers and give their truth values.
    4. Be able to prove and/or disprove basic results involving integers utilizing direct methods, contradiction, contra position and/or counterexample.
    5. Be able to prove results using mathematical induction.
2. Elementary Set Theory & Integer-Valued Functions.
    1. Be able to construct sets from basic properties and test for set membership.
    2. Be able to perform the basic operations on sets including union, intersection and complementation.
    3. Understand the meaning of cardinality of finite sets and certain infinite sets.
    4. Be able to represent sets using bit strings (optional).
    5. Be able to evaluate integer-valued functions.
    6. Be able to find the nth term of sequences given by formulas or by recurrence relations.
    7. Be able to find the sums of finite series.
3. Factorization, Prime Numbers, Modular Arithmetic and Matrices.

1. Be able to apply prime factorizations of numbers to find greatest common divisors and least common multiples.
2. Be able to use the Euclidean algorithm to find greatest common divisors.
3. Be able to use modular arithmetic in applications.
4. Be able to add, subtract and multiply matrices.
5. Be able to perform basic operations and Boolean products for zero-one matrices.

4. Binary (Optional: Octal & Hexadecimal) Systems.
    1. Be able to convert decimal representations to binary [optional: octal and hexadecimal], and vice-versa.
    2. Be able to perform basic arithmetic in binary [optional: octal and hexadecimal], representations.
    3. Be able to convert binary representations to octal and hexadecimal representations and vice-versa (optional).
5. Combinatorics & Basic Probability.
    1. Be able to perform basic counting arguments involving addition and multiplication.
    2. Be able to use the pigeon-hole principle.
    3. Be able to solve basic problems involving permutations and combinations.
    4. Be able to calculate elementary discrete probabilities.
6. Graph Theory
    1. Be able to identify certain basic types of simple graphs (i.e., complete, cycles, bipartite, etc.).
    2. Be able to construct graphs from adjacency matrices and incidence matrices and vice versa.
    3. Be able to identify when certain types of graphs are isomorphic.

MATH 2431 Discrete Mathematics
Course Description
Not Available
Student Learning Outcomes
Not Available

MATH 2520. Foundations of Math Thinking
Course Description
Introduction to logic, methods of proof, and mathematical structures, with applications to set theory, relations, functions and analytic geometry.
Student Learning Outcomes
1. Understand the logic behind a roof or dis roof of a mathematical statement
2. Understand how to apply various strategies in proving a mathematical statement
3. Understand how quantifiers are used in a mathematical statement
4. Understand the symbolic language of logic and quantifiers
5. Understand how to apply proof techniques to various areas of mathematics
6. Understand how to read a proof
7. Improve students' ability to express their understanding of mathematical material.
8. Improve students' ability to think abstractly.
9. Improve students' ability to ask mathematical questions.
10. Improve students' ability to learn mathematics independently.

Math 2530. Calculus III
Course Description
Continuation of Calculus II including multivariate and vector calculus, level curves and surfaces, partial derivatives, gradient, directional derivatives, tangent planes, optimization, multiple integrals in Cartesian, cylindrical and spherical coordinate systems.
Student Learning Outcomes

1. Vectors in 3-dimensional space
   a. Use vector notation correctly.
   b. Perform vector operations, including dot product, cross product, differentiation and integration, and demonstrate their geometric interpretations.
   c. Perform operations on vector valued functions and functions of a parameter.
2. Functions of multiple variables
   a. Identify and graph the equations of cylinders and quadratic surfaces in 3-dimensional space.
   b. Determine the domain of continuity of a vector valued function and of a function of multiple variables.
3. Applications of differentiation
   a. Compute partial derivatives, generally and at a point, and sketch their graphical representation on a surface in space.
   b. Recognize when the chain rule is needed when differentiating functions of multiple variables, parametric equations and vector valued functions, and be able to use the chain rule in these situations.
   c. Compute curvature of a parameterized vector representation of a curve in 2- and 3-dimensional space and be able to explain its meaning.
   d. Compute the unit tangent and unit normal vectors to a curve and be able to sketch them with the curve.
   e. Computationally move among position vector, velocity vector, speed, and acceleration vectors; recognize and demonstrate their use as applied to motion in space.
   f. Determine the equation of the tangent plane to a surface at a point.
   g. Use the tangent plane to a surface to approximate values on the surface and estimate error in approximation using differentials.
   h. Compute directional derivatives and represent them graphically relative to the inherent surface.
   i. Compute the gradient vector; represent it graphically relative to the inherent surface and use it to maximize or minimize rate of change of the function.
   j. Locate local and global maxima and minima of a function.
   k. Use Lagrange multipliers to maximize output with one or two constraints.
4. Application of Integration
   a. Compute arc length and be able to explain its derivation as a limit.
   b. Calculate double and triple integrals independently and with their geometric representations as surfaces, areas and volumes.
   c. Calculate iterated integrals in polar, cylindrical and spherical coordinate systems.

MATH 2531. Calculus III

Course Description

Vector operations, vector representation of planes and curves, functions of several variables, partial derivatives, gradient, tangent planes, optimization, multiple integrals in Cartesian, cylindrical and spherical coordinates, vector fields, line integrals and Green's theorem.

Student Learning Outcomes

Students that successfully complete the course, will, by the end of the course, be able to

1. (**Vector Operations**) Perform basic operations on vectors in 3-D: addition, subtraction, scalar multiplication, dot product. Visualize addition, subtraction and scalar multiplication geometrically, state geometric meaning of dot product and cross product, recognize and write down the equations defining lines and planes, and draw geometric information from the equations (such as a point on lines/planes, tangent and normal vectors, intersections)
2. (**Vector-valued Functions of One Variable**) Visualize given functions as curves in space, find functional parametrization of given curves, find their derivatives and interpret them as tangent vectors to curves; for functions describing the motion of a particle, interpret derivatives as velocity and acceleration; solve initial value problems.

3. (**Scalar-valued Functions of Several Variables**) Visualize functions of two variables by graphs in space or level curves in the plane; visualize functions of three variables by level surfaces in space; recognize and graph equations for conic sections and for surfaces of revolution; state what it means for a limit of a function of several variables to exist; compute partial derivatives, gradients, directional derivatives and understand their meanings, e.g. with respect to direction of fastest growth and tangent planes; compute the gradient of a function and state its geometric significance; solve min/max problems with or without constraints (using substitution or Lagrange multipliers for the former) explain why the Lagrange multiplier method works.
4. (**Double and Triple Integrals**) Compute by reducing to an iterated integral, by changing the order of integration, by changing from Cartesian coordinates to cylindrical or spherical coordinates and vice-versa; use double and triple integrals to compute areas, volumes, centers of mass.
5. (**Vector Fields**) Visualize basic vector fields by flow lines and integral curves; state the definition of a gradient (or conservative) vector field and how to recognize one and compute a potential function; compute the divergence and curl of a vector field; rules for differentiation; recognize permissible and non-permissible operations.
6. (**Line Integrals**) Compute line integrals such as arc length, work, circulation using the parametrization of a curve; compute using the Fundamental Theorem of Line Integrals when applicable; state Green0s theorem (2-D), apply it to examples.

MATH 2532. Calculus III

Course Description

Vectors and vector operations in two and three dimensions, partial differentiation, multiple integration, topics in vector calculus in two and three dimensions.

Student Learning Outcomes:

1. Perform algebraic operations on vectors in the plane.
2. Describe lines, planes, and surfaces in 3-space.
3. Compute the tangent and normal vectors to space curves.
4. Compute tangential and normal components of acceleration.
5. Sketch functions of several variables.
6. Compute the tangent plane to a surface.
7. Describe and use the chain rule.
8. Compute extreme values of functions of several variables.
9. Compute multiple integrals.
10 Compute surface area, mass, and moments.
11. Compute line integrals and test for independence of path.
12. State and use Green's Theorem, Stokes' Theorem, and the Divergence Theorem.

MATH 2610. Elementary Mathematical Concepts I

Course Description

The fundamental operations; an intuitive development of whole numbers, integers, and rational numbers; elementary number theory; introduction to problem-solving strategies; and introduction to functions and modeling.

Student Learning Outcomes

Not Available

MATH 2625. Elementary Mathematical Concepts II

Course Description

Development of rational numbers, real numbers, functions of various degrees, statistics, and probability. A continued emphasis on building problem-solving ability.

Student Learning Outcomes

Making it a habit of mind to use Mathematical Practices, students in Mathematics 262 will acquire the in-depth content knowledge and skills necessary to facilitate student learning in Grades 3-5. The concept domains for these grades are indicated in the CCSSM and are listed as:

1. Operations and Algebraic Thinking: Represent and solve problems using the four basic operations, properties of operations, and identifying patterns.
2. Number and Operations in Base Ten: Place value in developing algorithms for operations on multi-digit numbers.
3. Number and Operations – Fractions: Develop understanding of proper fractions as numbers.
4. Measurement and Data: Identify measurable attributes, relative size, time, money, perimeter, area.
5. Geometry: Attributes defining categories, composition and decomposition of polygons - particularly as they relate to understanding fractions.

MATH 2992. Directed Study in Mathematics
Course Description
May be repeated for a maximum of 6 credits. Graded S/U.
Student Learning Outcomes
Varies

MATH 2993. Workshop in Mathematics
Course Description
Varies
Student Learning Outcomes
Varies

MATH 2996. Topics in Mathematics
Course Description
Varies
Student Learning Outcomes
Varies

Medical Assistant (MAST)

MAST 1110. Medical Assistant Professionalism
Course Description
Provides an overview of the role of the medical assistant in the healthcare setting. Covers medical assistant scope of practice, legal principles, ethics, standard of care, duties, and roles. Emphasis is placed on professional and therapeutic communication, affective competencies of empathy and respecting diversity, and demonstration of legal and ethical behaviors specific to medical assisting.
Student Learning Outcomes

1. Respond to nonverbal communication and recognize personal boundaries.
2. Demonstrate respect for diversity, a professional response(s) to ethical issues, empathy for patients' concerns, and active listening.
3. Locate a state's legal scope of practice for medical assistants.
4. Apply HIPAA rules in regard to privacy and release of information.
5. Complete compliance reporting based on public health statutes and incident reports related to errors in patient care.
6. Report an illegal activity following the protocol established by the healthcare setting.

MAST 1112. Electrocardiogram Technician Basic

Course Description

Prepares students for employment as an Electrocardiogram Technician. Includes basic theory of the cardiovascular system, cardiac rhythm interpretation, 12 lead ECG lead placement, and ECG equipment trouble shooting. The course includes an advanced skills laboratory for "hands-on" practice and 16 hours of supervised clinical in the work environment assisting with ECG testing.

Student Learning Outcomes

1. Perform ECG's, including patient preparation, electrode placement, recording ECG's, mounting & upload of ECG to patient's chart.
2. Calculate a patient's heart rate and identify the heart rhythm from an ECG tracing.
3. Identify artifacts; waveform elements of the cardiac cycle, including variances related to ischemia, injury or infarction; as well as, major classifications of arrhythmias.
4. Prepare and monitor patient's for Holter monitoring and telemetry.
5. Prepare, conduct and monitor patients during stress testing.
6. Recognize factors that affect procedures and results, and take appropriate actions within predetermined limits when indicated, including patient compromise or complications.
7. Demonstrate professional conduct and interpersonal communication skills with patients, other health care professionals, and with the public.
8. Recognize the responsibilities of other health care personnel and interact with them with respect for their jobs and patient care.
9. Apply basic scientific principles in learning new techniques and procedures.
10. Relate electrocardiogram findings to common disease processes.

MAST 1114. Administrative Medical Assisting Skills I

Course Description

Introduction to administrative medical assisting including telephone techniques, appointment scheduling, maintaining accurate medical records, handling mail, written communications, daily accounting techniques, billing, collections, basics of transcription, and receptionist skills.

Student Learning Outcomes

1. Communication & Patient Interaction: Covers verbal/nonverbal communication, overcoming barriers, coaching patients, active listening, empathy, and telehealth roles.
2. Medical Law & Ethics: Includes HIPAA, malpractice, patient rights, licensure, compliance reporting, ethical behavior, and legal concepts like informed consent and negligence.
3. Healthcare Administration & Records: Addresses appointment scheduling, electronic health records, data backup, bookkeeping, insurance, and Explanation of Benefits (EOB).
4. Medical Theories & Psychology: Covers Maslow, Erikson, Kubler-Ross theories, coping mechanisms, self-boundaries, and diversity in patient care.
5. Ethical & Moral Responsibilities: Identifies personal and professional ethics, effects of morals on professional performance, risk management, and responding to ethical dilemmas.

MAST 1114L. Administrative Medical Assisting Skills I Assessment

Course Description

This course provides hands-on training in essential clinical and administrative skills required for medical assistants. Students will develop proficiency in responding to nonverbal communication, accurately using medical terminology in patient

interactions, and coaching patients on office policies and medical encounters. Additionally, students will apply HIPAA regulations regarding patient privacy and release of information while demonstrating appropriate responses to ethical issues in healthcare settings.

Student Learning Outcomes

1. Respond to nonverbal communication V.P.1
2. Correctly use and pronounce medical terminology in health care interactions V.P.2
3. Coach patients regarding: V.P.3
    a. office policies
    b. medical encounters
4. Demonstrate professional telephone techniques V.P.4
5. Document telephone messages accurately V.P.5
6. Using technology, compose clear and correct Correspondence V.P.6
7. Use a list of community resources to facilitate referrals V.P.7
8. Participate in a telehealth interaction with a patient V.P.8
9. Manage appointment schedule using established priorities VI.P 1
10. Schedule a patient procedure VI.P.2
11. Input patient data using an electronic system VI.P.3
12. Inform a patient of financial obligations for services Rendered VII.P.3
13. Interpret information on an insurance card VIII.P.1
14. Locate a state's legal scope of practice for medical assistants X.P.1
15. Apply HIPAA rules in regard to: X.P.2
    a. privacy
    b. release of information
16. Demonstrate appropriate response(s) to ethical issues

MAST 1115. Medical Assistant Clinical Procedures I

Course Description

This course provides comprehensive training for medical assistants, combining essential emergency preparedness and routine clinical procedures. Students will study emergency response procedures within a medical office, including first aid, infection control, medical asepsis, sterilization, and vital sign measurement. In addition, students will learn anatomy and physiology, diseases, and medical terminology.

Student Learning Outcomes

1. Identify requirements for essential clinical skills, including patient preparation, vital sign measurement, first aid, and infection control.
2. Describe sterilization, medical asepsis, and how to perform procedures such as wound care and dressing changes.
3. Demonstrate understanding of basic anatomy, physiology, and medical terminology, focusing on developing a strong vocabulary of medical terms and abbreviations.
4. Demonstrate understanding of major body systems, structures, and functions.
5. Demonstrate effective communication with diverse patient populations, quality assurance, infection cycles, body mechanics, and emergency response as well as prepared to assist with fundamental clinical procedures, navigate patient care, and work in a variety of healthcare settings.

MAST 1120. Medical Assistant Clinical Skills I

Course Description

Introduction to the clinical role of the medical assistant in medical office/clinic settings with skills and knowledge development in positive patient interactions, dosage calculations, principles of pharmacology and medication administration, infection control, patient coaching, nutrition and health promotion.

Student Learning Outcomes

1. Calculate proper dosages of medication for administration.
2. Apply mathematical computations to solve equations.
3. Convert among measurement systems.
4. Instruct a patient regarding a dietary change related to a patient's special dietary needs.
5. Respond to nonverbal communication.
6. Correctly use and pronounce medical terminology in health care interactions.
7. Coach patients regarding medical encounters.
8. Document patient care accurately in the medical record.
9. Demonstrate empathy for patients' concerns and active listening.
10. Recognize personal boundaries.

MAST 1120L. Medical Assistant Clinical Skills I Laboratory

Course Description

Provides hands-on practice of skills that assist the medical provider in the clinical setting. Students will practice vital signs, basic patient data collection, assisting with exams and treatments, infection control, and administering medications.

Student Learning Outcomes

1. Accurately measure and record blood pressure, temperature, pulse, respirations, height, adult weight, oxygen saturation.
2. Assist provider with a patient exam and use proper body mechanics.
3. Verify the rules of medication administration: right patient, right medication, right dose, right route, right time, right documentation.
4. Select proper sites for administering parenteral medication.
5. Administer oral and parenteral (excluding IV) medications.
6. Apply mathematical computations to solve equations, calculate proper dosages of medication for administration, and convert among measurement systems.
7. Participate in bloodborne pathogen training.
8. Perform handwashing and select appropriate barrier/personal protective equipment (PPE).
9. Demonstrate proper disposal of biohazardous materials: sharps and regulated wasted.
10. Instruct a patient regarding a dietary change related to a patient's special dietary needs.
11. Correctly use and pronounce medical terminology in health care interactions and document patient care accurately in the medical record.
12. Coach patients regarding medical encounters, reassure patients and respond to nonverbal communication.
13. Use a list of community resources to facilitate referrals and participate in a telehealth interaction with a patient.

MAST 1125L. Medical Assistant Laboratory Procedures I

Course Description

An introduction to diagnostic procedures routinely performed in the medical office laboratory setting. This course will cover CLIA (Clinical Laboratory Improvement Amendments), waived hematology, chemistry, immunology, and microbiology testing. Federal Laboratory guidelines, quality control, and laboratory safety are also presented. Students learn to prepare patients for procedures, visits, and exams, with proper patient intake.

Student Learning Outcomes

1. Perform CLIA waived Laboratory testing in the medical office.
2. Screen and follow up on test results.
3. Identify procedures for obtaining, testing, transporting, analyzing and screening specimens.
4. Demonstrate methods of quality control and laboratory safety in the medical office laboratory setting.
5. Demonstrate and perform vital measurements.
6. Prepare patient for exam/office procedure.
7. Set up and organize sterile and surgical preparation.

MAST 1130. Intravenous (IV) Therapy Training

Course Description

A course designed **t**o equip healthcare professionals with the introductory knowledge and skills that are necessary to safely and effectively administer intravenous therapies. Participants learn the fundamentals of IV therapy, including indications, contraindications, equipment selection, insertion techniques and complication management. Participants engage in hands-on practice sessions using simulation equipment to simulate real-world scenarios. Emphasis is placed on proper technique, infection control measures and patient safety.

Student Learning Oucomes

1. Describe the appropriate uses and clinical applications of intravenous (IV) therapy.
2. Identify various types of IV fluids and explain their specific indications.
3. Demonstrate an understanding of the anatomy and physiology of the vascular system as it relates to IV therapy.
4. Safely initiate, maintain, and discontinue peripheral IV lines following proper protocols.
5. Apply principles of aseptic technique and infection control during IV procedures.
6. Recognize and manage common IV-related complications.
7. Demonstrate competency in hands-on IV procedures through practical skill evaluations.

MAST 1180. Pharmacology for Medical Assisting

Course Description

Pharmacology for Allied Health. Three credit hours. Focuses on the classification of drugs, principles of drug administration, diseases treated with specific drugs as well as side effects and adverse reactions, drug overdose, and computation of drug doses including a review of basic math.

Student Learning Outcomes

1. Identify the classifications of medications including a. indications for use; b. desired effects; c. side effects; d. adverse reactions I.C.11
2. Define basic units of measurement: metric and house hold systems II.C.1. a-b
3. Identify abbreviations and symbols used in calculating medication dosages II.C.2
4. Calculate proper dosages of medication for administration II.P.1
5. Apply mathematical computations to solve equation II.P.4
6. Convert among measurement systems II.P.5
7. Discuss governmental legislation and regulation including FDA and DEA regulations
8. Explain the difference between the three names assigned to a drug.
9. Define the five controlled substance schedules and give examples of the drugs listed in each.
10. Define the classification of drugs and give examples of each.
11. Recognize common abbreviations and their meanings.

12. Discuss the appropriate steps in preparing and administering medications from any method within the scope of the medical assisting practice.
13. Describe problems associated with substance abuse.
14. State the medical assistant's role in recognizing substance abuse and the action to be taken when abuse is suspected.

MAST 1190. Clinical Skills & Concepts for Medical Assisting I

Course Description

A core course designed to provide an introduction to the theory, concepts, and skills needed for entry-level medical assisting positions. Content includes basic theory and concepts designed to support safe and effective practice as a medical assistant in ambulatory care settings. Includes a skills laboratory for hands-on practice and 96 hours of supervised clinical in the work environment.

Student Learning Outcomes

1. Apply theoretical knowledge associated with medical assisting in providing basic healthcare services.
2. Perform essential clinical skills within the medical assistant scope of practice in ambulatory clinic settings.
3. Recognize factors that affect procedures and results, and take appropriate actions with predetermined limits when indicated, including patient compromise or complications.
4. Demonstrate professional conduct and interpersonal communication skills with patients, other health care professionals, and with the public.
5. Recognize the responsibilities of other health care personnel and interact with them with respect for their jobs and patient care.
6. Apply basic scientific principles in learning new techniques and procedures.
7. Relate vital sign and laboratory findings to common disease processes.

MAST 1230 Electronic Medical Records

Course Description

Electronic Medical Records. Three credit hours. This course teaches students how to effectively enter patient data into an electronic medical record including history and physical exams, procedures, and physician/provider's encounter with patient. It also teaches students how to upload laboratory tests, radiologic reports, medications, immunizations, referrals, and consult reports. In addition, it prepares students to accompany a physician/provider into the exam room and enter data during the patient encounter.

Student Learning Outcomes

1. Administrative & Scheduling Tasks: Manage appointment schedules, schedule patient procedures, and input patient data into electronic systems.
2. Billing & Insurance Processing: Perform accounts receivable tasks (charges, payments, adjustments), enter billing information, complete insurance claims, and apply medical necessity guidelines.
3. Medical Coding & Compliance: Perform procedural and diagnostic coding, ensure HIPAA compliance (privacy & release of information), and follow legal and ethical guidelines.

MAST 1520. Medical Assistant Laboratory Skills

Course Description

Introduces the Medical Assistant to their role in the clinic's laboratory related to collection, testing, handling, processing and storage of specimens such as blood and urine, fecal samples and throat swabs. CLIA-waived tests, quality assurance and control, laboratory safety, patient preparation and diagnostic equipment are also discussed.

Student Learning Outcomes

1. Identify major organs; anatomical locations, structure and normal function across the life span; pathology, including signs and symptoms; and etiology of diseases of the human body's endocrine, pulmonology, and circulatory systems.
2. Identify diagnostic measure and Clinical Laboratory Improvement Amendments (CLIA) waived tests, treatment modalities and classifications of medications, including indications for use, desired effects, side effects, and adverse reactions of the endocrine, pulmonology and circulatory systems.
3. Describe surgical asepsis as practiced within an ambulatory care setting.
4. Recognize medical terms and abbreviations related to the human body's endocrine, pulmonology, circulatory systems, normal and abnormal results as reported in graphs and tables.
5. Identify safety techniques that can be used in responding to accidental exposure to needle sticks.
6. Explain clinical laboratory safeguards and the purpose of Safety Data Sheets (SDS) in a healthcare setting.
7. Discuss safety techniques that can be used in responding to accidental exposure to blood, body fluids, needle sticks and chemicals, the processes for disposal of biohazardous waste and chemicals, and quality assurance practices in healthcare.

MAST 1520L. Medical Assistant Laboratory Skills Laboratory

Course Description

Provides hands-on practice of specimen collection, processing CLIA-waived tests in the clinical laboratory; setting up and assisting with multiple screening tests, and sterilizing equipment. Special attention is placed on empathy for the patient's concerns, critical thinking skills, quality control, documentation, and laboratory safety.

Student Learning Outcomes

1. Perform the following procedures: electrocardiography, venipuncture, capillary puncture, and pulmonary function testing.
2. Instruct and prepare a patient for a procedure or a treatmen.
3. Perform a quality control measure.
4. Collect specimens and perform the following CLIA-waived tests: hematology chemistry, urinalysis, immunology, and microbiology.
5. Record laboratory test results into the patient's record.
6. Select appropriate barrier/personal protective equipment (PPE) and comply with safety practices.
7. Prepare items for autoclaving and perform sterilization procedures.
8. Demonstrate proper disposal of biohazardous sharps material and proper use of eyewash equipment.
9. Coach patients regarding medical encounters and document patient care accurately in the medical record.
10. Evaluate an environment to identify unsafe conditions.
11. Demonstrate the following: critical thinking skills, empathy for patients' concerns, active listening and reassuring patients.

MAST 1540. Medical Assistant Administrative Skills

Course Description

Administrative topics include office technology, oral and written communications, new patient registration, appointment scheduling, application of HIPAA rules, handling of medical records, daily operations, self-awareness and patient orientation to office policies.

Student Learning Outcomes

1. Identify critical elements of an emergency plan for response to a natural disaster or other emergency.
2. Coach patients regarding office policies.

3. Demonstrate professional telephone techniques.
4. Using technology, compose clear and correct correspondence.
5. Manage appointment schedule using established priorities.
6. Schedule a patient procedure.
7. Input patient data using an electronic system.
8 Apply HIPAA rules in regard to privacy.
9. Document patient care accurately in the medical record.
10. Demonstrate critical thinking skills, empathy for patients' concerns, active listening, and self-awareness.

MAST 2010. Medical Assisting Clinical Skills II

Course Description

Introduces principles of assisting with patients in multiple medical specialties. Sterile procedures are also examined and discussed.

Student Learning Outcomes

1. Identify major organs and their anatomical location in each body system: digestive, muscular, nervous, reproductive, skeletal and urinary.
2. Describe structure and function of the human body across the life span.
3. Summarize the normal function of each body system digestive, muscular, nervous, reproductive, skeletal and urinary.
4. Discuss common pathology related to the digestive, muscular, nervous, reproductive, skeletal and urinary body systems including signs, symptoms, etiology, diagnostic measures, and treatment modalities.
5. Recognize Clinical Laboratory Improvement Amendments (CLIA) waived tests associated with common diseases.
6. Identify appropriate vaccinations based on an immunization schedule.
7. Identify normal and abnormal results as reported in graphs and tables.
8. Describe medical asepsis and surgical asepsis as practiced within an ambulatory care setting.
9. Examine the implications for failure to comply with Center for Disease Control (CDC) regulations in healthcare settings.
10. Relate medical terms and abbreviations to the digestive, muscular, nervous, reproductive, skeletal and urinary body systems.
11. Describe the basic concepts of Erickson's theory.

MAST 2010L. Medical Assistant Clinical Skills II Laboratory

Course Description

Provides .aboratory based, hands-on practice of skills pertaining to sterile technique and the MA's role when assisting with minor surgical procedures performed in the medical office. Assisting with common procedures for patients in multiple medical specialties and skills for medical emergencies are also practiced.

Student Learning Outcomes

1. Identify appropriate vaccinations based on an immunization schedule.
2. Describe challenges in communication with different age groups.
3. Accurately measure and record weight, length and head circumference of infants.
4. Document patient information on a growth chart and document patient care accurately in the medical record.
5. Instruct and prepare a patient for a procedure or a treatment.
6. Assist provider with a patient exam.
7. Provide up-to-date documentation of provider/professional level CPR.

8. Perform first aid procedures for bleeding, diabetic coma or insulin shock, stroke, seizures, syncope and an environmental emergency.
9. Perform hand washing, wound care and dressing change.
10. Prepare and perform procedures within a sterile field.
11. Coach patients regarding medical encounters.
12. Perform an inventory of supplies while using proper body mechanics.
13. Demonstrate proper use of fire extinguishers.
14. Demonstrate critical thinking skills and empathy for patient's concerns.

MAST 2110. Medical Office Insurance and Finance

Course Description

The focus of this course is medical office bookkeeping procedures and processing of insurance claims. Areas covered include: banking and billing procedures, accounts receivable, collections, applying managed care and third- party guidelines, medical coding, completing insurance claim forms, utilizing and maintaining billing software.

Student Learning Outcomes

1. Perform accounts receivable procedures to patient accounts including posting charges, payments, adjustments
2. Input accurate billing information in an electronic system.
3. Inform a patient of financial obligations for services rendered.
4. Interpret information on an insurance card.
5. Verify eligibility for services.
6. Obtain precertification or preauthorization with documentation.
7. Complete an insurance claim form.
8. Assist a patient in understanding an Explanation of Benefits (EOB).
9 Perform procedural and diagnostic coding.
10. Utilize medical necessity guidelines.
11. Demonstrate critical thinking skills, empathy for patients' concerns and tactfulness.

MAST 2125L. Medica Assistant Laboratory Procedures Laboratory II

Course Description

Instructions and demonstrations of electrocardiography and respiratory testing. Topics also include anatomy and physiology and diseases and treatments of major body systems as a continuation of Medical Assistant Clinical Procedures I, as well as basic pharmacology, understanding of measurements, clinical application, side effects, and toxicities of medication use.

Student Learning Outcomes

1. Perform electrocardiography.
2. Perform respiratory testing.
3. Explain basic anatomy and physiology, diseases, and treatments of various body systems.
4. Perform maintenance of laboratory equipment and quality control.
5. Communicate with and instruct patients regarding diagnostic testing.
6. Accurately and safely perform laboratory testing and specimen preparation.

MAST 2210. Medical Assistant Clinical Procedures II

Course Description

This course expands on procedures performed in outpatient settings. It includes patient preparation, assisting with physical and specialty exams, office surgeries, and medical emergencies. Students will learn techniques for administering injections, performing ECGs, diagnostic imaging, and rehabilitative modalities. The course also covers pharmacology, medication administration, and drug calculations, diseases, and treatments of major body systems ensuring they are well-equipped for both routine procedures and critical situations in a healthcare environment.

Student Learning Outcomes

1. Perform diagnostic tests, managing patient care, maintaining sterile fields, and proper documentation.
2. Develop critical thinking, empathy, and effective communication, ensuring they can provide comprehensive care, manage emergencies, and support diverse patient needs in ambulatory settings.
3. Desmonstrate medical and surgical asepsis, gain proficiency in medication administration, injections, assisting with exams, minor surgeries and phlebotomy.

MAST 2990. Medical Assistant Practicum

Course Description

Varies

Student Learning Outcomes

Varies

MAST 2999. Medical Assistant Capstone

Course Description

Varies

Student Learning Outcomes

Varies

Medical Laboratory Technician (MLTS)

MLTS 1110. Preparation for Medical Laboratory Sciences

Course Description

An introduction to the Medical Laboratory industry and the skills necessary to succeed in laboratory education and careers. Includes college success skills, an overview of technical departments, and aspects of working and gaining employment in healthcare.

Student Learning Outcomes

1. Identify skills for successful completion of college level courses.
2. Discuss techniques for obtaining employment in a Medical Laboratory or related healthcare field.
3. Explain professionalism as it relates to patient care and being a member of a healthcare team.
4. Discuss specimen requirements and assays performed in medical laboratory departments.

MLTS 1112. Introduction to Basic Laboratory Skill, Urinalysis and Body Fluids

Course Description

An introduction to the profession of medical diagnostic testing and the clinical laboratory. Content areas consist of: general laboratory safety, laboratory mathematics, general instrumentation, use of the microscope, urinalysis, and body fluids.

Student Learning Outcomes

1. List important milestones in the history of the clinical laboratory and describe the type of professionalism desired in clinical laboratory personnel.
2. Describe behavior consistent with the ethical practice of clinical laboratory medicine.

3. Apply principles of confidentiality for all patients and test results.
4. State the special knowledge and talent of other members of the health care team needed for quality patient care.
5. Explain the impact of federal and state regulatory agencies on the clinical laboratory.
6. Detail the transmission of the AIDS (HIV) virus and state how the virus affects the immune system.
7. Name other pathogens, in addition to the HIV virus, that could be transmitted by blood or body fluids.
8. List and describe safety hazards in the laboratory and discuss the proper techniques to avoid accidents.
9. Use basic metric systems for laboratory procedures and use formulas to calculate strengths of dilutions and solutions.
10. Discuss processing clinical specimens according to established procedures.
11. List and explain the basic laboratory procedures in clinical chemistry, hematology, coagulation, urinalysis, microbiology, and immunology/serology.
12. Evaluate quality control values.
13. Apply principles of safety, quality assurance and quality control.
14 Describe the composition, formation, and function of selected body fluids.
15. Explain the collection procedure for urine and other selected body fluids.
16. Evaluate the suitability of the body fluid specimens collected.
17. Exhibit an understanding of the anatomy and function of the renal system.
18. Perform a routine urinalysis and explain the principles of each test.
19. Evaluate laboratory test outcomes and correlate test results with patient condition(s).

MLTS 1120. MLT Specimen Collection and Processing

Course Description

This course is an introduction to the collection and processing of patient specimens for medical laboratory testing. Topics will focus on patient and laboratory safety, infection prevention and control, specimen integrity, blood collection equipment and supplies, collection of blood specimens, collection of specimens other than blood, and specimen storage and transport. This course is designed to meet the minimum requirements for entering the MLT program without prior experience as a phlebotomist or laboratory assistant. This course does not meet the requirements for training to gain employment as a phlebotomist or to be eligible for national certification exams.

Student Learning Outcomes

1. Describe infection prevention practices related to specimen collection, transport, or processing.
2. Describe proper specimen collection, handling, transport, and storage techniques for common and specialized laboratory tests.
3. Identify pre-analytical variables and procedural errors associated with specimen collection.
4. Identify appropriate blood collection equipment, additives, order of draw techniques, and venipuncture procedures.
5. Demonstrate blood collection procedures utilizing proper technique.

MLTS 1410. Clinical Urinalysis

Course Description

Introduces urine and body fluid analysis.

Student Learning Outcomes

1.Define disease states, etiologies, identifiable characteristics, and vocabulary specific to course.
2.Correlate laboratory tests with organ systems, anatomical and physiological functions, patient clinical presentation, treatments, and common disease states.

3. Describe principles, methodologies, clinical significance, and reference ranges, as well as proper specimen collection, handling, transport, and storage techniques for common and specialized laboratory tests.

MLTS 1410L. Clinical Urinalysis Laboratory

Course Description

Presents experiences for performing urinalysis and body fluid procedures.

Student Learning Outcomes

1. Identify laboratory safety equipment and explain laboratory safety protocol related to use of laboratory equipment and disposal of laboratory waste.
2. Demonstrate safe and proper use of laboratory equipment including, but not limited to: microscopes, centrifuges, spectrophotometers, and other specialized instrumentation.
3. Safely perform and practice procedures and techniques related to laboratory tests.
4. Employ critical thinking skills to analyze results as they relate to physiological functions, patient clinical presentation, and common disease states.

MLTS 1412L. Clinical Immunology and Serology Laboratory

Course Description

Presesnts concepts of immunology and serology. Provides experience in serological testing on specimens.

Student Learning Outcomes

1. Define disease states, etiologies, identifiable characteristics, and vocabulary specific to course.
2. Correlate laboratory tests with organ systems, anatomical and physiological functions, patient clinical presentation, treatments, and common disease states.
3. Describe principles, methodologies, clinical significance, and reference ranges, as well as proper specimen collection, handling, transport, and storage techniques for common and specialized laboratory tests.
4. Identify laboratory safety equipment and explain laboratory safety protocol related to use of laboratory equipment and disposal of laboratory waste.
5. Demonstrate safe and proper use of laboratory equipment including, but not limited to: microscopes, centrifuges, spectrophotometers, and other specialized instrumentation.
6. Safely perform and practice procedures and techniques related to laboratory tests.
7. Employ critical thinking skills to analyze results as they relate to physiological functions, patient clinical presentation, and common disease states.

MLTS 1510. Clinical Hematology

Course Description

Presents concepts of hematology including blood and blood disorders.

Student Learning Outcomes

1. Define disease states, etiologies, identifiable characteristics, and vocabulary specific to course.
2. Correlate laboratory tests with organ systems, anatomical and physiological functions, patient clinical presentation, treatments, and common disease states.
3. Describe principles, methodologies, clinical significance, and reference ranges, as well as proper specimen collection, handling, transport, and storage techniques for common and specialized laboratory tests.

MLTS 1510L. Clinical Hematology Laboratory

Course Description

Presents experiences for performing the basic procedures in a hematology laboratory including the identification and enumeration of blood cells.

Student Learning Outcomes

1. Identify laboratory safety equipment and explain laboratory safety protocol related to use of laboratory equipment and disposal of laboratory waste.
2. Demonstrate safe and proper use of laboratory equipment including, but not limited to: microscopes, centrifuges, spectrophotometers, and other specialized instrumentation.
3. Safely perform and practice procedures and techniques related to laboratory tests.
4. Employ critical thinking skills to analyze results as they relate to physiological functions, patient clinical presentation, and common disease states.

MLTS 1511. Clinical Immunohematology

Course Description

Examines the theory principles for determining blood group typing, antibody detection and identification, cross matching and component therapy.

Student Learning Outcomes

1. Define disease states, etiologies, identifiable characteristics, and vocabulary specific to course.
2. Correlate laboratory tests with organ systems, anatomical and physiological functions, patient clinical presentation, treatments, and common disease states.
3. Describe principles, methodologies, clinical significance, and reference ranges, as well as proper specimen collection, handling, transport, and storage techniques for common and specialized laboratory tests.

MLTS 1511L. Clinical Immunohematology Laboratory

Course Description

Presents experiences for performing procedures in a blood bank.

Student Learning Outcomes

Identify laboratory safety equipment and explain laboratory safety protocol related to use of laboratory equipment and disposal of laboratory waste.

2 Demonstrate safe and proper use of laboratory equipment including, but not limited to: microscopes, centrifuges, spectrophotometers, and other specialized instrumentation.

3. Safely perform and practice procedures and techniques related to laboratory tests.
4. Employ critical thinking skills to analyze results as they relate to physiological functions, patient clinical presentation, and common disease states.

MLTS 1610L. Clinical Coagulation Laboratory

Course Description

Presents basic coagulation concepts with practice performing the procedures. Also introduces advanced principles and procedures performed in the coagulation laboratory.

Student Learning Outcomes

1. Define disease states, etiologies, identifiable characteristics, and vocabulary specific to course.
2. Correlate laboratory tests with organ systems, anatomical and physiological functions, patient clinical presentation, treatments, and common disease states.

3. Describe principles, methodologies, clinical significance, and reference ranges, as well as proper specimen collection, handling, transport, and storage techniques for common and specialized laboratory tests.
4. Identify laboratory safety equipment and explain laboratory safety protocol related to use of laboratory equipment and disposal of laboratory waste.
5. Demonstrate safe and proper use of laboratory equipment including, but not limited to: microscopes, centrifuges, spectrophotometers, and other specialized instrumentation.
6. Safely perform and practice procedures and techniques related to laboratory tests.
7. Employ critical thinking skills to analyze results as they relate to physiological functions, patient clinical presentation, and common disease states.

MLTS 1996. Medical Laboratory Technician Topics
Course Description
Varies
Student Learning Outcomes
Varies

MLTS 2114C. Clinical Microbiology Lecture and Laboratory
Course Description
Comprehensive current clinical study of bacteriology, mycology, and parasitology; macroscopic and microscopic identification; biochemical identification profiles; bacterial antibiotic susceptibility patterns; parasitic life cycles; pathology and epidemiology; introduction to rickettsiae and viruses.
Student Learning Outcomes
1. Demonstrate an understanding of the theories, principles, and procedures that comprise the science of Clinical Microbiology through both written and speaking assessment, and laboratory practical exercises.
2. Properly select and safely employ various laboratory instruments, procedures, methods, and techniques in the analysis of biological specimens with an emphasis on isolation and identification protocols for bacteria.
3. Correlate laboratory data with normal and abnormal body systems and functions with an emphasis upon infectious diseases.
4. Properly perform and interpret microbiology procedures.
5. Select and apply suitable problem-solving strategies in a practical laboratory environment.
6. Work cooperatively in classroom and laboratory settings with at least 80% accuracy and proficiency.

MLTS 2114. Clinical Microbiology
Course Description
Presents clinical bacteriology, mycology and parasitology including macroscopic and microscopic identification of organisms, antibiotic susceptibility testing, life cycles and the pathology and etiology of various diseases. Virology is introduced.
Student Learning Outcomes
1. Define disease states, etiologies, identifiable characteristics, and vocabulary specific to course.
2. Correlate laboratory tests with organ systems, anatomical and physiological functions, patient clinical presentation, treatments, and common disease states.
3 Describe principles, methodologies, clinical significance, and reference ranges, as well as proper specimen collection, handling, transport, and storage techniques for common and specialized laboratory tests.

MLTS 2114L. Clinical Microbiology Laboratory

Course Description

Identifies the microorganisms of clinical significance from specimens obtained from patients. Students utilize current methodologies and identification techniques.

Student Learning Outcomes

1. Identify laboratory safety equipment and explain laboratory safety protocol related to use of laboratory equipment and disposal of laboratory waste.
2. Demonstrate safe and proper use of laboratory equipment including, but not limited to: microscopes, centrifuges, spectrophotometers, and other specialized instrumentation.
3. Safely perform and practice procedures and techniques related to laboratory tests.
4. Employ critical thinking skills to analyze results as they relate to physiological functions, patient clinical presentation, and common disease states.

MLTS 2116C. Clinical Chemistry Lecture and Laboratory

Course Description

Theory, principles, and procedures applicable to clinical chemistry, focused on chemical analysis of blood and other bodily fluids using manual and automated techniques/methodologies. Application of laboratory testing in the diagnosis of disease processes with a review of pathophysiology

Student Learning Outcomes

1. Identify two methods used to produce clinical laboratory-grade water for use in the clinical laboratory.
2. Explain the terms sensitivity and specificity
3. Convert results from one-unit format to another.
4. List three items that should be monitored during the water-purification process.
5. Explain the difference between air-displacement and positive-displacement micropipettes.
6. Identify four types of glassware available for laboratory use.
7 Define the following terms: to contain (TC) and to deliver (TD) in reference to types of pipettes, molarity, molality, normality, thermocouple, percent solution, and hydrates.
8. Define the following wave parameters: amplitude, period, frequency.
9. Identify the significant regions of the electromagnetic spectrum (EMS) from lowest energy to highest energy levels.
10. Write the Nernst equation.
11. Write the chemical reactions for the PO2 and PCO2 electrode.
12. Define the following terms associated with electrochemical methods: potentiometer, amperometry, coulometry, conductance, resistivity, and voltammetry.
13. Identify five laboratory tasks associated with the preanalytical stages of laboratory testing.
14. List three techniques used to mix samples and reagents in an automated system.
15. List three drawbacks of total laboratory automation.

MLTS 2116. Clinical Chemistry

Course Description

Presents the principles and methods used in testing for chemical components in blood and other body fluids including basic instrumentation.

Student Learning Outcomes

1. Define disease states, etiologies, identifiable characteristics, and vocabulary specific to course.
2. Correlate laboratory tests with organ systems, anatomical and physiological functions, patient clinical presentation, treatments, and common disease states.

3. Describe principles, methodologies, clinical significance, and reference ranges, as well as proper specimen collection, handling, transport, and storage techniques for common and specialized laboratory tests.

MLTS 2116L. Clinical Chemistry Laboratory

Course Description

Presents experiences for performing the basic procedures used in a clinical chemistry laboratory including basic chemistry instrumentation.

Student Learning Outcomes

1. Identify laboratory safety equipment and explain laboratory safety protocol related to use of laboratory equipment and disposal of laboratory waste.
2. Demonstrate safe and proper use of laboratory equipment including, but not limited to: microscopes, centrifuges, spectrophotometers, and other specialized instrumentation.
3. Safely perform and practice procedures and techniques related to laboratory tests.
4. Employ critical thinking skills to analyze results as they relate to physiological functions, patient clinical presentation, and common disease states.

MLTS 2211. Clinical Hematology and Coagulation

Course Description

Introduction to the theory and practice of clinical hematology. The course includes erythropoiesis, leukopoiesis, cell enumeration, the hemogram, white blood cell morphology, differentials, coagulation testing, platelets, routine manual methods, and correlation with pathologies.

Student Learning Outcomes

1 .Practice laboratory safety as described in OSHA regulations including instructions in universal precautions.
2. Identify potential laboratory safety hazard situations and take appropriate actions to minimize injury to self and others.
3. Using established criteria, identify and evaluate a specimen as acceptable for hematology testing or coagulation studies.
4. Understand quality control needed to ensure the accuracy of all reported hematology and coagulation test results.
5. Understand instrument maintenance and calibrations as required to ensure optimal instrument performance.
6. Document quality control data, equipment maintenance, corrective actions when troubleshooting defective equipment, and test results.
7. Discuss hematopoiesis in terms of what, when, why, where, and how it happens.

MLTS 2271. Directed Clinical Practicum I

Course Description

Supervised clinical practice in the clinical pathology department of affiliated hospitals; Field Laboratory experience includes rotations through urinalysis, clinical hematology and coagulation, and clinical chemistry

Student Learning Outcomes

1. Demonstrate the ability to apply classroom theory and student laboratory practice in an actual clinical laboratory setting.
2. Demonstrate the ability to prioritize and organize work in response to volume and emergency demands.
3 Demonstrate the ability to work cooperatively with other members of the health care team.
4. Demonstrate an understanding of professional and ethical standards of practice in interactions with clients and colleagues.

5. Follow the prescribed safety policies and practices of the clinical affiliate.
6. Demonstrate dependability and reliability in meeting all scheduled clinical hours by obtaining a grade of 70% or better in each of the clinical rotation area.

MLTS 2279. Med Laboratory Technician Clinical Experience

Course Description

Provides clinical practice in affiliated clinical laboratories with rotations through hematology/coagulation, urinalysis, microbiology, chemistry, and immunohematology departments.

Student Learning Outcomes

1. Use appropriate laboratory vocabulary, etiquette, and communication to demonstrate professionalism as a member of a healthcare team.
2 .Perform laboratory procedures and techniques according to laboratory protocol.
3. Apply Quality Assurance and Quality Control processes used in the laboratory.
4. Demonstrate correct use, maintenance, calibration, and reagent handling for laboratory instrumentation.

MLTS 2712. MLT Laboratory Topics and Exam Prep

Course Description

This course is designed as a comprehensive review of chemistry, hematology/coagulation, immunology, immunohematology, microbiology, urinalysis and body fluids, and laboratory operations with a goal of preparing learners for national MLT level certification exams and maintenance of certification through continuing education.
Learners will be provided with opportunities to explore the role of the medical laboratory as a part of a healthcare team, gain understanding of the requirements for laboratory operations, and focus on clinical applications of laboratory technology.

Student Learning Outcomes

1. Demonstrate competence in studying for national MLT level certification exams.
2. Explain the importance of continuing education for certification maintenance.
3. Discover the roles and responsibilities of medical laboratory personnel as they relate to laboratory operations.
4. Demonstrate understanding of the principles, methodologies, and clinical applications of laboratory technology.

MLTS 2281. Directed Clinical Practicum II

Course Description

Supervised clinical practice in the clinical pathology department of affiliated hospitals; Field Laboratory experience includes rotations through clinical microbiology, immunohematology and serology.

Student Learning Outcomes

1. Demonstrate the ability to apply classroom theory and student laboratory practice in an actual clinical laboratory setting.
2. Demonstrate the ability to prioritize and organize work in response to volume and emergency demands.
3. Demonstrate the ability to work cooperatively with other members of the health care team.
4. Demonstrate an understanding of professional and ethical standards of practice in interactions with clients and colleagues.
5. Follow the prescribed safety policies and practices of the clinical affiliate.
6. Demonstrate dependability and reliability in meeting all scheduled clinical hours.

7. Obtaining a grade of “C” or better in written exams or quizzes and performance evaluation forms in each of the clinical rotation area.

Military Science and Leadership (MLSL)

MLSL 1110. Introduction to Army Leadership I

Course Description

This course provides an introduction to the Army and basic Soldier skills. Students receive an introduction to the Army Profession and examine what it means to be a professional in the U.S. Army. The overall focus is on developing fundamental knowledge and comprehension of the Army Leadership Requirements Model (ALRM) while understanding the Reserve Officers’ Training Corps (ROTC) program, its purpose in the Army, and its advantages for the student. Students also begin learning map reading and land navigation.

Student Learning Outcomes

1. Identify and describe the Army leader attribute and competency categories described in the Army Leadership Requirements Model.
2. Analyze and demonstrate methods for creating and sustaining an organizational climate of trust, ensuring all individuals are treated with dignity and respect.
3. Develop and implement plans for prioritizing, planning, preparing, executing, evaluating, and assessing training within a military context.
4. Apply critical and creative thinking to solve problems and make decisions in Army scenarios.

MLSL 1110L. Introduction to Army Leadership I Laboratory

Course Description

In this weekly lab, students will apply initial instruction from MLSL 1110 on fieldcraft, first aid, and team building. The lab will be facilitated by MS III Cadets and supervised by MS IV’s and cadre.

Student Learning Outcomes

1. Demonstrate proficiency in individual Soldier skills such as fieldcraft and first aid through practical exercises and assessments.
2. Explain and practice Army customs and courtesies in various scenarios, demonstrating appropriate behavior and respect.
3. Execute team, squad, and platoon movements, showcasing knowledge of tactical formations and commands.

MLSL 1120. Introduction to Army Leadership II

Course Description

This course introduces students to the personal challenges and competencies that are critical for effective leadership. Students learn how to develop personal life skills such as critical thinking, time management, goal setting, and communication. Students learn the basics of the communication process and the importance for leaders to develop the essential skills to effectively communicate in the Army.

Student Learning Outcomes

1. Identify and describe the Army leader attribute and competency categories as outlined in the Army Leadership Requirements Model.
2. Demonstrate methods for creating and sustaining an organizational climate of trust in which all individuals are treated with dignity and respect.
3. Develop plans for prioritizing, planning, preparing, executing, evaluating, and assessing training within a military context.
4. Apply critical and creative thinking skills to solve problems and make decisions in Army scenarios.

MLSL 1120L. Introduction to Army Leadership II Laboratory
In this weekly lab, students will apply initial instruction from MLSL 1110 on fieldcraft, first aid, and team building. The lab will be facilitated by MS III Cadets and supervised by MS IV's and cadre.
Student Learning Outcomes

1. Demonstrate proficiency in individual Soldier skills such as fieldcraft and first aid through practical exercises and assessments.
2. Explain and practice Army customs and courtesies in various scenarios, demonstrating appropriate behavior and respect.
3. Execute team, squad, and platoon movements, showcasing knowledge of tactical formations and commands.

MLSL 1129. Introduction to Military Fitness I
Course Description
This course provides a hands-on overview of the fitness requirements needed to serve in the U.S. Army. Students are introduced to, and expected to complete exercises and routines to build their individual strength, endurance, and speed to meet the demands of training and Soldier tasks.
Student Learning Outcomes

1. Identify and describe the key physical requirements for successful service in the U.S. Army.
2. Complete the Army Combat Fitness Test (ACFT) and achieve a passing score.
3. Complete the Combat Water Survival Test (CWST) and achieve a passing score.

MLSL 1130. Introduction to Military Fitness II
Course Description
This course provides a hands-on overview of the fitness requirements needed to serve in the U.S. Army. Students are introduced to and expected to complete exercises and routines to build their individual strength, endurance, and speed to meet the demands of training and Soldier tasks.
Student Learning Outcomes

1. Describe the physical requirements for service in the U.S. Army.
2. Pass the Army Combat Fitness Test (ACFT).
3. Pass the Combat Water Survival Test (CWST).

MLSL 2110. Foundations of Army Leadership I
Course Description
This course focuses on leadership and ethics. The course adds depth to the Cadets' knowledge of the different leadership styles. Cadets will conduct leadership analysis of famous leaders and self-assessment of their leadership style. The Army Profession is presented through understanding Culture Awareness, Values, Ethics, and how to apply both to different situations they may encounter as a leader. Army Values and Ethics and their relationship to the Law of Armed Conflict (LOAC) and philosophy of military service are presented through video clips and historical vignettes followed with small group discussions with cadets.
Student Learning Outcomes

1. Apply the Army leader attributes and competency categories described in the Army Leadership Requirements Model.
2. Design and implement strategies for creating and sustaining an organizational climate of trust in which all individuals are treated with dignity and respect.
3. Develop a systematic approach to prioritizing, planning, preparing, executing, evaluating, and assessing training exercises and demonstrate their execution
4. Use critical and creative thinking skills to analyze historical leaders and develop a personal leadership philosophy.

MLSL 2110L. Foundations of Army Leadership I Laboratory

Course Description

Cadets apply their knowledge outside the classroom in hands-on performance-oriented environments during the weekly lab, which is facilitated by MS III Cadets and supervised by MSIVs and cadre.

Student Learning Outcomes

1. Demonstrate proficiency in individual Soldier skills.
2. Apply Army customs and courtesies.
3. Demonstrate effective team, squad, and platoon movement drills by conducting exercises and adhering to tactical procedures.

MLSL 2120. Foundations of Army Leadership II

This course focuses on Army doctrine and decision-making. The course begins with analytical techniques, creative thinking skills, and the Army problem-solving process related to situations faced by leaders when making decisions. Troop Leading Procedures (TLPs) and Operations Orders (OPORDs) will lead Cadets to understand Army Doctrine and Symbology. Squad tactics will be covered in classes on Offensive Operations and Defensive Operations inside of the Army's operating environmental concept of Multidomain Operations.

Student Learning Outcomes

1. Apply the Army leader attribute and competency categories from the Army Leadership Requirements Model by demonstrating their integration into various leadership plans.
2. Implement strategies to create and sustain an organizational climate of trust by developing plans that promote dignity and respect for all individuals.
3. Develop and apply an approach to prioritizing, planning, preparing, executing, evaluating, and assessing training by creating and demonstrating successful exercise plans in a practical setting.
4. Demonstrate critical and creative thinking to analyze complex decision-making scenarios related to Army doctrine and tactics, develop solutions, and present a decision-making strategy that addresses the challenges of Multidomain Operations, Offensive Operations, and Defensive Operations.

MLSL 2120L. Foundations of Army Leadership II Lab

Course Description

Cadets apply their knowledge outside the classroom in hands-on performance-oriented environments during the weekly lab, which is facilitated by MS III Cadets and supervised by MSIVs and cadre.

Student Learning Outcomes

1. Demonstrate proficiency in individual Soldier skills by successfully executing practical exercises as assessed by MS IVs and cadre.
2. Apply Army customs and courtesies in various lab scenarios and perform protocols correctly.
3. Coordinate team, squad, and platoon exercises by leading these exercises in a lab setting and adhering to tactical procedures.

MLSL 2129. Foundations of Military Fitness I

Course Description

This course provides a hands-on overview of the fitness requirements needed to serve in the U.S. Army. Students are introduced to, and expected to complete exercises and routines to build their individual strength, endurance, and speed to meet the demands of training and Soldier tasks.

Student Learning Outcomes

1. Summarize the physical requirements for service in the U.S. Army.
2. Pass the Army Combat Fitness Test (ACFT).

3. Pass the Combat Water Survival Test (CWST).

MLSL 2130. Foundations of Military Fitness II
Course Description
This course provides a hands-on overview of the fitness requirements needed to serve in the U.S. Army. Students are introduced to and expected to complete exercises and routines to build their individual strength, endurance, and speed to meet the demands of training and Soldier tasks.
Student Learning Outcomes
1. Summarize the physical requirements for service in the U.S. Army.
2. Pass the Army Combat Fitness Test (ACFT).
3. Pass the Combat Water Survival Test (CWST).

MLSL 2992. Directed Studies in Military Science
Course Description
Independent projects conducted under the direction of designated faculty.
Student Learning Outcomes
1. Identify and articulate key concepts and theories relevant to the specific topic of study by preparing a comprehensive research paper, report, portfolio, or presentation that synthesizes current knowledge and insights.

Mineral Engineering (MINE)

MINE 1110. Introduction to Mineral Engineering
Course Description
The fundamentals of geology and mineral resource exploration and development applied to engineering. The role of the mineral engineer in mining, exploration, and geotechnical engineering. Field trips to mining and construction operations as well as guest speakers from industry, government, and research.
Student Learning Outcomes
1. Students learn the general benefits of the mineral industry as well as the challenges involved in the industry.

MINE 2215. Health and Safety
Course Description
The roles of health and safety in the construction, operation, and maintenance of extractive mineral facilities. Federal and state health and safety codes. Laboratory and field work.
Student Learning Outcomes
1. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
2. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and social contexts.

Modern Languages (MLNG)

MLNG 1110. Approaches to Languages and Cultures
Course Description
An interdisciplinary approach to the interplay of languages and cultures in Europe and Asia. Focus on the role of language in comparative cultural practices and cross-cultural encounters.
Student Learning Outcomes

1. You will compare modes of thoughts and expressions, and processes across a range of historical periods and/or structures
2. You will recognize and articulate the diversity of human experience across a range of historical periods and/or cultural perspectives
3. You will draw on historical and/or cultural perspectives to evaluate any or all of the following: contemporary problems/issues, contemporary modes of expression, and contemporary thought.

MLNG 1996. Modern Language Topics
Course Description
Varies
Student Learning Outcomes
Varies

MLNG 2996. Modern Language Topics
Course Description
Varies
Student Learning Outcomes
Varies

Music (MUSC)

MUSC 1110. Music Appreciation: Jazz
Course Description
This course explores the ideas of music in society and its cultural relevance and is designed to increase the students' appreciation of music as well as to enhance their listening skills. Students are introduced to various periods, styles, and composers of music and become acquainted with knowledge and appreciation of Jazz from various cultures and times.
Student Learning Outcomes
1. Develop a vocabulary of musical terms and be able to describe music using those terms.
2. Demonstrate knowledge of composers, their music and their relationship to historical periods.
3. Recognize how music is played and plays a political, social, and cultural function.
4. Identify well-known pieces and the historical and social context in which they were composed.
5. Demonstrate basic understanding of music notation and musical communication.

MUSC 1115. Later Music Appreciation: Beethoven and Beyond
Course Description
This course provides an overview of the history of "classical music" in western cultures, with the inclusion of some music and musical forms of other cultures. The course is divided into four sections, each four weeks in length. The first section explores the basic elements of music and musical form, and includes information related to attending concerts. There will also be a consideration of the life and work of Beethoven as a transitional figure from Classicism to Romanticism. The remaining three sections explore Art music of the Romantic and Modern periods.
Student Learning Outcomes
At the end of this course, students will be able to:
1. Develop a vocabulary of musical terms and be able to describe music using those terms.
2. Demonstrate knowledge of composers, their music and their relationship to historical periods.
3. Recognize how music is played and plays a political, social, and cultural function.
4. Identify well-known pieces and the historical and social context in which they were composed.
5. Demonstrate basic understanding of music notation and musical communication.

MUSC 1120. Music Appreciation: Rock and Roll

Course Description

This course explores the ideas of music in society and its cultural relevance and is designed to increase the students' appreciation of music as well as to enhance their listening skills. Students are introduced to various periods, styles, and composers of music and become acquainted with knowledge and appreciation of Rock and Roll music from various cultures and times.

Student Learning Outcomes

1. Develop a vocabulary of musical terms and be able to describe music using those terms.
2. Demonstrate knowledge of composers, their music and their relationship to historical periods.
3. Recognize how music played and plays a political, social, and cultural function.
4. Identify well-known pieces and the historical and social context in which they were composed.
5. Demonstrate basic understanding of music notation and musical communication.

MUSC 1125. Rock Combo

Course Description

Exploration and performance of contemporary pop/rock music selections from the 1960's through today, to gain a better understanding of popular music and performing as a small group ensemble as a rock band "using vocals, bass, guitar, drums, and keyboard."

Student Learning Outcomes

1. Develop the ability to incorporate basic principles of rock improvisation in their performance technique in order to raise their level of performance.
2. Apply principles of improvisation to standard pop music literature so that each participant is able to create a more sophisticated improvised solo (based on chord changes found in selected literature) that is logical and effectively incorporates the material covered in class.
3. Demonstrate a thorough working knowledge of the principal players involved in the stylistic development of the various periods related to popular music.

MUSC 1130. Music Appreciation: Western Music

Course Description

This course explores the ideas of music in society and its cultural relevance and is designed to increase the students' appreciation of music as well as to enhance their listening skills. Students are introduced to various periods, styles, and composers of music and become acquainted with knowledge and appreciation of Western music from various cultures and times.

Student Learning Outcomes

1. Develop a vocabulary of musical terms and be able to describe music using those terms.
2. Demonstrate knowledge of composers, their music and their relationship to historical periods.
3. Recognize how music played and plays a political, social, and cultural function.
4. Identify well-known pieces and the historical and social context in which they were composed.
5. Demonstrate basic understanding of music notation and musical communication.

*****Schools teaching a course that is not part of the common course will not use "Music Appreciation" as part of the course title.

MUSC 1135. Mariachi Ensemble

Course Description

Beginning to intermediate instruction in Mariachi music ensemble.

Student Learning Outcomes

Objective: Perform quality Mariachi music at as high a level as possible.
Competency: Students will perform, in addition to the ensemble repertoire: scales, arpeggios and genre-specific licks and riffs.
Objective: Foster an appreciation for all Mariachi styles.
Competency: Students will perform melodies and rhythm cells particular to various genres.
Objective: Develop the art of listening in ensemble settings.
Objective: Introduce all members of the ensemble to the basic elements of improvisation.
Competency: Students will "run changes" of "consecrated" chord progressions, in Mariachi literature and performance.

MUSC 1140. Music Appreciation: World Music
Course Description
This course explores the ideas of music in society and its cultural relevance and is designed to increase the students' appreciation of music as well as to enhance their listening skills. Students are introduced to various periods, styles, and composers of music and become acquainted with knowledge and appreciation of World music from various cultures and times.
Student Learning Outcomes
1. Develop a vocabulary of musical terms, and be able to describe music using those terms
2. Demonstrate knowledge of composers, their music and their relationship to historical periods
3. Recognize how music played and plays a political, social, and cultural function
4. Identify well-known pieces and the historical and social context in which they were composed
5. Demonstrate basic understanding of music notation and musical communication

MUSC 1150. Basic Music Theory
Course Description
Not Available
Student Learning Outcomes
Not Available

MUSC 1153. Music Fundamentals
Course Description
Introduction to the elements of music, including basic notation, staves, clefs, major and minor scales and key signatures, time signatures, meters, rhythms, intervals, and triad qualities. For music majors who do not possess sufficient background for enrollment in Music Theory I: Basic Harmony and Voice-Leading.
Student Learning Outcomes
By the end of the semester, students proceeding satisfactorily through the course should be able to:
1. Read rhythmic and pitch notation in the most commonly used time signatures and clefs.
2. Understand and employ principal notational devices, such as accidentals, key signatures, time signatures, beams, flags, ties, and dots.
3. Identify and construct the most common scales, chords, and intervals of both classical and popular music.
4. Identify and construct inversions of triads and seventh chords, and read figured bass symbols.
5. Transpose simple melodies and progressions to other keys.
6. Analyze brief musical passages, whether presented visually or aurally.
7. Engage attentively and cognitively with works of music in any genre, and thereby become a more confident and competent listener and contributor to music-making in everyday life.

MUSC 1153L. Music Fundamentals Aural Lab

Course Description
Aural skill training for material covered in MUSC1153, with emphasis on rhythmic and melodic dictation, aural identification of intervals, scales and triad qualities, and sight-singing of rhythms, intervals, and simple melodies.
Student Learning Outcomes
At the conclusion of this course, student should be able to:

1. Sing, using solfège, the most common scales, chords, and intervals used in classical and popular music.
2. Write down in notation the same musical constructs presented aurally, using standard notational device such as accidentals, key signatures, time signatures, beams, flags, ties, and dots.
3. Engage attentively and cognitively with works of music in any genre, and thereby become a more confident and competent listener and contributor to music-making in everyday life.

MUSC 1155. Basic Song Writing
Course Description
Study of the fundamentals of songwriting, including song form, the writing of lyrics, and song accompaniment styles.
Student Learning Outcomes
At the conclusion of this course, student should be able to:

1. Compose an original song
2. Perform an original composition
3. Capture a performance of their own musical work

MUSC 1160. Music Theory I
Course Description
Introduces the fundamentals of tonal harmony and voice leading, focusing on four-voice writing and analysis of excerpts from music literature.
Student Learning Outcomes
Upon successful completion of the course, the student will be able to

1. All major, minor, harmonic, and melodic minor scales.
2. To correctly spell triads on all scale degrees of all scales and to notate them properly.
3. Key signatures of all scales and notate them properly.
4. Basic, simple and compound meters including note values, rests, dotted rhythms, and ties.
5. To analyze and harmonize basic four-part harmony writing to include theory rules of motion, voice leading, doubling, proper chord progression.
6. Correct application of diatonic seventh chords.
7. Common chord modulation.
8. Apply and utilize the seven theory elements listed above in analysis and harmonization of four-part music writing, and harmonic relationships.
9. Compose a simple piece of music correctly utilizing all basic harmonic rules.

MUSC 1165. Music Theory II
Course Description
Continuation of Music Theory I. Covers principles of harmony and voice leading, using all common diatonic triads and seventh chords. Introduces modulation, contrapuntal chord functions, and elementary structural analysis of excerpts from music literature.
Student Learning Outcomes
Upon successful completion of the course, the student will be able to

1. Correctly analyze music containing secondary chords, borrowed chords (and the N6) and augmented 6th chords.
2. Correctly complete assignments to by understanding and applying figured bass.

3. Correctly complete assignments by harmonizing a melody line by applying knowledge SRM, and advanced chords structures.
4. Understand and apply phrase and period structure.

MUSC 1170. Vocal Ensemble I

Course Description

Small choral group (pop, rock, country), specializing in contemporary music. Audition required in fall. Students will have a performance obligation for fall, spring and summer (through end of July).

Student Learning Outcomes

Upon successful completion of the course, the student will be able to

1. To perform a variety of choral literature suitable to a small group of singers.
2. To learn to sing with a smaller group of people by executing: A) Better Blend B) Better Balance C) Tonality D) Musicality E) Interpretation.
3. Perform with stage presence and movement without a director.
4. Work with a large and small PA system correctly.
5. Develop the ability to support and cooperate well with other members of the group and develop the empathetic feeling that makes for successful performing.
6. Develop in depth vocal technique and stylistic interpretation.

MUSC 1175. Audio Amplification I

Course Description

Introduction to sound reinforcement techniques; knowledge of amps, mics, mixing boards; cables, proper connections, etc.… Includes hands-on experience with sound systems in various performance situations. Some lab hours will fall during the class period, and some will occur at other times during the week as activities become available.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Choose equipment for and operate a live sound system.
2. Repair and troubleshoot live audio equipment.
3. Get a high-quality transparent mix.
4. Students will learn how to load-in, setup, operate, troubleshoot, and repair a live audio system.
5. Students will learn basic repair techniques for audio equipment.
6. Students will demonstrate their proficiency through testing in both simulated and live audio environments.

MUSC 1180. Elementary Harmony I

Course Description

Basic tertian harmonic principles, counterpoint, voice leading, and form will be explored in this course

Student Learning Outcomes

At the conclusion of this course, a music major student will be able to:

1. Understand the principles of music rudiments through application in harmony and analysis procedures.
2. Write first species counterpoint.
3. Harmonize root position harmonic progression.
4. Write and identify cadences.
5. Identify phrases and periods.

MUSC 1185. Elementary Harmony II

Course Description

This course is a continuation of Elementary Harmony I.

Student Learning Outcomes

1. There will be written assignments due for each class/chapter.
2. There will be extra assignments from other texts.
3. There will be a written test over each chapter.

MUSC 1190. Group Recital I, II, III, IV

Course Description

Recitals played on the school's auditorium, for the College and City Community, as a demonstration of the completion of a semester's worth of repertory, defined by each specific instructor of voice, instrument, arranging and composing, etc.

Student Learning Outcomes

Completion of the student's performance activities in each semester.

MUSC 1210. Fundamentals of Music for non-majors

Course Description

A beginning course in the fundamentals of music, this course includes notation, scales, key signatures and intervals. Aural comprehension is introduced through singing intervals, scales and triads and dictating simple rhythmic and melodic patterns and students explore the basic components of music.

Student Learning Outcomes

1. Demonstrate and apply standard notation of pitch, rhythm, scales, intervals, key signatures, triads, and simple melodic and harmonic composition.
2. Develop and improve basic aural skills.
3. Read musical notation.
4. Improve and expand understanding of fundamental musical techniques and concepts.

MUSC 1215. Group Violin I

Course Description

This course is primarily intended for non- music majors. Students will receive weekly instruction in optimal violin performance posture and bow hold and will learn basic scales and pieces in a group environment.

Student Learning Outcomes

1. Students will demonstrate appropriate care and maintenance of stringed instruments.
2. Students will demonstrate basic techniques and musical skills while stressing correct instrument positioning and bow hold.
3. Students will apply basic note reading skills in treble clef.
4. Students will utilize both pizzicato and arco techniques.
5. Students will practice and perform several one octave scales, simple exercises and songs.
6. Students will demonstrate the ability to perform assigned pieces individually and with other members of the class.

MUSC 1218. Group Violin II

Course Description

This course is primarily intended for non- music majors who have gained basic violin skills in Group Violin I class or through previous study of the violin. Students will receive weekly instruction in optimal violin performance posture and bow hold and will study more advanced scales, exercises and pieces in a group environment.

Student Learning Outcomes

1. Students will demonstrate a variety of techniques and musical skills while stressing correct instrument positioning and bow hold.
2. Students will demonstrate the ability to perform a variety of bow strokes.
3. Students will demonstrate fluency in treble clef note reading.

4. Students will practice and perform several two octave scales, intermediate level exercises and songs.
5. Students will demonstrate the ability to perform assigned pieces individually and with other members of the class.

MUSC 1220. Fundamentals of Piano for non-music majors

Course Description

This course will include instruction for non-music majors in beginning keyboarding skills. Students will develop their keyboard skills through practice and study of fundamentals.

Student Learning Outcomes

1. Develop technical skills in both hands to allow for ease in movement around the keyboard.
2. Develop growth in reading rhythmic melodic and harmonic music.
3. Demonstrate improved performance ability.
4. Demonstrate knowledge of all major and minor scales, triads, chord progressions, and four-part harmony.
5. Explain the importance of proper keyboarding practices.

MUSC 1225. Keyboard Harmony

Course Description

Emphasis on expanded harmonic progressions.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to

1. Extended four parts chord progression.
2. Use of inversions.
3. Inclusion of diatonic seventh chords with proper approach and resolution.
4. Traditional use of secondary dominants -with proper approach and resolution.

MUSC 1230. Sight Singing

Course Description

Enables the student to sing written melodies at first sight without the aid of a musical instrument. Topics include reading rhythmic notation, recognizing key signatures, seeing melodies as part of a scale, and learning the sounds of musical intervals.

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Quickly and accurately assign solfège syllables to notation in both major and minor keys.
2. Sing the following exercises with accurate solfège, given a starting pitch:
    a. major, minor, and chromatic scales
    b. major, minor, augmented, and diminished triads
    c. any interval ascending or descending
    d. major, minor, augmented, and diminished triads
    e. all types of seventh chords in any position
3. Sing the following at sight, given the scale and starting pitch:
    a. melodies in major and minor modes
    b. melodies that modulate to closely related keys
4. Improvise melodies vocally given a rhythmic framework and tonal outline.

MUSC 1240. Sight Singing and Dictation

Course Description

Aural recognition of all diatonic intervals, melodic phrases, rhythms, scales, and triads.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Sight read pitches more accurately.
2. Tune their sight singing to a specific tonality.
3. Execute rhythms more accurately.
4. Students will utilize music theory skills.
5. Sight read (sing) scales, intervals, short melodies, and rhythms correctly.
6. Identify these same elements by writing them on staff paper from tonal memory upon music dictation played by the teacher, from the keyboard.

MUSC 1245. Sight Singing and Dictation II

Course Description

A continuation of Sight Singing and Dictation I with emphasis on four-part dictation.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to

1. Sight reading of extended melodies.
2. Singing intervals including augmented, diminished, M6 and Mi6, and M7 and Mi7.
3. Execute complex rhythms.
4. Identify these elements by writing them on staff paper upon dictation by the teacher from the keyboard.
5. Write two-part and chordal identification from musical dictation.

MUSC 1250. Class Voice I

Course Description

Laboratory experiences to help solve vocal problems and develop singing potential through group methods, emphasis on development of breathing, phonation, articulation and expression.

Student Learning Outcomes

1. Students will engage in guided singing exercises while applying healthy vocal technique.
2. Students will demonstrate knowledge of necessary elements in creating and leading appropriate vocal warm-ups and vocalizes.
3. Students will identify and understand vocal function and anatomy.
4. Students will apply methods for teaching rudimentary singing in groups.

MUSC 1260. Theory and Analysis I: Basic Harmony and Voice-Leading

Course Description

This is the first course in a four-semester sequence. Theory of musical structure, derived from close analytical study of musical works from the earliest notated sources to the present day. Solidification of fundamental knowledge (reading from notation; spelling and identifying scales, intervals, and chords), development of part-writing skills (in two and four voices, using figured bass and roman numerals), and introductory composition and improvisation in classical and related styles.

Student Learning Outcomes

By the end of the semester, students proceeding satisfactorily through the course should be able to:

1. Identify and construct (in all inversions) all diatonic triads and seventh chords (as found not only in Western classical music but also in pop, rock, and jazz).
2. Identify and construct major and minor scales in all keys, and all diatonic modes.
3. Understand how the most common sonorities function within simple phrases and harmonic progressions.
4. Analyze short musical passages presented either visually or aurally.
5. Approach such analysis not only vertically, in terms of chords, but also horizontally, in terms of melodies coordinated through to the principles of counterpoint.
6. Identify and label basic embellishing tones, such as neighbor and passing tones.

7. Read basic figured bass notation for diatonic passages.
8. Compose and improvise using simple tonic and dominant progressions.

MUSC 1260L. Theory and Analysis I Aural Lab: Basic Harmony and Voice-Leading

Course Description

This is the first course in a four-semester sequence. Development of practical musical skills related to both production (singing, tapping, conducting, performing on an instrument) and perception (active analytical listening, recognition and notation of auditorily presented melodic, rhythmic, and harmonic patterns). Solidification of basic analytical capacities (solfège) and introduction to aural analysis of larger constructs (melody and harmonic progression). Basics of improvisation with the voice and/or instruments.

Student Learning Outcomes

By the end of the semester, students proceeding satisfactorily through the course should be able to:

1. Sing, using solfège, the most common scales, modes, chords, and intervals used in classical and popular music, as well chromatic, whole-tone, and octatonic scales.
2. Write down in notation the same musical constructs presented aurally, using standard notational devices such as accidentals, key signatures, time signatures, beams, flags, ties, and dots.
3. Perform at the keyboard, with introductory fluency, all major and minor scales, all four types of triads, and all five types of seventh chord (in root position)
4. Read from notation (singing or playing) single lines of diatonic music in any of the twenty-four major and minor keys, and in any of the common meters.
5. Use standard conducting patterns for common meters while singing, reading, or listening.
6. Improvise (with the voice or on an instrument) using characteristic melodic and harmonic patterns.
7. Generalize from examples presented on paper to practical experiences with listening, performing, and improvising in real-time and in real-life musical contexts.

MUSC 1262. Group Guitar I

Course Description

Students will learn to read music and play melodies, chords and simple songs. Emphasis on classical curriculum, supplemented with instruction in other styles, including rock, blues and jazz.
Student must supply instrument (classical, nylon-string guitar).

Student Learning Outcomes

This class will focus on developing basic guitar skills with an emphasis on classical guitar technique. Students will complete this class with a working knowledge of the following elements:

1. Reading Chord diagrams, tablature, and standard music notation (1st and 2nd Positions- frets 0-V).
2. Classical/Fingerstyle Technique (single note and arpeggio patterns); Basic Open Chords & Strumming Patterns.
3. Solo & Ensemble Music;
4. Songs and basic accompaniment patterns

MUSC 1265. Theory and Analysis II: Diatonicism

Course Description

This is the second course in a four-semester sequence. Continued study of theoretical aspects of musical structure, derived from close analytical engagement with music from multiple time periods, with a primary focus on diatonic (non-chromatic) music. Continued solidification of basic musical capacities (reading and writing notation), with further development of higher-level capacities (contrapuntal writing in two parts, voice-leading in four parts, idiomatic harmonization of unaccompanied melodies and figured basses). Thorough study of the principles of harmonic progression in diatonic music, particularly through the analysis of classical works of the common-practice period.

Student Learning Outcomes

By the end of the semester, students proceeding satisfactorily through the course should be able to:

1. Identify, with ease and rapidity, the root, quality, and inversion of any presented diatonic sonority common to Western classical music (as well as pop, rock, and jazz).
2. Understand how these sonorities function within phrases, subphrases, periods, and harmonic progressions.
3. Understand how phrases both subdivide (into subphrases and motives) and combine (to form periods, double periods, and sentences).
4. Analyze diatonic passages presented either visually or aurally.
5. Approach such analysis not only vertically, in terms of chords, but also horizontally, in terms of melodies coordinated through to the principles of counterpoint, the use of nonharmonic tones for melodic purposes, and harmonies following idiomatic principles of progression.
6. Complete exercises in four-voiced texture from prompts such as figured basses, unfigured basses, and short melodies.
7. Compose and improvise based upon the above principles.
8. Reflect upon how the principles of musical organization vary in their usage over time, such as in response to social and economic pressures.

MUSC 1265L. Theory and Analysis II Aural Lab: Diatonicism

Course Description

This is the second course in a four-semester sequence. Continued development of practical musical skills related to both production (singing, tapping, conducting, performing on an instrument) and perception (active analytical listening, recognition and notation of auditorily presented melodies, rhythms, and harmonic patterns). Continued aural analysis involving extended diatonic melodies and harmonic progressions. Continued improvisatory exploration with voices and/or instruments.

Pre-requisite: Theory and Analysis I: Basic Harmony and Voice-Leading and Theory and Analysis I Aural Lab: Basic Harmony and Voice-Leading. Co-requisite: Theory and Analysis II: Diatonicism

Student Learning Outcomes

By the end of the semester, students proceeding satisfactorily through the course should be able to:

1. Sing, using solfège, the most common scales, modes, chords, and intervals used in classical and popular music, as well chromatic, whole-tone, and octatonic scales.
2. Write down in notation the same musical constructs presented aurally, using standard notational devices such as accidentals, key signatures, time signatures, beams, flags, ties, and dots.
3. Perform at the keyboard, with moderate fluency, all major and minor scales, all four types of triads, and all five types of seventh chord (in all inversions)
4. Sing, together with other students, passages in two-part counterpoint and four-part harmony, reading from notation.
5. Use standard conducting patterns while singing, reading, and listening to music.
6. Improvise (with the voice or on an instrument) using melodic and harmonic patterns encountered in this and the co-requisite lecture course.
7. Generalize from examples presented on paper to practical experiences with listening, performing, and improvising in real-time and in real-life musical contexts.

MUSC 1267. Group Guitar II

Course Description

For students who have completed Group Guitar I or have some basic guitar skills. Emphasis on classical curriculum, supplemented with instruction in other styles, including folk, rock, blues and jazz.

Student must supply instrument (classical, nylon-string guitar).

Student Learning Outcomes

This class will focus on furthering previous guitar skills (such as gained from Group Guitar I) with an emphasis on classical guitar technique. Students will complete this class with a working knowledge of the following elements:

1. Reading Music (1st through 5th Positions- frets 0-VIII);
2. Fingerstyle (classical) Technique (right hand single note, double note, arpeggio, and left-hand issues);
3. Chords & Strumming Patterns (rudimentary theory and chord construction, CAGED method movable bar chords);
4. Basic fretboard harmony.
5. Solo & Ensemble Music (2-to-4-part music);
6. Songs and accompaniment patterns

MUSC 1270. Literature of Music

Course Description

Introductory course briefly covering the development of art music in the Medieval, Renaissance, Baroque, Classical, Romantic & Twentieth Century periods, as well as jazz and world music as it pertains to New Mexico and the surrounding southwest areas (Native American, Hispanic, African American). Covers major composers, genres, stylistic traits and compositional techniques as the influences from other arts, cultures, and socio-historical events. Also seeks to develop abilities in listening, score analysis, writing, and research techniques.

Student Learning Outcomes

1. To have you increase your awareness and scope of musical knowledge and experience.
2. To develop critical listening skills/thinking skills. As with knowledge, not everything should be taken as absolute, and your opinions are important.
3. To develop writing and research skills through various assignments.

MUSC 1280. Musical Comedy Workshop

Course Description

The study and performance of scenes from or whole productions within a musical comedy scope to include costuming, set, and set changes.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Demonstrate measurable understanding and accomplishment of music/dialogue
2. Develop characterization in dialogue, singing, and movement
3. Execute blocking and choreography.

MUSC 1290. Song and Its Role in Society

Course Description

Student Learning Outcomes

By the end of this course the students will have a better understanding of the role of that music, specifically song, has played in the development of human nature. They will learn that the songs they listen to fall into 6 categories: Friendship, Joy, Comfort, Religion, Knowledge, and Love.

MUSC 1310. Recital Attendance

Course Description

This course is for music students to attend and participate in a good number of convocation, concert, and recital performances, creating a wider appreciation for the performing arts.

Student Learning Outcomes

1. Encourage student observation of serious music
2. Provide opportunities for public performances
3. To create a greater sense of community within the student body

MUSC 1320. Applied Lessons I

Course Description
Varies
These courses are not expected to transfer, and students will have to take a placement test upon transfer.
Student Learning Outcomes
Varies

MUSC 1330. Applied Lessons II
Course Description
Varies
These courses are not expected to transfer, and students will have to take a placement test upon transfer.
Student Learning Outcomes
Varies

MUSC 1350. Computers in Music
Course Description
Students learn about the latest computer-based technology in Music Integrated Digital Interface (MIDI) keyboard lab. Topics covered include musical composition, arranging, sequencing, and using musical resources on the internet.
Student Learning Outcomes
Upon successful completion of the course, the student will be able to…
1. Learn to set up and run a basic MIDI system.
2. Understand sequencing and publishing programs.
3. Integrate MIDI files into other programs – recording, publishing etc. – to fit the application as needed.

MUSC 1370. Introduction to String Pedagogy
Course Description
Introduction to foundational principles and practices in string pedagogy. Topics include lesson observation, analysis of teaching strategies, principles of physical setup and movement, sequencing of beginning instruction, and development of effective studio and group teaching skills. Observation or participation in supervised teaching settings may be included.
Student Learning Outcomes
1. Identify and apply key principles of string pedagogy related to posture, movement, tone production, and left- and right-hand coordination.
2. Analyze and evaluate teaching strategies observed in private and group lesson settings, developing understanding of effective sequencing and classroom management.
3. Develop and articulate basic lesson goals and strategies for beginning string instruction that integrate musical, physical, and cognitive development.
4. Demonstrate reflective awareness of one's own teaching and/or learning through written or verbal analysis, incorporating relevant pedagogical frameworks and terminology.
5. Communicate effectively and professionally in pedagogical contexts, including interactions with students, parents, and colleagues.

MUSC 1370L. String Pedagogy Laboratory
Course Description (2 semesters)
Group Lessons
New Interns are required to observe one class and teach in another. Their first lessons are "mini" lessons, lasting 5 minutes or longer, on a single topic. By the end of the second semester, they are expected to teach the full lesson. All incoming Interns have a Mentor Intern, who is a more experienced student. A "beginning" rubric, designed exclusively for new interns

outline criteria upon which they will be assessed and graded. The rubric also shows weekly progress during the semester. Each Intern receives a semester summary from his/her class Coordinator [an experienced teacher who oversees each class]. All interns participate in planning and executing weekly recitals, special events, practice game, sharing concerts and the annual Gala Concert.

Private Lessons

Interns record three consecutive lessons with one student, and meet with Pedagogy Faculty, during the semester for a Video Assessment, where the lessons are observed and critiqued.

Student Learning Outcomes (2 semesters)

1. Students will recognize and evaluate activities they have presented during group and private lessons and be able to quickly change from non-productive activities to redirect attention of child or children.
2. Students will identify recognition skills, and how to utilize them. They will also be able to identify recall skills, as well as how and when to introduce them.
3. Students will sing in tune, and in the tessitura of their student(s), demonstrate enthusiasm, and manage pacing appropriate to the student's ages and content being taught.
4. Students will know fundamental steps in establishing posture and position of their students, as well as octave frame of the left hand. They also will understand and be able to explain and measure the length of each child's bow stroke.

MUSC 1375. Group Piano I

Course Description

Beginning group piano lessons designed primarily for students with little or no previous piano experience. Students are introduced to scales, chords, memorization and harmonization of simple melodies and rhythms.

Student Learning Outcomes

1. Demonstrate knowledge of notes and rests correctly within clefs and meters
5. Demonstrate and aurally recognize basic intervals
6. Demonstrate knowledge of one-octave scales and tonic and dominant chords in the ten easier keys
7. Demonstrate complete phrases with specific dynamics and articulation
8. Demonstrate ability to transpose simple melodies
9. Demonstrate ability to play simple melodies and rhythms on the piano

MUSC 1376. Group Piano for Music Majors II

Course Description:

Beginning repertoire, reading skill, chord and scale patterns. Not open to keyboard majors. Priority given to music majors and minors but open to all students. Student will learn beginning technical exercises, repertoire and sight-reading skills to help prepare them for the piano proficiency exam.

Student Learning Outcomes

1. Perform major and harmonic minor scales hands together (2 octaves) in selected keys.
2. Execute basic chord progressions (I-IV-I-V-I) & (i-iv-i-V-i) in root position, and triads & inversions with pedal in selected keys.
3. Perform major and minor arpeggios hands alone in selected keys (2 octaves).
4. Sight-read simple music with steady tempo and correct notes and rhythms.
5. Perform selected elementary-level solo and duet repertoire with correct technique and musicianship.
6. Demonstrate understanding of basic keyboard geography, hand coordination, and posture.
7. Prepare successfully for the Piano Proficiency Exam components introduced in this level.

MUSC 1377. Group Piano II

Course Description

Late elementary repertoire, sight-reading, moving out of the five-finger position, minor scale and chord patterns

Student Learning Outcomes

1. Demonstrate appropriate skills in playing scales with correct fingering and rhythm.
2. Demonstrate primary chords in all keys and inversions.
3. Demonstrate ability to play either a finished piece or work in progress before an audience of peers.

MUSC 1378. Group Piano for Music Majors II

Course Description

Late Elementary Repertoire, Sight-Reading moving out of the five-finger position, Major and minor scales and chord progressions. Late Elementary Repertoire, Sight-Reading moving out of the five-finger position, Major and minor scales and chord progressions. Students will learn elementary technical exercises, repertoire and sight-reading skills to help prepare them to be proficient at the piano at a late elementary level.

STUDENT LEARNING OUTCOMES

1. Demonstrate expanded scale and arpeggio proficiency in F, B, Db, Gb, f, b, bb, eb major and minor keys.
2. Perform increasingly more complex chord progressions and play triads & inversions & (I-IV-I-V-I) & (i-iv-i-V-i) root position chord progressions with pedal in selected keys.
3. Accurately sight-read pieces beyond the five-finger position with basic hand shifts.
4. Harmonize simple melodies using primary chords.
5. Perform elementary repertoire from four style periods with attention to articulation and dynamic contrast.
6. Exhibit improvement in rhythmic control and hand independence.
7 Demonstrate preparedness for mid-term and final evaluations including cumulative technique from Piano I and evaluations including cumulative technique from Piano I and II.

MUSC 1379. Introduction to Aural Skills

Course Description

Development of music notation, aural perception, rhythm, and sight singing.

Student Learning Outcomes

the goal of this course is two-fold,

1. to more fully develop your basic skills as a musician, and
2. that you come to understand how and why these basic skills will enable you to more fully develop your particular area(s) of expertise in music**.**

MUSC 1380. Aural Skills I

Course Description

Development of music reading, aural perception, rhythm and sight singing.

Student Learning Outcomes

1. An integrated study and application of the fundamentals of music involving rhythm, notation, melody, tonality, harmony, texture, form, analysis, arranging, composition, sight singing, ear training, and dictation, and the development of these skills.
2. Develop a thorough grounding in the fundamentals of music (rhythm, notation, melody, tonality, harmony, texture, form, analysis, arranging, composition, sight singing, ear training, and dictation) to improve every aspect of the student's musicianship.
3. To more fully develop your basic skills as a musician, and to understand why these basic skills will enable one to more fully develop one's particular area(s) of expertise in music.
4. The application of these theory skills will gradually be made clear throughout the course of the semester.

MUSC 1385. Aural Skills II

Course Description

Development of music reading, aural perception, rhythm and sight singing.

Student Learning Outcomes

1. An integrated study and application of the fundamentals of music involving rhythm, notation, melody, tonality, harmony, texture, form, analysis, arranging, composition, sight singing, ear training, and dictation, and the development of these skills.
2. Develop a thorough grounding in the fundamentals of music (rhythm, notation, melody, tonality, harmony, texture, form, analysis, arranging, composition, sight singing, ear training, and dictation) to improve every aspect of the student's musicianship.
3. To more fully develop your basic skills as a musician, and to understand why these basic skills will enable one to more fully develop one's particular area(s) of expertise in music.
4. The application of these theory skills will gradually be made clear throughout the course of the semester.

MUSC 1410. Introduction to Music Education

Course Description

This course is an overview of teaching in the music classroom through readings and observations. Students will be introduced to the skills needed to become a reflective educator, develop observation techniques, and demonstrate knowledge of the current state of the profession.

Student Learning Outcomes

1. Make observations and analyze the current state of musical education in public schools
2. Describe characteristics of good teaching in music
3. Articulate a personal philosophy of music education
4. Reflect on personal strengths and weaknesses as a teacher of music

MUSC 1415. Introduction to Music

Course Description:

Elementary music theory and study of music history by period, composer, and composition.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to

1. Pass a moderately strict examination covering all basic music theory items learned in the first 8 weeks of this course.
2. Pass a moderately strict examination covering composers, forms, structures, classical compositions, etc. from each historical era.
3. Apply this knowledge of music theory and history when attending public music events, when aesthetically listening to any form of music presented in contemporary media, or when challenged to provide music assistance at a community organization, school, or church.

MUSC 1420. Introduction to Music History

Course Description

This course for students with some background in music and assumes the ability to read music, as well as experience in listening to music and analyzing by ear.

Student Learning Outcomes

A firm grasp of the major musical periods as well as key terminology, composers and aural identification of period music.

MUSC 1430. Choral Conducting

Course Description

Covers basic knowledge of beat patterns, terminology, stylistic traits, and problem solving in choral rehearsal and performance.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to

1. Correctly analyze and prepare choral literature for rehearsals.
2. Conduct choral rehearsals with correct use of conducting techniques, expressive technique, attention to areas of choral sound – i.e., Blend, balance, tuning, etc.
3. Present one or more prepared pieces for performance.

MUSC 1440. Class Voice I

Course Description

Group instruction in voice and vocal pedagogy for instrumental Music Education majors, offering basic principles of healthy vocal production with particular attention to diction, development of vocal range, and the ability to impart that knowledge to elementary, junior and/or high school age students

Student Learning Outcomes

1. Provide the basic understanding of healthy vocal production. Including, but is not limited to, the following topics: Expanding vocal range; Learning how to practice and learn songs effectively and efficiently; Provide basic understanding of vocal pedagogy; Introduction to diction.
2. Aims to equip students with the ability to impart that knowledge to elementary, junior and/or high school age students.

MUSC 1450. Ear Training I

Course Description

To develop the ability to accurately hear, identify, sing and notate musical elements including rhythm, melody, intervals and harmony

Student Learning Outcomes

1. Counting rhythms at sight using the Eastman Counting System.
2. Singing melodies at sight using solfege syllables.
3. Writing out rhythmic patterns.
4. Writing out melodic patterns.
5. Identifying and singing intervals.
6. Identifying and singing chord/triad qualities.

MUSC 1451. Ear Training II

Course Description

To develop the ability to accurately hear, identify, sing and notate musical elements including rhythm, melody, intervals and harmony.

Student Learning Outcomes

1. Counting rhythms at sight using the Eastman Counting System.
2. Singing melodies at sight using solfege syllables.
3. Writing out rhythmic patterns.
4. Writing out melodic patterns.
5. Identifying and singing intervals.
6. Identifying and singing chord / triad qualities.

MUSC 1460. Music Theory I

Course Description

Introduction to vocabulary and syntax of 4-voice 18th c. chorale music through study and harmonic analysis.

Student Learning Outcomes

To learn the vocabulary and syntax of 4-voice 18th c. chorale music through study and harmonic analysis.

MUSC 1461. Music Theory II

Course Description

Expansion of vocabulary and syntax of 4-voice 18th c. chorale music through study, harmonic analysis, and part writing.

Student Learning Outcomes

To expand and apply the vocabulary and syntax of 4-voice, 18th c. chorale music through study, harmonic analysis, and part writing.

MUSC 1470. Functional Piano I

Course Description

Scales, chords, memorization. Harmonization of simple melodies with the ability to play simple melodies and rhythms.

Student Learning Outcomes

1. 5 finger hand position in all keys
2. I-IV-I-V7-I cadences in all keys
3. One octave scales with hands together in C, G, D and F (major and minor).
4. Root position cross--over triads, solid and broken (major and minor).
5. Simple sight reading, harmonizing and transposition.
6. Prepared pieces from the textbook.
7. Simple improvisation.
8. Play 2 simple vocal exercises.
9. Identify intervals, key signatures and chords.
10. Correct posture and hand position.
11. Musical issues such as phrasing, slurs and dynamics.
12. Good practice habits and techniques.

MUSC 1471. Functional Piano II

Course Description

Scales, chords, memorization. Harmonization of simple melodies with the ability to play simple melodies and rhythms. May be taken for unlimited credit. Restricted to music majors. No S/U option.

Student Learning Outcomes

1. Two octave scales with hands separate in C, G, D, A, E, B and F (major and minor).
2. I-IV-I-V-V7-I cadences in above mentioned keys in root position and 1st inversion.
3. Simple sight reading, harmonization and transposition.
4. Prepared pieces from the book.
5. Simple improvisation.
6. Identify intervals, key signatures and chords.
7. Correct posture and hand position.
8. Musical issues such as phrasing, slurs and dynamics.
9. Good practice habits and techniques.

MUSC 1472. Functional Piano III

Course Description

For music majors preparing for the Piano Proficiency Examination.

Student Learning Outcomes

1. Keys learned in previous semesters, adding F# and C# (D flat).
2. Secondary dominant chords added to cadence patterns.
3. Two-octave, root position arpeggios, major and minor.

4. Intro to chord charts, harmonization.
5. More difficult sight--reading and transpositions.
6. More difficult prepared pieces.
7. Accompany a piece for any instrument on the Mid--Term Recital (required).

MUSC 1475. Fundamentals of Piano II (non-music majors)
Course Description
Continuation of Fundamentals of Piano I (non-music majors).
Student Learning Outcomes
1. Students will continue to develop their keyboard skills, increasing their ability to play scales, arpeggios, and chords and more complex pieces.
2. Students will be able to fluently perform major and minor triads in all keys, with several triads from select keys in 1st and 2nd inversions.
3. Students will be able to perform primary chord progressions in all major and minor keys.
4. Students will be able to play major scales in all keys and harmonic minor scales in most keys.
5. Students will learn concepts related to dominant 7th chords and be able to harmonize a given melody with them and perform chord progressions containing them.
6. Students will be introduced to simple left-hand accompaniments such as Alberti bass and be able to harmonize simple melodies using them.
7. Students will learn more complex solo repertoire involving hand crossings, use of the pedal, more complex interactions between left and right hand, dynamic shading, articulation and phrasing.

MUSC 1510. Applied Courses
Course Description
Applied Courses for Performance Concentration.
Student Learning Outcomes
These courses are not expected to transfer, and students will have to take a placement test upon transfer.

MUSC 1511. Applied Courses for Non-Performance Concentration
Course Description
Applied Courses for Non-Performance Concentration.
Student Learning Outcomes
These courses are not expected to transfer, and students will have to take a placement test upon transfer.

MUSC 1512. Applied Courses for Non-Majors
Course Description
Applied Courses for Non-Majors.
Student Learning Outcomes
These courses are not expected to transfer, and students will have to take a placement test upon transfer.

MUSC 1513. Applied Courses for Basic Applied Skills
Course Description
Applied Courses for Basic Applied Skills.
Student Learning Outcomes
These courses are not expected to transfer, and students will have to take a placement test upon transfer.

MUSC 1520. Class Guitar I
Course Description
Basic Instruction in classical guitar from beginning to intermediate level.
Student Learning Outcomes
Upon completion of this course, students should be able to demonstrate knowledge of the positions of the guitar, in reading and performing pieces, as well as major and minor scales.

MUSC 1540. Orchestral Instruments
Course Description
Group instruction in orchestral instruments and guitar. Open only to students pursuing the Bachelor of Music Education or the Bachelor of Music String Pedagogy or Theory and Composition concentrations. Specific areas are announced in the class schedule each semester.
Student Learning Outcomes
Not Available

MUSC 1545. Class Violin
Course Description
Not Available
Student Learning Outcomes
Not Available

MUSC 1560. Class Bass
Course Description
Basic instruction in bass from beginning to intermediate level.
Student Learning Outcomes
Students will play major and minor scales and arpeggios on the first seven positions of the bass guitar and perform transcribed bass lines from several genres that employ the instrument, from blues and rock to funk and hip-hop, from Latin dance music (salsa) to Brazilian and American Popular music.

MUSC 1570. Class Saxophone
Course Description
Basic instruction in saxophone from beginning to intermediate level.
Student Learning Outcomes
Students will gain skills in beginning saxophone techniques.
Students will gain skills and learn representative beginning repertoire in saxophone.

MUSC 1610. Ensemble – Guitar II
Course Description
Not Available
Student Learning Outcomes
Not Available

MUSC 1620. Major Ensemble II:
Course Description

This course is an exploration of major ensembles, allowing students to develop their abilities with their instruments in a group setting. Students will gain a broader understanding of major ensemble through study of musical history, as well as various practice exercises and performances.

Student Learning Outcomes

1. Improve performance skills.
2. Develop and improve performance skills in a group setting.
3. Develop understanding and interpretation within the context of music history.
4. Refine and improve technical ability.
5. Demonstrate proper technique and usage.

MUSC 1640. Digital Music Production Techniques

Course Description

You will expand on the skills learned in Digital Audio Production and progress from the technical to the procedural and aesthetic aspects of recording.

Student Learning Outcomes

1. This course will help students to use the studio as an additional tool for making music, besides his or her personal music abilities.
2. Activities will include the establishment of a workflow, making music with the software (Logic), Recording MIDI, editing and arranging MIDI, composing with samples and loops, recording audio, editing and arraigning audio, working with notation and with picture and to and from FCP, surround, mixing and mastering, exporting, sharing and other application workflows.
3. Hands on practice in digital music production in a state-of-the-art production lab.

MUSC 1890. Introductory Teaching Practicum

Course Description

Provides first-year music education majors with practical teaching experience in music classrooms. Assists in evaluating the music education candidate's suitability for a music teaching career in terms of musicianship, leadership, communication ability, and personal dispositions.

Student Learning Outcomes

Not Available

MUSC 1891. Music Practicum

Course Description

Music Practicum complements MUS 1103 and the performance classes in Music (Piano I & II, Guitar) by providing on-the-job musical training or performance. Requires students to complete a minimum of 45 hours in a community, professional, or educational music production.

Student Learning Outcomes

Varies based on practicum experience/assignment

MUSC 2100. Piano Proficiency

Course Description

Exam for Music Majors only to demonstrate basic level of piano proficiency in Repertoire, Sight Reading, Scales, Chords and Arpeggios. Harmonization and Score Reading are also required for Music Education Majors.

Student Learning Outcomes

At the end of the course students will demonstrate through an exam their ability to:

1. Perform two contrasting repertoire pieces from differing time periods, one with pedal,
2. Sight reading skills

3. Mastery of all scales – Major and minor 2 octaves hands together,
4. Mastery of all arpeggios 2 octaves hands alone,
5. Mastery of I-IV-I-V-I chord progressions, all keys Major and minor, all inversions with pedal.

Music Education Majors will demonstrate through an exam their ability to:

6. Harmonize two different melodies with varying accompaniment styles
7. Play any two parts of two SATB vocal scores.

MUSC 2110. Chamber Ensemble:

Course Description

This course is an exploration of chamber ensembles, allowing students to develop their abilities with their instruments in a group setting. Students will gain a broader understanding of chamber ensemble through study of musical history, as well as various practice exercises and performances.

Student Learning Outcomes

1. Improve performance skills
2. Develop and improve performance skills in a group setting
3. Develop understanding and interpretation within the context of music history
4. Refine and improve technical ability
5. Demonstrate proper technique and usage

MUSC 2120. Major Ensemble:

Course Description

This course is an exploration of major ensembles, allowing students to develop their abilities with their instruments in a group setting. Students will gain a broader understanding of major ensemble through study of musical history, as well as various practice exercises and performances.

Student Learning Outcomes

1. Improve performance skills
2. Develop and improve performance skills in a group setting
3. Develop understanding and interpretation within the context of music history
4. Refine and improve technical ability
5. Demonstrate proper technique and usage

MUSC 2130. Jazz Ensemble

Course Description

This course is an exploration of jazz ensembles, allowing students to develop their abilities with their instruments in a group setting. Students will gain a broader understanding of jazz ensemble through study of musical history, as well as various practice exercises and performances.

Student Learning Outcomes

1. Improve performance skills
2. Develop and improve performance skills in a group setting
3. Develop understanding and interpretation within the context of music history
4. Refine and improve technical ability
5. Demonstrate proper technique and usage
6. Develop and improve improvisation skills

MUSC 2132. Percussion Ensemble

Course Description

Study and performance of contemporary percussion ensemble literature.

Student Learning Outcomes

1. Improve performance skills
2. Develop and improve performance skills in a group setting
3. Develop understanding and interpretation within the context of music history
4. Refine and improve technical ability
5. Demonstrate proper technique and usage

MUSC 2135. Women's Ensemble

Course Description

This is a class for female group vocal participation through study of choral singing techniques and choral literature. You will be required to sing parts.

Student Learning Outcomes

1. Objective: Perform quality music at as high a level as possible.
   Competency: Students will perform, in addition to the ensemble repertoire: scales, arpeggios and genre-specific licks and riffs.
2. Objective: Foster an appreciation for all musical styles.
   Competency: Students will perform melodies and rhythm cells particular to various genres.
3. Objective: Develop the art of listening in ensemble settings.
   Offer great music to the campus and at-large community.

MUSC 2140. Introduction to Composition

Course Description

This course helps students develop techniques for composing notated music through creative projects and compositions. Readings and discussions about developing a personal style are augmented by a broad array of listening's.

Student Learning Outcomes

1. Students can demonstrate rudimentary proficiency in producing written music for classical instruments.
2. Students can demonstrate rudimentary proficiency in producing creative audio based on field recordings.
3. Students can create coherence in musical composition through clear development of musical ideas.
4. Students can create complex musical gestures through coordinated use of multiple musical parameters.
5. Students can demonstrate an awareness of modern and contemporary music through creative work.
6. Students can demonstrate an awareness of modern and contemporary music through written responses to listening.
7. Students can thoughtfully reflect upon and engage in discussion about the creative process.

MUSC 2150. American Popular Music History

Course Description

The music of America is a multi-cultural blend whose roots are found in Africa, on Broadway, in the Caribbean and South America, at the Grand Ole Opry and in Native American and Pacific American music. By examining those roots we trace the development of jazz, rhythm and blues, folk, and rock and its various descendants. Listening includes in-class and web-based musical examples for outside of class listening. Students' presentations on areas of interest serve as capstone projects.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Be familiar with the history of the African American, European American, Latin American, Caribbean, and Native American subcultures.
2. Understand and be able to recognize the musical styles and instruments that were/are being used by these groups.
3. Be able to identify the components of modern American pop music that were derived from these sub-cultures.

MUSC 2151. An Introduction to World Music, Jazz and Music Research

Course Description
Introduces world music and jazz within a historical and cultural context, considering significant musical figures, forms, genres, styles, and representative works. A major component will be the development of effective research and scholarly writing skills for the music major or minor.

Student Learning Outcomes

1. This course will cover fundamental concepts and styles associated with world music (ethnomusicology), jazz and popular music, an overview of the Western European tradition, and an intense focus on research and writing about music.
2. Emphasis will be placed on writing skills as they apply to the college experience in general and the world of music education and performance in particular.
3. Students will become acquainted with the diverse ways cultures create and are affected by their respective musical arts.
4. Focus will be on style evolution, forms, genres, composers, literature, and, where appropriate, performers.

MUSC 2160. Music Today

Course Description
This course is a study of music in the United States, how Western art music, folk music, sacred music, and popular music developed from America's early beginnings to modern times, with a focus on the societal history that shaped the music to it modern cultural influences.

Student Learning Outcomes

1. Define musical styles and the historical background of modern musical eras.
2. Recognize the evolution of music in the United States from Stephen Foster through composers and performers.
3. Apply listening skills to a variety of musical styles and gain an appreciation for unfamiliar musical styles.

MUSC 2165. Traditions in Flamenco

Course Description
You will study the traditions of Flamenco music and dance from Spain, beginning with early styles to present day techniques.

Student Learning Outcomes
Students will be able to perform Flamenco music and dance from Spain, beginning
with early styles to present day techniques.

MUSC 2170. Chamber Music I

Course Description
This course is an exploration of chamber ensembles, allowing students to develop their abilities with their instruments in a group setting. Students will gain a broader understanding of chamber ensemble through study of musical history, as well as various practice exercises and performances.

Student Learning Outcomes

1. Improve performance skills.
2. Develop and improve performance skills in a group setting.
3. Develop understanding and interpretation within the context of music history.
4. Refine and improve technical ability.
5. Demonstrate proper technique and usage.

MUSC 2190. Recital

Course Description
Recitals played on the school's auditorium, for the College and City Community, as a demonstration of the completion of a semester's worth of repertory, defined by each specific instructor of voice, instrument, arranging and composing, etc.

Student Learning Outcomes
Completion of the student's performance activities in each semester.

MUSC 2210. Diction I
Course Description
This course is designed to prepare students for singing in multiple languages using concepts of the International Phonetic Alphabet. Students will work to master the basics of phonetic singing to improve their overall musical abilities.
Student Learning Outcomes
1. Correctly and consistently form vowel and consonant sounds when speaking and singing in multiple languages
2. Correctly and consistently transcribe texts in multiple languages using the International Phonetic Alphabet
3. Understand and explain the International Phonetic Alphabet's usage and symbols
4. Develop and apply the concept of lyric diction to singing
5. Gain fluency, accuracy, and confidence in pronunciation of sung text

MUSC 2220. Diction II
Course Description
This course serves as a continuing study in the concepts of the International Phonetic Alphabet. Students will continue to improve and practice their diction to develop their singing and musical abilities in order to begin the mastery of lyric diction.
Student Learning Outcomes
1. Correctly and consistently form vowel and consonant sounds when speaking and singing in multiple languages
2. Correctly and consistently transcribe texts in multiple languages using the International Phonetic Alphabet
3. Understand and explain the International Phonetic Alphabet's usage and symbols
4. Develop and apply the concept of lyric diction to singing.
5. Gain fluency, accuracy, and confidence in pronunciation of sung text.
6. Demonstrate ability to notate song texts according to IPA standards

MUSC 2230. History of Rock, Rap and Popular Music
Course Description
Not Available
Student Learning Outcomes
Not Available

MUSC 2240. Music History and Literature: Antiquity through Baroque
Course Description
Surveys Western art music within a historical and cultural context, considering significant musical figures, forms, genres, styles, and representative works from antiquity through the end of the Baroque era. An additional emphasis will be given to effective research and scholarly writing skills. Restricted to: M ED, MUS majors.
Student Learning Outcomes
The purpose of the course is to survey the beginning history of music from the earliest ancient times through the Baroque period, ca. 1750.

MUSC 2250. Aural Skills III
Course Description
Continuation of Aural Skills II. Studies sight-singing of chromatic melodies in major and minor keys (in four clefs).
Student Learning Outcomes
Function as independent thinkers and as members of collaborative groups.
Use the internet to communicate effectively through e-mail and other communication tools.

MUSC 2255. Aural Skills IV

Course Description

Continuation of Aural Skills III. Studies sight singing of chromatic and atonal melodies. Includes dictation of one through four voice examples. Identifies sonorities studied in Music Theory IV. Detection of pitch and rhythmic performance errors.

Student Learning Outcomes

1. Function as independent thinkers and as members of collaborative groups.
2. Use the internet to communicate effectively through e-mail and other communication tools.

MUSC 2260. Music Theory III

Course Description

Continuation of Music Theory II. Reviews melodic and rhythmic figurations. Covers dissonance and chromaticism, including modal mixture, seventh chords with added dissonance, Neapolitan sixth chord, and augmented sixth chords. Provides structural analysis of musical excerpts.

Student Learning Outcomes

Not Available

MUSC 2265. Music Theory IV

Course Description

Focuses on advanced chromaticism including modal mixture, altered dominants, voice leading, and chromatic harmony in larger contexts. Also examines impressionism, neoclassicism, jazz and contemporary music.

Student Learning Outcomes

Students will demonstrate their understanding of advanced chromaticism including modal mixture, altered dominants, voice leading, and chromatic harmony in larger contexts. Also examines impressionism, neoclassicism, jazz and contemporary music. Students will also make structural analysis of musical excerpts.

MUSC 2270. Music Composition

Course Description

Private Lessons for Majors (may be repeated for credit) Required of all music majors. One half hour lesson per week for one credit. One-hour lesson per week for two credits. One-hour lesson plus a seminar per week or equivalent for three credits. Music majors must attend a one-hour weekly Studio Class.

Student Learning Outcomes

Private lessons in music composition with the goal of studying and assimilating the essential techniques and materials of contemporary idioms. A prescribed systematic utilization of these new techniques and materials will be explored to assist the student in developing their own unique personal style.

MUSC 2280. Jazz Theory

Course Description

Chords, modes, aural skills, basic keyboard skills and harmonization techniques in the jazz and commercial idioms. Study of standard jazz tunes and transcriptions of recorded jazz solos.

Student Learning Outcomes

By participating in Jazz Theory, students will better perform, identify and address key features of jazz theory, improvisation, composition and arranging including:

1. the major scale and its modes,
2. idiomatic pulse and articulations,
3. idiomatic phrases called “licks,”
4. critical recordings

5. essential artists and
6. extended major, minor, augmented and diminished chords.

MUSC 2290. Vocal Coaching

Course Description

The purpose of this course is to prepare the vocal student for optimal practice habits and performance in concert, recital, and auditions. In an individualized format, the coach will assist the student vocalist in preparation for the performance of operatic and art song repertoire with special focus on rehearsal strategies, diction, style, interpretation, translation resources, performance practice, ensemble, and audition preparation. Repertoire preparation will include operatic arias as well as art song literature in English, French, German, Italian, Spanish and other languages. Repertoire suitable for the individual student will be assigned by the voice teacher and prepared with the vocal coach.

Student Learning Outcomes

Not Available

MUSC 2310. Sound and Music Technology

Course Description

This course serves as an overview of current technologies and principles for the recording and production of sound, and the use of computer-based technologies for the production of music.

Student Learning Outcomes

1. Demonstrate fundamental knowledge of techniques and practices of music recording and production
2. Demonstrate ability to properly use computer-based technologies to produce and record music
3. Demonstrate ability to create music recordings
4. Work with a variety of recording, production, and sound reinforcement tools
5. Apply basic and mixed editing techniques
6. Use audio editing and file management techniques
7. Demonstrate knowledge of music technology vocabulary
8. Explain and understand the development of various music technologies

MUSC 2315. Introduction to Improvisation

Course Description

This is an introductory course in musical improvisation. Initial preparatory activities—including playing familiar tunes by ear, singing, call and response sequences, and ear training exercises—are designed to establish a sense of tonality, a sense of meter (rhythm), and "ear-hand coordination." Basic aspects of jazz harmony, vocabulary, style, and literature are introduced during the latter part of the semester. This course is the first of a four-semester sequence in improvisation.

Student Learning Outcomes

1. The student will improve performance skills
2. The student will develop and improve ear-hand coordination in order to successfully execute melodies on a musical instrument without the benefit of notated sheet music.
3. The student will develop and improve the ability to recognize by ear and implement harmonic and melodic elements of a song for the purposes of improvisation, including the melody, the root progression, and guide tone movement.

MUSC 2320. Theory and Analysis III: Chromaticism

Course Description

This is the third course in a four-semester sequence. Continued study of theoretical aspects of musical structure, derived from close analytical engagement with music from multiple time periods, with a primary focus on chromatic music. Further development of higher-level capacities (contrapuntal writing in two parts, voice-leading in four parts, idiomatic harmonization of unaccompanied melodies and figured basses). Thorough study of the principles of harmonic progression in

chromatic music (including the use of sequences, applied chords, tonicization/modulation, mixture, Neapolitan sixths, and augmented sixths), particularly through the analysis of works of European concert music from the late-classical and early romantic periods.

Student Learning Outcomes

By the end of the semester, students proceeding satisfactorily through the course should be able to:

1. Identify the root, quality, and inversion of any presented applied-chord sonority common to Western classical music (as well as pop, rock, and jazz), including both dominant-type and diminished-type applied chords.
2. Explain how these non-diatonic sonorities function within phrases, subphrases, and progressions to either emphasize, tonicize or modulate to other key areas.
3. Continue a given two-chord model (or melody-and-bass fragment) according to the common harmonic sequence patterns.
4. Explain how smaller-scale structures like phrases and periods combine to form larger formal structures such as binary form.
5. Analyze passages such as these, whether presented either visually or aurally.
6. Approach such analysis not only vertically, in terms of chords, but also horizontally, in terms of melodies coordinated through to the principles of counterpoint and harmonies following idiomatic principles of progression.
7. Complete exercises in four-voiced texture based on these techniques and principles from prompts such as figured basses, unfigured basses, and unharmonized melodies.
8. Compose and improvise using the techniques of chord application, tonicization, modulation, and harmonic sequence.
9. Identify and construct additional advanced chromatic harmonies, such as Neapolitan chords, augmented-sixth chords, and mixture chords.
10. Reflect upon how the principles of musical organization vary in their usage over time, such as in response to social and economic pressures.

MUSC 2320L. Theory and Analysis III Aural Lab: Chromaticism

Course Description

This is the third course in a four-semester sequence. Continued development of practical musical skills related to both production (singing, tapping, conducting, performing on an instrument) and perception (active analytical listening, recognition and notation of auditorily presented melodies, rhythms, and harmonic patterns), focused in particular upon chromatic harmonic procedures such as those developed in the late-classical and early romantic periods of Western art music. Continued practice in auditory analysis and improvisation with the voice and/or instruments.

Pre-requisite: Theory and Analysis II: Diatonicism and Theory and Analysis II Aural Lab: Diatonicism. Co-requisite: Theory and Analysis III: Chromaticism

Student Learning Outcomes

By the end of the semester, students proceeding satisfactorily through the course should be able to:

1. Sing, using solfège, the most common scales, modes, chords, and intervals used in classical and popular music, as well chromatic, whole-tone, and octatonic scales.
2. Write down in notation the same musical constructs presented aurally, using standard notational devices such as accidentals, key signatures, time signatures, beams, flags, ties, and dots.
3. Perform at the keyboard, with moderate fluency, standard harmonic progressions incorporating such devices as applied chords, tonicizations, modulations, mixture chords, and Neapolitan and augmented-sixth chords (including reading from figured bass notation).
4. Sing, together with other students, passages in two-part counterpoint and four-part harmony which include the above chromatic devices.
5. Use standard conducting patterns while singing, reading, and listening to music.
6. Improvise (with the voice or on an instrument) using melodic and harmonic patterns characteristic of the material studied in this and the co-requisite lecture course.

7. Generalize from examples presented on paper to practical experiences with listening, performing, and improvising in real-time and in real-life musical contexts.

MUSC 2322. Jazz Improvisation I

Course Description

This course is an introduction to improvising in the modern jazz idiom. Students will address basic tools for developing a command of the harmonic, melodic and rhythmic elements necessary for improvising authentically in the language of modern jazz, including scales, arpeggios, licks and practice strategies for incorporating these into the student's improvisations. Topics for discussion will include, but not be limited to, common song forms in mainstream jazz, the blues, performance practice, rhythmic, style and "feel" elements. The improvisations of important jazz artists will serve as a reference. This course is the second of a four-semester sequence in improvisation.

Student Learning Outcomes

1. The student will improve performance skills.
2. The student will learn and be able to execute idiomatic jazz improvisation vocabulary over typical harmonic progressions.
3. The student will develop an idiomatic musical style and interpretive skills in performing jazz melodies and improvisational phrases.
4. The student will recognize idiomatic song forms and blues progressions by ear.

MUSC 2325. Theory and Analysis IV: Enharmonicism and Post-Tonality

Course Description

This is the fourth course in a four-semester sequence. Continued study of theoretical aspects of musical structure, derived from close analytical engagement with music from multiple time periods, with a primary focus on enharmonic practices in late-romantic classical music and post-tonal practices of early twentieth-century classical music. Extension of basic chromatic procedures (sequences, applied chords, tonicization/modulation, mixture, Neapolitan sixths, and augmented sixths) to remote relations requiring enharmonic interpretation. Introduction to methods of analysis for music not structured according to traditional European principles.

Student Learning Outcomes

1. Identify readily the root, quality, and inversion of all sonorities found in common-practice Western classical music (applied chords, mixture chords, Neapolitan and augmented-sixth chords, altered dominant chords, and common-tone diminished chords), as well as the techniques used to tonicize and modulate to both closely related and remote keys.
2. Construct and use the same harmonies and techniques in shorter phrases and longer passages.
3. Continue a given two-chord model (or melody-and-bass fragment) using various applied-chord and chromatic variants of common harmonic sequence patterns.
4. Comprehend the large-scale organizational principles of works in sonata form, rondo form, and ternary form (in coordination smaller-scale principles such as phrase, period, and binary-form organization).
5. Analyze longer passages and entire musical works (in common-practice and later styles), whether presented either visually or aurally.
6. Employ enharmonic reinterpretation to tonicize and modulate to remote keys.
7. Derive the prime form of a pitch-class set.
8. Compose and improvise using several of these techniques.
9. Reflect upon how the principles of musical organization vary in their usage over time, such as in response to social and economic pressures.

MUSC 2325L. Theory and Analysis IV Aural Lab: Enharmonicism and Post-Tonality

Course Description

This is the fourth course in a four-semester sequence. Continued development of practical musical skills related to both production (singing, tapping, conducting, performing on an instrument) and perception (active analytical listening, recognition, and notation of auditorily presented melodies, rhythms, and harmonic patterns), focused in particular upon Western art music of the late-romantic and early twentieth-century periods. Continued practice in auditory analysis and improvisation with voice and/or instruments.

Student Learning Outcomes

By the end of the semester, students proceeding satisfactorily through the course should be able to:

1. Sing or arpeggiate, using solfège (whether movable or fixed), the vast diversity of scales, modes, and chords found not only in late-nineteenth and early-twentieth-century classical music, but also in jazz and popular music (including but not limited to the whole-tone, octatonic).
2. Sing post-tonal (non-diatonic) melodic exercises constructed from interval successions or pitch-class sets.
3. Write down in notation these same musical constructs when presented aurally, using standard notational devices such as accidentals, key signatures, time signatures, beams, flags, ties, and dots.
4. Perform at the keyboard harmonic progressions incorporating such devises as standard chromaticisms (applied chords, tonicizations, modulations, mixture chords, Neapolitan chords, and augmented-sixth chords), newly introduced chromaticisms (common-tone diminished-seventh and augmented-sixth chords), and enharmonic reinterpretation (e.g., respelled diminished-seventh and augmented-sixth chords);
5. Sing, together with other students, passages in two-part counterpoint and four-part harmony which include the above chromatic and enharmonic devices.
6. Perform (and conduct to) rhythmic patterns involving complex metrical devices (such as syncopations, tuplets, and polyrhythms) in standard and asymmetrical (non-isochronous) meters.
7. Improvise (with the voice or on an instrument) using melodic and harmonic patterns characteristic of the material studied in this and the co-requisite lecture course.
8. Generalize from examples presented on paper to practical experiences with listening, performing, and improvising in real-time and in real-life musical contexts.

MUSC 2327. Early Music Ensemble

Course Description

This is an ensemble class that focuses on music of the medieval, Renaissance and/or Baroque eras, utilizing period instruments.

Student Learning Outcomes

1. Demonstrate performance proficiency on period instruments relevant to the repertoire studied, including proper technique and tone production appropriate to the historical style.
2. Interpret and perform selected works from the Medieval, Renaissance, and/or Baroque eras with stylistic accuracy, including historically informed phrasing, articulation, and ornamentation.
3. Rehearse and perform collaboratively within a small or large ensemble setting, exhibiting strong ensemble skills such as listening, blending, and timing.
4. Apply knowledge of historical performance practices to musical preparation and performance, including the use of facsimile or modern notation, figured bass realization (if applicable), and appropriate vocal or instrumental technique.
5. Prepare and organize performance materials in a professional manner, including music binding, page turn preparation, and (for singers) correct text underlay and pronunciation.
6. Demonstrate individual preparation and accountability by learning assigned parts outside of class and contributing effectively during rehearsals.
7. Identify and describe key characteristics of early music styles and forms and articulate the differences among musical practices of the medieval, Renaissance, and Baroque periods.

8. Adapt prior musical knowledge and skills to unfamiliar historical instruments seeking support when needed to overcome technical challenges.
9. Present a public performance of early music repertoire, exhibiting both technical competence and stylistic understanding in an ensemble context.

MUSC 2329. Small Ensemble
Course Description
Varies
Student Learning Outcomes
Varies

MUSC 2330. Applied Lessons III
Course Description
Varies
Student Learning Outcomes
Varies
These courses are not expected to transfer and students will have to take a placement test upon transfer

MUSC 2340. Applied Lessons IV
Course Description
Varies
Student Learning Outcomes
Varies

These courses are not expected to transfer and students will have to take a placement test upon transfer

MUSC 2345. Class Piano I
Course Description
For music majors with little or no previous training in piano.
Student Learning Outcomes
1. Play major and minor five-finger patterns in various keys.
2. Play all white key major scales one-octave; hands separate and hands together with fluency.
3. Play all white key minor scales one octave; hands separate with fluency.
4. Play a I – IV $^{6/4}$ – I – V $^{6/5}$ – I chord progression in all major keys.
5. Perform elementary level piano repertoire in various styles.
6. Play and transpose simple melodies using primary chords.
7. Sight-read elementary level repertoire.
8. Be comfortable with rhythmic and melodic patterns that help the student to understand musical structure and form.
9. Understand basic music theory and musical terms so that the student can apply them to their performance.

MUSC 2350. Class Piano II
Course Description
Continuation of Class Piano I.
Student Learning Outcomes
1. Students will gain skills in beginning piano techniques.
2. Students will gain skills and learn representative repertoire in Piano.

MUSC 2355. Class Piano III

Course Description

Continuation of Class Piano II.

Student Learning Outcomes

1. Students will gain skills in intermediate piano techniques.
2. Students will gain skills and learn representative repertoire in Piano.

MUSC 2360. Class Piano IV

Course Description

Continuation of Class Piano III

Student Learning Outcomes

1. Play all major scales two-octaves and white key minors; hands separate with fluency.
2. Play a I – IV $^{6/4}$ – I – V $^{6/5}$ – I chord progression in all major keys and minor keys; hands together with syncopated pedal.
3. Play a four-part hymn with syncopated pedal.
4. Improvise simple melodies using I, IV, and V chords using various meters.
5. Play simple melodies by ear with harmonization.
6. Perform late elementary/early intermediate level piano repertoire in various styles.
7. Play and transpose simple melodies harmonizing with chords.
8. Accompany another student (instrumental or vocal) with a late beginner/early intermediate level accompaniment
9. Sight-read elementary level repertoire.
10. Be comfortable with rhythmic and melodic patterns that help the student to understand musical structure and form.
11. Understand basic music theory and musical terms so that the student can apply them to their performance.

MUSC 2370. String Pedagogy

Course Description

This course develops advanced pedagogical understanding through supervised teaching, lesson observation, video analysis, and reflective practice. Students apply research- and evidence-based methods to plan, teach, and assess beginning through intermediate string instruction in both private and group settings.

Student Learning Outcomes

1. Apply and refine instructional strategies for beginner through intermediate string students in both private and group settings.
2. Plan, implement, and assess lessons and curricula using research- and evidence-based approaches to string pedagogy.
3. Analyze and synthesize pedagogical principles from readings, video, and live observations to improve teaching effectiveness.
4. Demonstrate professionalism and reflective practice through written analysis, video review, and peer/instructor feedback.
5. Collaborate effectively with mentors, peers, and families in instructional settings, demonstrating ethical and professional standards of conduct.
6. Compile and curate a comprehensive personal teaching resource that documents strategies, repertoire, and reflection for future use as a pedagogue.

MUSC 2370L. String Pedagogy Laboratory

Course Description (2 semesters)

Laboratory for applied teaching in the UNM String Lab School. Students deliver private and group lessons, complete structured observations, submit lesson plans and teaching videos, and engage in feedback cycles supporting reflective, ethical, and professional practice.

Student Learning Outcomes

1. Apply and refine instructional strategies for beginner through intermediate string students in both private and group settings.
2. Plan, implement, and assess lessons and curricula using research- and evidence-based approaches to string pedagogy.
3. Analyze and synthesize pedagogical principles from readings, video, and live observations to improve teaching effectiveness.
4. Demonstrate professionalism and reflective practice through written analysis, video review, and peer/instructor feedback.
5. Collaborate effectively with mentors, peers, and families in instructional settings, demonstrating ethical and professional standards of conduct.
6. Compile and curate a comprehensive personal teaching resource that documents strategies, repertoire, and reflection for future use as a pedagogue.

MUSC 2376. Group Piano for Music Majors III

Course Description

Intermediate repertoire, reading skill, chord and scale patterns.

Student Learning Outcomes

1. Demonstrate scale and arpeggio fluency in Ab, Eb, Bb, g♯, c♯, f♯ major and minor keys (2 octaves, hands together).
2. Perform triads & inversions & (I-IV-I-V-I0 & (i-iv-i-V-i) root position chord progressions fluently across all covered keys with pedal.
3. Sight-read intermediate-level music with greater rhythmic and harmonic complexity.
4. Perform intermediate-level solo and duet repertoire from all style periods with musicality and technical control.
5. Apply musicianship skills such as voicing, phrasing, and balance in repertoire.
6. Integrate technical and interpretive skills to prepare for upper-division proficiency requirements.

MUSC 2378. Group Piano for Music Majors IV

Course Description

Late intermediate to early advanced Repertoire and Sight-Reading. Review of scales and chords

Student Learning Outcomes

1. Demonstrate mastery of all technical components from Piano 1–3 (scales, arpeggios, chords, progressions, and inversions).
2. Sight-read late intermediate-level music with accuracy and fluency.
3. Perform two contrasting late intermediate solo pieces with expressive interpretation and technical assurance, using pedal.
4. Execute score reading or accompaniment skills with independence of hands and voices.
5. Display comprehensive readiness for the Piano Proficiency Requirement (MUSC 2100).
6. Demonstrate ongoing growth in musicianship, including dynamic control, stylistic awareness, and interpretation.
7. Apply consistent and effective practice habits to maintain and improve performance skills.

MUSC 2410. Music for the Elementary Classroom

Course Description

An introductory or refresher course for current or future elementary classroom teachers. Musical experiences which relate to all age groups at the elementary level will be covered, including students with special needs.

Student Learning Outcomes

1. Comprehend basic music reading skills including rhythmic and melodic notation.
2. Know and be able to successfully teach lessons which communicate these basic skills.
3. To develop skills in playing classroom instruments.
4. To examine methods, materials and resources for teaching music.
5. Create and teach lessons that demonstrate understanding of basic music skills, theories of child development, and best practices in music education.
6. Explore teaching and learning strategies that promote interdisciplinary thinking through the arts in the elementary classroom.

MUSC 2415. Music for the Classroom Teacher

Course Description

This is a multifaceted music skills course to assist Elementary Education majors in preparing and teaching music in their classrooms. No previous musical training is necessary.

Student Learning Outcomes

Students will be able to teach basic elements of music in Elementary Education.

MUSC 2420. Comprehensive Musicianship

Course Description

This course will help you develop practical skills that will serve you well as a musician. Although some of the course material is conceptual, most of it is experiential, and the exercises and drills we will work through during class meetings form the essential core of the course.

Student Learning Outcomes

1. Develop skills in music reading, analysis, singing, playing, and listening
2. Learn effective practice techniques

MUSC 2430. Mixed Chorus

Course Description

University Singers. Letter grades will be given for all ensembles. (May be repeated for credit.) Open to all students including music majors and music minors.

Student Learning Outcomes

1. To develop and demonstrate healthy vocal techniques: posture, breathing, tone placement, diction, and expression;
2. To develop and use a knowledge of music reading: pitch, rhythm, symbols, and vocabulary;
3. To develop the skill of singing independently and cooperatively in a group;
4. To develop an understanding of varied historical performance practices and to convey these styles in performance with appropriate historical vocalism and ornamentation;
5. To develop competency in both presenting concerts and being constructively critical and self-evaluative about your own performing;
6. To develop and broaden levels of musical thinking in order to promote life-long learning and long-term participation in the choral arts.

MUSC 2440. Gospel Choir II

Course Description

A continuation of Gospel Choir I with group vocal participation through study of song literature and performance of gospel music. Part singing will be included.

Student Learning Outcomes

Objective: Perform quality Gospel music at as high a level as possible.

Competency: Students will perform, in addition to the ensemble repertoire: scales, arpeggios and genre-specific licks and riffs.

Objective: Foster an appreciation for all Gospel musical styles.

Competency: Students will perform melodies and rhythm cells particular to various genres.

Objective: Develop the art of listening in ensemble settings.

Offer great music to the campus and at-large community.

MUSC 2445. History of Jazz II

Course Description

You will continue your study of the history of jazz, covering bebop (c. 1950) through the present. You will learn to recognize and describe the major styles in jazz, the most important proponents of each style, and the musical elements that determine each style.

Student Learning Outcomes

Students will be able to identify major Jazz styles and its performers and to describe the elements of each style from the 1950s to the present day.

MUSC 2450. Class Voice II

Course Description

In this continuation of Class Voice I, you will be presented with more advanced development of singing techniques.

Student Learning Outcomes

Objective: Perform quality music at as high a level as possible.

Competency: Students will perform, in addition to the ensemble repertoire: scales, arpeggios and vocal warm-ups.

Objective: Foster an appreciation for all musical styles.

Competency: Students will perform melodies and rhythm cells particular to various genres.

Objective: Develop the art of listening in ensemble settings.

MUSC 2451. Ear Training III

Course Description

Continuation of MUSC 1451, advanced sight singing, dictation.

Student Learning Outcomes

1. Count rhythms at sight using the Eastman Counting System
2. Sing melodies at sight and prepared using Solfege syllables
3. Write out rhythmic patterns
4. Write out melodic patterns
5. Identify and singing intervals
6. Identify and sing chord / triad qualities
7. Write out harmonic dictation

MUSC 2452. Ear Training IV

Course Description

Continuation of MUSC 2451, advanced sight singing, dictation

Student Learning Outcomes

1. Count rhythms at sight using the Eastman Counting System
2. Sing scales and sequences as assigned for the level
3. Sing melodies at sight using solfege syllables
4. Write out rhythmic patterns in both simple and compound meters
5. Write out melodic patterns in both major and minor tonalities

6. Identify, label and sing intervals
7. Identify, label and sing chords and extended harmonic qualities, i.e., V7 and inversions
8. Write out harmonic progressions in both two- and four-part forms including secondary dominants and modulations.
9. Accurately detect melodic and rhythmic errors in dictation examples

MUSC 2460. Music Theory III

Course Description

Analysis of Baroque and Classical Music. Vocabulary and syntax of 18th and 19th c. Western art music through study, chordal/formal analysis, and composition. Restricted to Las Cruces campus only.

Student Learning Outcomes

1. To learn and apply the vocabulary and syntax of 18th and 19th c. Western art music through study, chordal/formal analysis, and composition.
2. Topics covered include:
    a. Two-Voice Eighteenth Century Counterpoint
    b. Fugue
    c. Borrowed Chords
    d. Neapolitan 6th Chords
    e. Augmented 6th Chords
    f. Sonata Form
    g. Rondo Form.

MUSC 2461. Music Theory IV

Course Description

Analysis of Romantic, Post-Romantic, Impressionist, and Twelve-Tone Music. Vocabulary and syntax of late 19th and early 20th c. Western art music through study, micro/macro analysis, and composition.

Student Learning Outcomes

To learn and apply the vocabulary and syntax of late 19th and early 20th c. music through study, micro/macro analysis, and composition.

MUSC 2470. Functional Piano IV

Course Description

For music majors preparing for Piano Proficiency Examination. May be taken for unlimited credit. Restricted to music majors. No S/U option.

Student Learning Outcomes

1. Keys learned in previous semesters, adding A flat, E flat, and B flat
2. Secondary dominant chords added to cadence patterns, all inversions
3. Arpeggios, all inversions
4. More difficult sight--reading and transpositions
5. More difficult prepared pieces
6. Four-part pieces (hymns)
7. Accompany a piece for any instrument on the Mid--Term Recital (required) Score reading and transposition

MUSC 2510. Applied Courses for Performance Concentration

Course Description

Varies

Student Learning Outcomes

Varies

These courses are not expected to transfer, and students will have to take a placement test upon transfer.

MUSC 2511. Applied Courses for Non-Performance concentration

Course Description

Varies

Student Learning Outcomes

Varies

These courses are not expected to transfer, and students will have to take a placement test upon transfer.

MUSC 2512. Applied Courses for Non-majors

Course Description

Varies

Student Learning Outcomes

Varies

These courses are not expected to transfer, and students will have to take a placement test upon transfer.

MUSC 2520. Class Guitar II

Course Description

This course is a continuation of the introductory course in Guitar. The main focus is to provide learning tools to enable the students to progress rapidly throughout the semesters to come. Sight Reading, Rhythm and Rhythm Guitar techniques are the main subjects to be studied this semester.

Student Learning Outcomes

Improve the student's sight-reading abilities by helping him/her to develop quarter note triplets, introduction to 8va reading in the fifth position, study the second position, cut time, half note triplets, sixteenth note triplets, thirty second notes, phrasing, shifting positions, count 3/4 in one, reading and implied harmony, study the third position, odd meter, and study the seventh position.

Provide Jazz Guitar students a structured step-by-step approach to developing a skilled performance of several rhythmic styles.

- o Min7(b5) chords
- o Reading Charts
- o 7th and min7(b5) chords with fourth string root
- o Basic Moves
- o The five patterns
- o Cycle of fourths
- o Voicing
- o Formulas for 7th chords
- o Dom7th chord shapes
- o Minor 7th chord shapes
- o Major 7th chord shapes
- o Connecting the patterns
- o Inversions
- o Augmented triads
- o Rhythmic Interpretation
- o Harmonized scales with different patterns.

MUSC 2525. Class Flamenco Guitar II
Course Description
Not Available
Student Learning Outcomes
Not Available

MUSC 2540. Class Classical Guitar II
Course Description
You will continue your study of classical guitar with more complex music, techniques, and rhythms, and emphasis on ornamentation and presentation of classical music.
Student Learning Outcomes
Upon completion of this course, students should be able to demonstrate knowledge of the positions V - IX of the classical guitar, in reading and performing pieces by Sor, Aguado, Carcassi, Carulli and Giuliani, as well as major and minor scales.

MUSC 2549. Jazz Keyboard Theory
Course Description
Music theory as applied to jazz music. Introduction to chord/scale theory, chord nomenclature, common harmonic progressions and substitutions. Keyboard includes basic jazz chord voicings and progressions.
Student Learning Outcomes
1. Identify and apply jazz chord/scale relationships through written analysis and practical keyboard demonstration.
2. Demonstrate fluency in jazz chord nomenclature, including the ability to interpret and notate extended and altered chords.
3. Analyze and construct common jazz harmonic progressions, including ii–V–I, turnarounds, and common chord substitutions.
4. Apply basic jazz theory concepts—including intervals, scales, and chord functions—in the context of jazz idioms.
5. Perform standard jazz chord voicings (e.g., rootless voicings, drop-2, shell voicings) on the piano keyboard with proper voice leading.
6. Realize jazz progressions at the keyboard, demonstrating rhythmic accuracy, harmonic fluency, and stylistic consistency.
7. Complete written assignments that accurately reflect understanding of jazz theoretical principles and their applications.
8. Translate theoretical knowledge to practical musicianship through consistent keyboard practice and in-class performance assessments.
9. Evaluate harmonic choices in jazz compositions and improvisations using appropriate theoretical vocabulary and analytical tools.
10. Demonstrate self-directed learning by preparing

MUSC 2550. Jazz Keyboard Skills I
Course Description
You will learn to realize jazz harmonies at sight from lead sheets or other progressions.
Student Learning Outcomes
This class is designed to help students realize jazz harmonies at sight from lead sheets or other chord progressions. It assumes that students are willing to practice an average of 30-45 minutes a day outside of class. The student must have access to a piano or quality keyboard outside of class, and must own and practice with a metronome. II-V-I key - all 12 keys together.

MUSC 2560. Jazz Keyboard Skills II

Course Description
You will learn to realize jazz harmonies at sight from lead sheets or other progressions.
Student Learning Outcomes
In this continuation of Jazz Keyboard Skills I, you will learn to realize jazz harmonies at sight from lead sheets or other progressions.

MUSC 2610. Accompaniment Resource
Course Description
The student meets with a piano accompanist for 30 minutes each week. Available only for music majors taking Applied Music Lesson in voice, brass, woodwinds, or composition.
Student Learning Outcomes
Students will:
1. Find and direct the power of personal creativity and self-expression.
2. Develop the ability to understand and perform in various styles.
3. Exercise the skills of problem solving and be able to meet new musical challenges.
4. Learn discipline required for performing.

MUSC 2630. Digital Audio Recording
Course Description
A continuation of Audio Amplification with emphasis on advanced recording techniques. Track recording into digital format; computerized digital editing with knowledge of WaveLab, Cakewalk, MasterTrax and other music editing programs. Individual and group lab projects required. Lab hours are scheduled throughout the week.
Student Learning Outcomes
Upon successful completion of the course, the student will be able to…
1. Choose equipment for and operate a recording studio.
2. Repair and troubleshoot recording equipment.
3. Get a high-quality transparent mix.

MUSC 2650. Class Voice III
Course Description
An applied music course in advanced voice that presents vocal techniques beyond the intermediate singer's level. Major topics include a basic knowledge of German singing diction, the International Phonetic Language, and the necessary practical application and performance of German and English vocal literature for the advanced voice student.
Student Learning Outcomes
1. Sing in German and English with correct diction.
2. Sing four songs in at least two languages, including two songs memorized, for public performance.
3. Demonstrate ease and confidence in the performance of solo repertoire.

MUSC 2655. Class Voice IV
Course Description
An applied music course in advanced voice that presents Bel Canto vocal techniques at an advanced singer's level. Major topics include a basic knowledge of French singing diction, a review of the International Phonetic Alphabet, and the necessary practical application and performance of French, German, Italian, and English vocal literature for the advanced voice student.
Student Learning Outcomes
1. Demonstrate pronunciation similarities and differences employed in the singing of English, Italian, German, and French songs.

2. Identify and pronounce the International Phonetic Alphabet (IPA) symbols necessary to the French language.
4. Demonstrate correct French diction in singing of song(s) assigned in class.
5. Demonstrate improved pronunciation skills of English, Italian, or German songs.

MUSC 2660. Class Voice V
Course Description
Not Available
Student Learning Outcomes
Not Available

MUSC 2710. Private Lessons: Piano
Course Description
Required of all music majors. One half hour lesson per week for one credit. One-hour lesson per week for two credits. One-hour lesson plus a seminar per week or equivalent for three credits. Music majors must attend a one-hour weekly Studio Class.
Student Learning Outcomes
1. To stimulate thought concerning life and music teaching/performance as evidenced through verbalization and behavior demonstrating the abilities to logically analyze, criticize, and choose alternatives that exist within some value orientation.
2. To provide the musician with experiences that will enable them to communicate musical thoughts/ideas in a unique and personal manner through their instrument.
3. To enhance the fundamental musical knowledge of the student through the performance of original and transcribed works for instrument.
4. To provide the musician with opportunities to expand their musical creativity through improvisatory performances on their instrument.

MUSC 2710. Private Lessons: Woodwind Instruments
Course Description
Private Lessons for Majors (may be repeated for credit) Required of all music majors. One half hour lesson per week for one credit. One-hour lesson per week for two credits. One-hour lesson plus a seminar per week or equivalent to three credits. Music majors must attend a one-hour weekly Studio Class.
Student Learning Outcomes
1. To stimulate thought concerning life and music teaching/performance as evidenced through verbalization and behavior demonstrating the abilities to logically analyze, criticize, and choose alternatives that exist within some value orientation.
2. To provide the musician with experiences that will enable them to communicate musical thoughts/ideas in a unique and personal manner through their instrument.
3. To enhance the fundamental musical knowledge of the student through the performance of original and transcribed works for instrument.
4. To provide the musician with opportunities to expand their musical creativity through improvisatory performances on their instrument.

MUSC 2710. Private Lessons: Vocal
Course Description
Private Lessons for Majors (may be repeated for credit) Required of all music majors. One half hour lesson per week for one credit. One-hour lesson per week for two credits. One-hour lesson plus a seminar per week or equivalent for three credits. Music majors must attend a one-hour weekly Studio Class.

Student Learning Outcomes

1. To stimulate thought concerning life and music teaching/performance as evidenced through verbalization and behavior demonstrating the abilities to logically analyze, criticize, and choose alternatives that exist within some value orientation.
2. To provide the musician with experiences that will enable them to communicate musical thoughts/ideas in a unique and personal manner through their voice.
3. To enhance the fundamental musical knowledge of the student through the performance of original and transcribed works for voice.
4. To provide the musician with opportunities to expand their musical creativity through improvisatory performances on their voice.

MUSC 2710. Private Lessons: Secondary Instrument

Course Description

Private lessons for music majors on instruments (and voice) other than their principal instrument.

Student Learning Outcomes

1. To stimulate thought concerning life and music teaching/performance as evidenced through verbalization and behavior demonstrating the abilities to logically analyze, criticize, and choose alternatives that exist within some value orientation.
2. To provide the musician with experiences that will enable them to communicate musical thoughts/ideas in a unique and personal manner through their instrument/voice.
3. To enhance the fundamental musical knowledge of the student through the performance of original and transcribed works for instrument/voice.
4. To provide the musician with opportunities to expand their musical creativity through improvisatory performances on their instrument/voice.

MUSC 2710. Private Lessons for the Non-Major

Course Description

Studio instruction in voice, keyboard, percussion, string or wind instruments for students not majoring in music.

Student Learning Outcomes

1. To stimulate thought concerning life and music teaching/performance as evidenced through verbalization and behavior demonstrating the abilities to logically analyze, criticize, and choose alternatives that exist within some value orientation.
2. To provide the musician with experiences that will enable them to communicate musical thoughts/ideas in a unique and personal manner through their instrument/voice.
3. To enhance the fundamental musical knowledge of the student through the performance of original and transcribed works for instrument/voice.
4. To provide the musician with opportunities to expand their musical creativity through improvisatory performances on their instrument/voice.

MUSC 2710. Private Lessons: Brass Instruments

Course Description

Private Lessons for Majors (may be repeated for credit) Required of all music majors. One half hour lesson per week for one credit. One-hour lesson per week for two credits. One-hour lesson plus a seminar per week or equivalent for three credits. Music majors must attend a one-hour weekly Studio Class.

Student Learning Outcomes

1. To stimulate thought concerning life and music teaching/performance as evidenced through verbalization and behavior demonstrating the abilities to logically analyze, criticize, and choose alternatives that exist within some value orientation.
2. To provide the musician with experiences that will enable them to communicate musical thoughts/ideas in a unique and personal manner through their instrument.
3. To enhance the fundamental musical knowledge of the student through the performance of original and transcribed works for instrument.
4. To provide the musician with opportunities to expand their musical creativity through improvisatory performances on their instrument.

MUSC 2710. Private Lessons: Percussion Instruments

Course Description

Private Lessons for Majors (may be repeated for credit) Required of all music majors. One half hour lesson per week for one credit. One-hour lesson per week for two credits. One-hour lesson plus a seminar per week or equivalent for three credits. Music majors must attend a one-hour weekly Studio Class.

Student Learning Outcomes

1. To stimulate thought concerning life and music teaching/performance as evidenced through verbalization and behavior demonstrating the abilities to logically analyze, criticize, and choose alternatives that exist within some value orientation.
2. To provide the musician with experiences that will enable them to communicate musical thoughts/ideas in a unique and personal manner through their instrument.
3. To enhance the fundamental musical knowledge of the student through the performance of original and transcribed works for instrument.
4. To provide the musician with opportunities to expand their musical creativity through improvisatory performances on their instrument.

MUSC 2710. Private Lessons: Electronic Media

Course Description

Private Lessons for Majors (may be repeated for credit) Required of all music majors. One half hour lesson per week for one credit. One-hour lesson per week for two credits. One-hour lesson plus a seminar per week or equivalent for three credits. Music majors must attend a one-hour weekly Studio Class.

Student Learning Outcomes

1. To stimulate thought concerning life and music teaching/performance as evidenced through verbalization and behavior demonstrating the abilities to logically analyze, criticize, and choose alternatives that exist within some value orientation.
2. To provide the musician with experiences that will enable them to communicate musical thoughts/ideas in a unique and personal manner through electronic media.
3. To enhance the fundamental musical knowledge of the student.
4. To provide the musician with opportunities to expand their musical creativity through improvisatory performance through electronic media.

MUSC 2720. Chamber Singers / Swanee Singers

Course Description

Open by audition only to all students, including music majors and music minors.

Student Learning Outcomes

1. To develop and demonstrate healthy vocal techniques: posture, breathing, tone placement, diction, and expression.
2. To develop and use a knowledge of music reading: pitch, rhythm, symbols, and vocabulary.

3. To develop the skill of singing independently and cooperatively in a group.
4. To develop an understanding of varied historical performance practices and to convey these styles in performance with appropriate historical vocalism and ornamentation.
5. To develop competency in both presenting concerts and being constructively critical and self-evaluative about your own performing.
6. To develop and broaden levels of musical thinking to promote life-long learning and long-term participation in the choral arts.

MUSC 2730. Wind Symphony

Course Description

Open by audition only to all students, including music majors and music minors. (May be repeated for credit.)

Student Learning Outcomes

1. To stimulate thought concerning life and instrumental music teaching/performance as evidenced through verbalization and behavior demonstrating the abilities to logically analyze, criticize, and choose alternatives that exist within some value orientation.
2. To provide the musician with the experiences that will enable them to communicate musical thoughts/ideas in a unique and personal manner through his/her instrument.
3. To enhance the fundamental musical knowledge of the student through the performance of original and transcribed works for band.
4. To instill in students a commitment to life-long learning.
5. To promote personal growth through the rehearsal and performance of music of high quality.
6. To encourage students to continue to perform and consume music following graduation.

MUSC 2730. Marching Band

Course Description

Letter grades will be given for all ensembles. (May be repeated for credit.) 2000-level ensembles are open to all students including music majors and music minors.

Student Learning Outcomes

1. To stimulate thought concerning life and instrumental music teaching/performance as evidenced through verbalization and behavior demonstrating the abilities to logically analyze, criticize, and choose alternatives that exist within some value orientation.
2. To provide the musician with the experiences that will enable them to communicate musical thoughts/ideas in a unique and personal manner through his/her instrument.
3. To enhance the fundamental musical knowledge of the student through the performance of original and transcribed works for band.
4. To instill in students a commitment to life-long learning.
5. To promote personal growth through the rehearsal and performance of music of high quality.
6. To encourage students to continue to perform and consume music following graduation.

MUSC 2730. Symphonic Band

Course Description

Letter grades will be given for all ensembles. (May be repeated for credit.) 2000- level ensembles are open to all students including music majors and music minors.

Student Learning Outcomes

1. To stimulate thought concerning life and instrumental music teaching/performance as evidenced through verbalization and behavior demonstrating the abilities to logically analyze, criticize, and choose alternatives that exist within some value orientation.

2. To provide the musician with the experiences that will enable them to communicate musical thoughts/ideas in a unique and personal manner through his/her instrument.
3. To enhance the fundamental musical knowledge of the student through the performance of original and transcribed works for band.
4. To instill in students a commitment to life-long learning.
5. To promote personal growth through the rehearsal and performance of music of high quality.
6. To encourage students to continue to perform and consume music following graduation.

MUSC 2735. Spirit Marching Band

Course Description

The Spirit Marching Band performs at all UNM home football games and select away games. The marching band is open to all students at UNM and CNM and supports both instrumental and visual units. Each member receives a monetary stipend upon completion of the season. Maximum of 8 credit hours allowed toward degrees in the College of Fine Arts, in the College of Education, and in the B.A. Liberal Arts and B.I.S.I. degrees; maximum of 4 credit hours allowed towards degrees in other colleges.

Student Learning Outcomes

1. To cultivate within the student a value system that encourages community service.
2. To provide the performer with experiences that will enable them to communicate thoughts/ideas/emotions in a unique and personal manner using his/her instrument, body, and physical motion.
3. To instill in students a commitment to life-long learning.
4. To promote personal growth through the rehearsal and performance of music, choreography, and drill of high quality.
5. To encourage students to continuously participate in and support artistic performances following graduation.

MUSC 2740. Pride Marching Band

Course Description

The Pride Marching Band performs at all NMSU home football games and select away games. The marching band is open to all students at NMSU and supports both instrumental and visual units.

Student Learning Outcomes

1. To cultivate within the student a value system that encourages community service.
2. To provide the performer with experiences that will enable them to communicate thoughts/ideas/emotions in a unique and personal manner using his/her instrument, body, and physical motion.
3. To instill in students a commitment to life-long learning.
4. To promote personal growth through the rehearsal and performance of music, choreography, and drill of high quality.
5. To encourage students to continuously participate in and support artistic performances following graduation.

MUSC 2790. Introduction to Sound and Music Production

Course Description

Students will begin to design their own hybrid production music using Digital Audio Workstations, recording, plug-ins, and midi instruments. Working together in small groups, students will also work on generating and responding to aesthetic and technical critique and utilizing music composition fundamentals.

Student Learning Outcomes

1. Students will demonstrate a clear grasp of the underlying principles of sound and electronic audio.
2. Students will create original sound/music from midi-based tools, employing detailed decision making and DAW techniques.
3. Students will create original sound/music from recorded audio that employs editing and processing techniques.

4. Students will develop a practice of thoughtful listening including reflecting upon and assessing their own creative work as well as the creative work of their colleagues and formulate ideas and suggestions.
5. Students will create original music that demonstrates an understanding of music fundamentals

MUSC 2810. Pro Tools Fundamentals

Course Description

Covers the basic principles of digital music production, recording and editing, from initial set up to final mixdown. Involves recording instruments, recording vocals, MIDI sequencing audio looping. Upon the successful completion of exams, the "user" level certificate will be available from Avid.

Student Learning Outcomes:

1. Understand basic principles of digital music production.
2. Understand basic principles of recording and editing.
3. Understand basic principles of MIDI sequencing and audio looping.
4. Set up Pro Tools for music production.
5. Setup, save, edit and transfer Pro Tools session files.
6. Capture a performance of instrumental and MIDI music.

MUSC 2821. Sophomore Hurdle

For all BM, BME, and BS Music majors before advancing to the 400 level of applied study. A performance hurdle for faculty panel consisting of musical selections, exercises, and sightreading.

Student Learning Outcomes

1. Demonstrate mastery of foundational performance skills appropriate for end of second academic year.
2. Have performed varied standard repertoire from memory (voice) or score (instrumental) with appropriate stylistic and historical interpretation.
3. Read notated music at sight with accurate rhythm, pitch, and general musicianship.

MUSC 2992. Applied Music I

Course Description

Individual instruction to develop technique, musicianship, performance and improvisational skills, as well as knowledge of significant repertoire.

Student Learning Outcomes

Varies

MUSC 2993. Workshop in Music

Course Description

Varies

Student Learning Outcomes

Varies

MUSC 2995. Cooperative Education in Music

Course Description

Varies

Student Learning Outcomes

Varies

MUSC 2996. Topics in Music
Course Description
Varies
Student Learning Outcomes
Varies

Museum Studies (MUSM)

MUSM 2110. Museum Studies Practicum
Course Description
Varies
Student Learning Outcomes
Varies

Native American and Hispano Studies (NAHS)

NAHS 1110. Introduction to Native American /Hispano Cultural Studies
Course Description
This course will serve as an introduction to the variety of topics that will be addressed in the three thematic areas that are the core of the Indo/Hispano Cultural Studies Minor. The course will expose students to the historical, cultural, social, economic and environmental evolution of the people that are indigenous or of mixed heritage that are centrally located in the Southwest, with specific inferences to those residing in Northern New Mexico, emphasizing the numerous interconnections they have made with other people and cultures, and to illustrate how these people have survived adversity through a lengthy history of adaptation and struggle.
Student Learning Outcomes
At the conclusion of this course, students should be able to:

1. Understand historical foundations for contemporary Native American/Hispano communities and societies.
2. Recognize and elaborate on the complex cultural dynamics of Native American and Hispano communities and cultural groups.
3. Explore and identify relationships of Native American/Hispano culture with deeper understandings of community, land, environment and place.
4. Think critically of media and artistic representation of Native American/Hispano communities.
5. Comprehend Native American/Hispano relationships and articulations with social institutions such as education, governance and cultural agencies.
6. Develop self-awareness and insight to importance of Native American/Hispano language, literature and popular culture.

NAHS 2110. Introduction to-Hispano Ethnicity and Identity Formation
Course Description
This course will provide students with foundational concepts and discussions regarding the complex relationships of Native American/ Hispano ethnic group alignment and the various social practices and contexts for dynamic identity formation. Identity formation discourses include community and place identity, socioeconomic and class identifications, gender and sexual orientation, transnational and border identifiers; Mestizaje and Indigenista orientations.
Student Learning Outcomes
At the conclusion of this course, student should be able to:

1. Analyze and discuss different theories of ethnicity and identity politics.

2. Identify and research different social and linguistic contexts where dynamic process of identity formation are embodied.
3. Develop and present insights into personal areas of identity formation and developmental trajectories.
4. Recognize and embrace self-reflection strategies that permit exploration into identity formation.

Native American Studies (NATV)

NATV 1150. Introduction to Native American Studies

Course Description

This course surveys the significance of Native American Studies through an inter-disciplinary approach to two areas of academic concentration: Indigenous Learning Communities, and Leadership and Building Native Nations.

Student Learning Outcomes

1. Students will develop a general understanding of the various concentration areas in Native American Studies throughout the United States.
2. Students will identify the contributions of various academic disciplines to Native American Studies.
3. Students will understand the intricacies and intersections of Indigenous scholarship in Native American Studies.
4. Students will articulate the importance of Native American Studies as a stand-alone discipline in academia.
5. Students will be able to connect community issues in both Native and Non-Native America to concepts taught in Native American Studies.

NATV 2088. Native American Studies Specialty

This course is used to transfer approved courses from other colleges and universities. (Currently applicable for CNM only for transfer purposes).

Student Learning Outcomes

Varies

NATV 2110. Sociopolitical Concepts in Native America

Course Description

This course examines a body of politics identified with Native America specific to historical and contemporary relevance for understanding Native American/Indigenous/American Indian nations and communities. Students are challenged to identify issues and debates based on selected readings, films; case examples; and guest presentations to engage in informed discussions about the socio-political experience of Native Americans within the U.S. and indigenous peoples internationally, including 'global' activist movements.

The course will use a seminar discussion format to present key (theoretical-methodological) approaches to developing a critical understanding of social and political issues impacting Native Americans today. To make the 'intangible' i.e., thinking, values, and belief systems but not limited to policies and political behavior, cultural expression that result in tangible actions affecting Native American peoples. Students are expected to develop and refine their skills in articulating verbal and written critiques of sociopolitical concepts identified.

Student Learning Outcomes

Not Available

NATV 2120. The Native American Experience

Course Description

Introductory survey of Native American History, culture and contemporary issues. Students read literature by and about Native Americans covering a variety of topics including tribal sovereignty, federal policy, activism, economic development, education and community life.

Student Learning Outcomes

1. Apply cultural and historical context to text about Native Americans (by Natives and non-Natives).

2. Analyze texts about Native Americans in relation to tribal sovereignty, federal policy, activism, economic development, education and community life.
3. Evaluate texts by and about Native Americans from an NAS perspective.

NATV 2140. Research Issues in Native America

Course Description

In this course, you will critically examine research theories, methodologies, and practices of various academic disciplines used to study Native Americans. You will review research databases and collections pertaining to Native Americans. The course focuses on developing your research skills and places an emphasis on the impact and value of research for Native communities.

Student Learning Outcomes

1. Critically examines research theories, methodologies, and practices of various academic disciplines used to study Native Americans.
2. Apply Indigenous-based theory, research methods, and ethics to critical leadership issues in Native American communities.
3. Conduct research by creating research questions, examining theories and methods, incorporating formatting styles, navigating academic databases, and writing a literature review aligned with community needs and interests.

NATV 2315. Language Recovery, Revitalization and Community Renewal

Course Description

Examines Native language loss from the boarding school era to current trends in language planning and revitalization. Special emphasis is placed on the importance of language to culture and on current community renewal efforts by Native people.

Student Learning Outcomes:

1. Examine the nature of language, culture, and identity across Indigenous cultures, genders, ages, and regions.
2. Evaluate the current state of language change across Indigenous communities.
3. Compare ideologies about the significance of language.
4. Analyze current language revitalization models and programs implemented by Indigenous communities and schools.

NATV 2315. Indigenous Language Revitalization and Community Renewal

Course Description

Examines Indigenous language change from the boarding school era to current trends in language planning and revitalization. Special emphasis is placed on the importance of language to culture and on current community renewal efforts by Indigenous people.

Student Learning Outcomes

1. Examine the nature of language, culture, and identity across Indigenous cultures, gender, age, and regions.
2. Evaluate the current state of language change across Indigenous communities.
3. Compare diverse ideologies about the significance of language.
4. Analyze current language revitalization models and programs implemented by Indigenous communities and schools.

NAVA 2315. Language Recovery, Revitalization and Community Renewal

Course Description

Examines Native language loss from the boarding school era to current trends in language planning and revitalization. Special emphasis is placed on the importance of language to culture and on current community renewal efforts by Native people.

Student Learning Outcomes:

1. Examine the nature of language, culture, and identity across Indigenous cultures, genders, ages, and regions.
2. Evaluate the current state of language change across Indigenous communities.
3. Compare ideologies about the significance of language.
4. Analyze current language revitalization models and programs implemented by Indigenous communities and schools.

NATV 2996. Topics in Native American Studies
Course Description
Varies
Student Learning Outcomes
Varies

Natural Resources (NATR)

NATR 2110C. General Ecology
Course Description: Ecological principles and concepts for organisms, populations, and communities are introduced. Ecosystem structure and function, population dynamics, species interactions, species diversity and habitat associations, evolutionary ecology, and classical hypothesis dominating the field of ecology are emphasized.
Student Learning Outcomes
As a result of completing this course, the student will be able to:

1. Explain the principles of living organisms interacting with each other and their environment.
2. Connect energy flow and nutrient cycling to interactions and relationships of organisms in ecosystems.
3. Recognize a variety of ecotones based upon landscape characteristics including vegetation types, topography, climate, and soils.
4. Understand cause and effect of multiple use management on ecological communities.
5. Understand the basic principles of population ecology, natural history and evolution as it pertains to species adaptations and ecosystem function.
6. Develop the ecological foundation to build upon as they continue their natural resource curriculum.

NATR 2996. Topics in Natural Resources
Course Description
Field techniques used to manage rangeland resources are introduced.
Topics include stocking rates, range improvements, economics, noxious weeds, and survey methods. Field trips are required.
Student Learning Outcomes
Primary objectives upon completion of this course are:

1. Students will utilize line transect methods in the measurement of ground cover and inventory techniques to categorize species composition and ground cover.
2. Students will classify important range plant species by family, genus, and species by appropriate field techniques.
3. Student will identify all classes of domestic and commercial livestock that utilize public and private lands including predominant wildlife species.
4. Students will learn to assess range condition using current methodology, applying carrying capacity projections to each range site.
5. Students will identify basic anatomy, physiology and nutritional requirements of livestock and wildlife species in varying range settings.
6. Student will recognize grazing methods practiced on Tribal, Federal, and private lands and apply principles and methods for habitat and range improvement.
7. Students will understand current economic and climatic settings affecting range management practices and decisions.

8. Students will apply cumulative knowledge including soil science, plant physiology, and ecology to recognize vegetative communities and apply appropriate management considerations.

Natural Science (NTSC)

NTSC 1110. Physical Science for Teachers

Course Description

Introduces the science of geology, chemistry, physics and astronomy, with emphasis on the sciences processes, inquiry and the integration of technology. This course is activity based utilizing problems and issues-based approach.

Student Learning Outcomes

1. Contrast physical and chemical reactions.
    a. Explain chemical bonds.
    b. Explain atoms and their relationships to elements.
2. Examine the three types of plate boundaries.
    a. Explain plate tectonics.
    b. Restate theory of continental drift.
3. Differentiate formation of sedimentary, igneous, and metamorphic rocks.
    a. Explain the rock cycle.
    b. Discuss history of the earth in relation to greenhouse and icehouse cycles.
    c. Contrast principles of relative, radiometric, and paleo magnetic dating of rocks.
4. Determine a mineral's physical properties.
    a. Define mineral.
    b. List physical properties of minerals and how they relate to elements.
5. Examine Newton's laws of motion.
    a. Discuss Newton's three laws of motion.
    b. Discuss Newton's law of universal gravitation.
6. Examine origin of the universe.
    a. Discuss big bang theory.
    b. Explain theory of the cosmological constant.
7. Contrast planets and stars.
    a. Define differences among planets.
    b. Define differences among stars.
8. Examine origin of the sun and moon.
    a. Explain the influence of the sun and moon on fluid movements, including weather phenomena on earth.
    b. Contrast lunar and solar eclipses.
    c. Differentiate between the sun and moon.

NTSC 1120. Life Science for Teachers

Course Description

Uses activities for the study of science topics including botany, cell biology, genetics, microbiology and zoology with emphasis on science processes, inquiry and the integration of technology.

Student Learning Outcomes

1. State cell theory.
    a. Differentiate between prokaryotic and eukaryotic cells.
    b. Discuss cell function and structure.
2. Demonstrate understanding of Mendelian genetics and inheritable traits.
    a. Define genetic crosses.

    b. Explain DNA transfer.
3. Explain cellular respiration and photosynthesis.
    a. Locate sites of cellular respiration.
    b. Distinguish cellular use of energy resources.
    c. Associate photosynthesis and cellular respiration with energy utilization.
4. Distinguish the evolutionary process and adaptation outcomes.
    a. Review evolutionary theory.
    b. List evidence of evolution.
5. Determine the reasons for classification.
    a. List taxonomic features.
    b. Differentiate biodiversity of all living things.
    c. Discuss basics of classification system.
6. Examine human systems.
    a. List human systems.
    b. Define components and functions of systems.
    c. Associate human life with functioning systems.
7. Compare global biomes.
    a. List diverse systems.
    b. Differentiate components within these systems.
    c. Contrast regional systems.

NTSC 1996. Natural Science Workshop
Course Description
Varies
Student Learning Outcomes
Varies

NTSC 2110. Environmental Science for Teachers
Course Description
Introduces major issues in environmental science with emphasis on science processes, scientific investigations and field-based activities, and the integration of technology. Course topics include current issues on population, healthy ecosystems, and natural resources.
Student Learning Outcomes
1. Examine major water issues.
    a. Identify specific types of water pollutants.
    b. Discuss water cycle.
    c. Contrast different methods of water conservation.
2. Determine the relationships between components of an ecosystem.
    a. Identify components to an ecosystem.
    b. Discuss possible disturbances and their causes in an ecosystem.
    c. Review the meaning of j-curves and s-curves in animal populations.
3. Analyze problems in food supply issues.
    a. Explain the green revolution.
    b. Identify food supply issues and their underlying causes.
    c. Discuss issues of pesticides and herbicides in the environment.
    d. Identify problems in modern day agriculture.
    e. Contrast productive and unproductive soils.

4. Examine differences in human population between the developing versus the developed world.
    a. List underlying factors that influence family size.
    b. Identify possible solutions to growing populations.
    c. Discus ecological footprint in the developing versus the developed world.
    d. Contrast solutions to ecosystem degradation and human consumption.
5. Contrast solutions to urban sprawl.
    a. Identify origins of urban sprawl.
    b. Define sustainability.
    c. Discuss the five principles of sustainability.
    d. Distinguish between Neolithic, industrial, and environmental revolutions.
    e. Identify environmental impacts of urban sprawl.
6. Contrast global solutions to the energy crisis.
    a. Cite differences between renewable and non-renewable energy sources.
    b. Identify origins of fossil fuels.
    c. Discuss human interest in fossil fuels from a historical perspective.
    d. Identify origins of renewable energy sources.
    e. Discuss human interest in renewable energy.
7. Examine different solutions for addressing the global decline in biodiversity.
    a. Define biodiversity.
    b. Differentiate between instrumental value an intrinsic value of species.

Navajo (NAVA)

NAVA 1110. Navajo I

Course Description

The purpose of this beginning class is to develop listening, speaking, reading and writing skills to communicate at an elementary level. The course will use a communicative approach for students to learn about the fundamentals of vocabulary, grammar, conversation, and Navajo cultures.

Student Learning Outcomes

1. Gain a basic understanding of the Navajo sound system, including the sounds of the alphabet: vowel, consonants, diphthongs, high/low tones, nasal, and glottal stop.
2. Obtain and utilize Navajo words and phrases through demonstration of the written and spoken language.
3. Demonstrate the ability to use, combine, and integrate basic grammatical structures into meaningful sentences, including subjects, objects, and verbs.
4. Hold conversations concerning everyday situations with an elementary degree of fluency.
5. Understand and utilize both formal and informal Navajo language, such as ceremonial, classroom, home, and professional settings.
6. Develop an understanding and appreciation of Navajo, including values, traditions, works of art, and individual perspectives on evolving cultures.
7. Utilize critical thinking skills to make thoughtful cross-cultural comparisons and connections among beliefs, social interactions, and cultural practices.

NAVA 1120. Navajo II

Course Description

Navajo II is a continuation of Beginning Navajo I. The purpose of this course is to enhance speaking, reading and writing of Navajo. The course will use a communicative approach for students to learn and utilize more complex vocabulary and grammar for reading, writing, and conversing in the language.

Student Learning Outcomes

1. Obtain, develop, and continue to build upon the basic Navajo sound system learned in Beginning Navajo I, including the sounds of the alphabet: vowel, consonants, diphthongs, high/low tones, nasal, and glottal stop.
2. Demonstrate increased knowledge of Navajo words and phrases through written and spoken Navajo.
3. Integrate and apply grammatical structures into more complex sentences, including subjects, objects, and verbs.
4. Hold conversations concerning everyday situations with an advanced-beginner degree of fluency.
5. Understand and utilize both formal and informal Navajo language, such as ceremonial, classroom, home, and professional settings.
6. Develop a more advanced understanding and appreciation of Navajo, including values, traditions, works of art, and individual perspectives on evolving cultures.
7. Utilize critical thinking skills to make thoughtful cross-cultural comparisons and connections among beliefs, social interactions, and cultural practices.

NAVA 1130. Beginning Navajo Reading and Writing

Course Description

This course is for students who want to learn to read and write Navajo. Lectures are presented exclusively in Navajo. Students will develop reading and writing skills while increasing intercultural awareness and understanding of Navajo communities and the significance of Navajo language in the past and the present, along with its contributions to Native American cultures.

Student Learning Outcomes

1. Develop reading skills including the recognition and pronunciations of Navajo words using diacritic markings, as well as reading basic Navajo texts.
2. Demonstrate the ability to use, combine, and integrate grammatical structures into sentences through reading and writing.
3. Show accuracy in writing at an elementary level to express feelings, emotions, and topics of interest.
4. Enhance knowledge and utilization of Navajo words and phrases through writing.
5. Understand and utilize both formal and informal written language.
6. Develop an understanding of and appreciation for Navajo literacy through values, traditions, works of art, and individual perspectives on evolving cultures.
7. Utilize critical thinking skills to make thoughtful cross-cultural comparisons and connections among beliefs, social interactions, and cultural practices through writing and reading of Navajo

NAVA 1140. Beginning Navajo Conversation

Course Description

Not Available

Student Learning Outcomes

Not Available

NAVA 1150. Navajo Medical

Course Description

Using a chart of the human body, students will locate and name the body part in question. In a primary care context, student will say phrases such as ‘breath in’, ‘breath out’, ‘show me where it hurts’, ‘open your mouth’, ‘say aaah’, and so forth. Historical narratives highlight the difference in beliefs of wellness. One such belief is that being fat is not seen as a health concern among some Navajos. Therefore, it’s essential to understand some of the beliefs to help a patient.

Student Learning Outcomes

1. By the end of the course, students will be able to speak basic medical Navajo.
2. By the end of the course, students will be able to will identify terminology for body parts
3. By the end of the course, students will be able to identify medical terminology needed for primary care contexts.

NAVA 1210. Navajo Cultural Arts

Course Description

This course introduces students to Navajo Cultural Arts through explorations of Diné history, philosophy, and life ways. Lectures and in-class demonstrations offer tools for sash belt weaving, basketry, and moccasin making. The course culminates in projects that require students to demonstrate their technical and artistic expertise.

Student Learning Outcomes

Upon completion of the course, students will be able to:

1. Retell oral traditions concerning sash belt weaving, basketry, and moccasin making.
2. Design and produce a sash belt.
3. Design and produce a Navajo basket.
4. Design and produce a set of Navajo moccasins.
5. Demonstrate appreciation for Navajo Cultural Traditions in relationship to Navajo Cultural Arts.

NAVA 1310. Navajo Rug Weaving I

Course Description

Introduction to the processes and techniques of Navajo weaving, including preparation of the wool, setting up the loom and warp, weaving techniques, and design elements. Basic origin stories and the history of Navajo rug weaving will also be covered.

Student Learning Outcomes

Upon completion of the course, students will be able to:

1. Understand the oral tradition and the history of Navajo weaving. Identify the significance of the upright loom and weaving tools, and identify traditional, regional, and non-regional Navajo rug styles.
    a. Understand the oral history of Navajo weaving.
    b. Know the historical background of Navajo rugs.
    c. Identify the different names and types of Navajo rugs.
2. Gain a basic understanding of Navajo weaving by preparing the wool, dying wool, and setting up the loom and the warp.
    a. Learn vocabulary words used with weaving and naming tools.
    b. Prepare, gather, process, and spin the wool.
    c. Dye wool.
    d. Prepare the loom and warp.
    e. Spin the side-string and spacing string.
3. Learn the basic weaving techniques and designs.
    a. The weaving process:
        1. Warping and twining
        2. Mounting the bound warp on the dowel
        3. Mounting the warp on the loom
        4. Making the heddles and shed rod
        5. Holding the batten and comb
        6. Weaving the first rows
        7. Using the heddle and shed rod
        8. Adding new wool (string)
        9. Repairing a broken warp
        10). Learning hooked joint, square, and diamond shapes
    b. Create a basic rug design using the three (3) basic designs.
    c. Learn the “Finishing Technique” of traditional Navajo Rug Weaving.

NAVA 1320. Navajo Rug Weaving II

Course Description

Continuation of NAVA 1310 which will include further development of the processes and techniques of Navajo weaving, with a special emphasis on advanced weaving techniques and design.

Student Learning Outcomes

Upon completion of the course, students will be able to:

1. Know the oral tradition and the history of Navajo weaving in depth. Identify the significance of the upright loom and weaving tools. Identify traditional, regional, and non-regional Navajo rug styles.
    a. Understand the oral history of Navajo weaving.
    b. Know the historical background of Navajo rugs.
    c. Identify the different names and types of Navajo rugs.
2. Demonstrate Navajo weaving by preparing the wool, dying wool, and write a step by step process of setting up the loom, the warp, and weaving.
    a. Learn vocabulary words used with weaving and naming tools.
    b. Prepare, gather, process, and spin the wool.
    c. Dye wool.
    d. Prepare the loom and warp.
    e. Spin the side-string and spacing string.
3. Learn additional weaving techniques and designs.
    a. The weaving process:
        1) Warping and twining
        2) Mounting the bound warp on the dowel
        3) Mounting the warp on the loom
        4) Making the heddles and shed rod
        5) Holding the batten and comb
        6) Weaving the first rows
        7) Using the heddle and shed rod
        8) Adding new wool (string)
        9) Repairing a broken warp
        10) Learning hooked joint, square, and diamond shapes
    b. Create an intermediate rug design using the three (3) basic designs.
    c. Learn the “Finishing Technique” of traditional Navajo Rug Weaving.
    d. Produce a completed Navajo Rug.
    e. Assist and mentor beginning students in setting up their looms.

NAVA 1330. Navajo Rug Weaving III

Course Description

Continuation of NAVA 1310 and NAVA 1320 which will include further development of the processes and techniques of Navajo weaving, with a continued emphasis on advanced weaving techniques and design.

Student Learning Outcomes

Upon completion of the course, students will be able to:

1. Know the oral tradition and the history of Navajo weaving in depth. Identify the significance of the upright loom and weaving tools. Identify traditional, regional, and non-regional Navajo rug styles.
    a. Understand the oral history of Navajo weaving.
    b. Know the historical background of Navajo rugs.
    c. Identify the different names and types of Navajo rugs.

2. Demonstrate Navajo weaving by preparing the wool, dying wool, and write a step by step process of setting up the loom, the warp, and weaving.
    a. Learn vocabulary words used with weaving and naming tools.
    b. Prepare, gather, process, and spin the wool.
    c. Dye wool.
    d. Prepare the loom and warp.
    e. Spin the side-string and spacing string.

3. Learn additional weaving techniques and designs.
    a. The weaving process:
        1. Warping and twining
        2. Mounting the bound warp on the dowel
        3. Mounting the warp on the loom
        4. Making the heddles and shed rod
        5. Holding the batten and comb
        6. Weaving the first rows
        7. Using the heddle and shed rod
        8. Adding new wool (string)
        9. Repairing a broken warp
        10). Learning hooked joint, square, and diamond shapes
    b. Create an advanced rug, sash belt, and/or saddle cinch design using eye dazzler, circular, pictorial, and other regional patterns.
    c. Learn the "Finishing Technique" of traditional Navajo Rug Weaving.
    d. Produce an advanced, completed Navajo Rug.
    e. Assist and mentor beginning and intermediate students in setting up their looms.

NAVA 2110. Navajo III
Course Description
Not Available
Student Learning Outcomes
1. Able to read, write and speak Navajo at the intermediate level.
2. Converse on topics related to family, clan relationships, education, transportation and movement by using the correct number of participants and eating traditional Navajo foods with correct eating verbs.
3. Apply the correct paradigm patterns to verbs from above.
4. Use essential grammar concepts.
5. Converse using a vocabulary of 100 verbs.

NAVA 2120. Navajo IV
Course Description
Not Available
Student Learning Outcomes
1. By the end of the course, students will be able to read and write at intermediate levels.
2. By the end of the course, students will be able to relate a story from Navajo Times (a weekly paper).
3. By the end of the course, students will be able to converse using a vocabulary of 150 verbs.

NAVA 2130. Intermediate Navajo Language (Writing)

Course Description
This a Navajo Writing course for Navajo speakers continues from NAV 2110. This course is not suitable for non- Navajo speakers.
Student Learning Outcomes
Not Available

NAVA 2135. Navajo Oral Tradition & Styles
Course Description
Examines philosophical thoughts discussed by Navajo elders by listening to and analyzing various oral styles including storytelling, oratory, prayers, and lectures. English and Navajo instruction. Offered in collaboration with Dine College (NIS 261)
Student Learning Outcomes
Upon successful completion of the course, the student will be able to…

1. become familiar with Navajo world view through the study of Navajo oral traditions.
2. discuss the characters, teachings, language, and ceremonial connections.
3. report on Navajo and other Native American speeches and treaty negotiation.
4. value the Navajo traditions by critiquing the traditional way of lecturing and counseling.
5. research a coyote story and tell the story in the classical language.
6. give a speech in the original oral traditional style.
7. explain and analyze ceremonial and informal prayers.

NAVA 2210. Navajo Culture
Course Description
Introduces the basic values of Diné Society, past and present, including the clan system, the philosophy of duality, rites and passages, and the Navajo creation story.
Student Learning Outcomes
Not Available

NAVA 2220. Navajo History
Course Description
Introduces the history and culture of the Navajo people from the earliest times to the present. The course will examine cultural change, the interaction of the Navajo with other native groups and especially with European peoples.
Student Learning Outcomes
Upon successful completion of the course, student will be able to:

1. Demonstrate a knowledge of historical events
    a. Understand the chronology of Navajo history
2. Understand the causes and processes involved in the growth and development of the Navajo over time, including:
3. Understand the historical roots of the contemporary world
    a. Will understand the relationships between the institutions, conflicts, and values of today as the legacy of our predecessors
    b. Will express their understanding in papers and classroom discussion
4. Appreciate the study of history.
    a. Will enable students to relate events of the past to their own lives and times.
5. Will appropriately use these concepts in tests, papers, and in classroom discussion
6. Understand historical methods
    a. Critical analysis of texts and argument
    b. Interpretation of evidence

c. Conduct research in a variety of media
d. Cites sources appropriately

NAVA 2230. Navajo Government

Course Description

This course is a study of the history, nature, organization, and operation of Navajo tribal government. It concentrates on the evolution of Navajo tribal government since its beginning in the 1920's, and examines the legal and political basis for, and the functions of, Navajo tribal government today.

Student Learning Outcomes

Upon successful completion of the course, students will be able to:

1. Demonstrative understanding of the origin and development of Navajo Government.
2. Describe the history of Navajos' relations with federal, state and local governments and the effects of those relations on Navajo Government.
3. Analyze the effects of colonization by differing forces, at different times, on Navajo Nation status and relations with federal, state and local governments today.
4. Analyze contemporary issues in Navajo Nation politics, including sovereignty, law, justice, indigenous rights, language and culture shift, economic development, repatriation, and activism.
5. Evaluate the impact of historical events on current tribal challenges and issues.
6. Demonstrate appreciation for the strength of the Navajo people in contemporary America

NAVA 2315. Language Recovery, Revitalization and Community Renewal

Course Description

Examines Native language loss from the boarding school era to current trends in language planning and revitalization. Special emphasis is placed on the importance of language to culture and on current community renewal efforts by Native people.

Student Learning Outcomes:

1. Examine the nature of language, culture, and identity across Indigenous cultures, genders, ages, and regions.
2. Evaluate the current state of language change across Indigenous communities.
3. Compare ideologies about the significance of language.
4. Analyze current language revitalization models and programs implemented by Indigenous communities and schools.

NAVA 2240. Diné Philosophy of Education

Course Description

Examines Dine philosophical thought regarding metaphysics, epistemology, aesthetics, ethics, religion, and traditional social structure.

Student Learning Outcomes

Upon completion of the course, students will be able to develop:

1. An understanding of Navajo origins.
2. An understanding of Navajo identity.
3. A broader perspective on the history of the Navajo People according to mythology.
4. Insight into the values and relationship of Navajo principles.
5. An understanding of the origins of some of these principles.
6. An understanding of the Navajo’s perception of the environment.
7. An understanding on one’s roles and responsibilities in terms of the Navajo worldview.
8. An understanding of Navajo organization of knowledge, as designed to promote a life-style becoming an ideal life, as espoused in the Blessing Way.
9. A better understanding of Navajo values, through study of the traditional Navajo values.

NAVA 2996. Topics in Navajo
Course Description
Varies
Student Learning Outcomes
Varies

Naval Science (NVSC)

NVSC 1110 Principles and Concepts of Naval Science
Course Description
Introduction to the naval service, customs, traditions, courtesies, and naval officers' communities.
Student Learning Outcomes

1. Analyze the origins and usage of naval customs and traditions, including military courtesies, basic etiquette, military protocol, and social customs.
2. Explain command relationships and organizational structures, including operational and administrative chains of command, military officer and enlisted rank/paygrade structures, and Navy and Marine Corps community duties and responsibilities.
3. Demonstrate proper uniform wear and military grooming standards according to Navy and Marine Corps regulations

NVSC 1111L. Naval Professional Laboratory
Course Description
To provide Naval Reserve Officer Training Corps students with the tools and opportunities to ensure service readiness and mission accomplishment; enhance professional and personal growth and development; and enable life-long learning.
Student Learning Outcomes

1. Exhibit proper uniform wear and military grooming standards as required by Navy regulations.
2. Understand and articulate the role of commissioned officers as members of the U.S. Armed Forces and know the obligations and responsibilities assumed by taking the oath of office and accepting a commission including the Constitutional requirement for civilian control.
3. Identify and explain Naval programs and policies regarding safety, financial management, harassment and hazing, educational opportunities, equal opportunity, legal matters, diversity, operational stress control, suicide prevention, and general military training.

NVSC 1120 Navy and Marine Corp Fitness
Course Description
This course will develop, enhance and solidify physical fitness levels of future Navy and Marine Corps officers. It will incorporate various core, cardio and muscle strengthening events.
Student Learning Outcomes

1. Understand and apply Naval standards for physical readiness, nutrition, and weight control.
2. Achieve personal physical fitness standards by passing Navy or Marine Corps physical fitness tests.
3. Maintain a fit military appearance in accordance with Navy or Marine Corps body fat percent and/or height-weight standards.

NVSC 1150. Naval Ship Systems I
Course Description
Introduction to naval engineering systems concepts and practices. Topics include ship design, compartmentation, ship stability, damage control, firefighting and ship propulsion systems.
Student Learning Outcomes

1. Apply the concepts of work, power, and efficiency to the analysis of propulsion systems.
2. Describe the basic principles of electrical power generation, distribution, and electrical safety.
3. Explain the basic principles of fluid dynamics and their relevance to naval engineering.

NVSC 2202. Sea Power

Course Description

This course surveys U.S. naval history from the American Revolution to the present. Included is an in-depth discussion of the geopolitical theory of Mahan and other historical figures. Emphasis is on major developments in naval strategy, tactics, technology and the effects of the relevant political climate.

Student Learning Outcomes

1. Comprehend the relationship of sea power to national interest and maritime strategy in both peace and war.
2. Know the impact and significance of geography and Sea Lines of Communication on maritime strategy and naval operations.
3. Know the mission of the U.S. Navy as described in maritime strategy.
4. Know the evolution of the Navy and Marine Corps including the origins of the service along with prominent leaders and their contributions.
5. Know the role naval forces played in the national strategies and policies of the United States in both peacetime and war.
6. Comprehend the historical evolution of sea power and its effects on world history.

NVSC 2150. Naval Ship Systems II

Course Description

Principles of naval weapons systems. Topics include sensors and detection systems, computational systems, tracking systems, weapon delivery systems, the fire control problem and new developments in weapon systems integration.

Student Learning Outcomes

1. Identify the designations, characteristics, capabilities, and missions of ships, aircraft, and weapon systems of the U.S. Navy, Marine Corps, and Strategic Sealift Command.
2. Explain the basic theory and use of radar, sonar, and fire-control systems.
3. Describe the operating principles and common applications of platform weapon systems.

NVSC 2203. Navigation

Course Description

Offers theory, principles and procedures of ship coastal and celestial navigation.

Student Learning Outcomes

1. Comprehend the theory and practice of navigation at sea:
    A. Comprehend the longitude/time relationship.
    B. Demonstrate time conversion and time zone determination.
    C. Know the correct procedures to determine the time of sunrise and sunset.
    D. Know the theory and use of electronic navigation systems, including:
        a. Basic principles of radar navigation.
        b. Operating principles of GPS and navigation chart datum.
    E. Comprehend the uses of navigational datums and the various chart projections.
    F. Know chart symbology particularly those symbols pertaining to hazards and dangers.
    G. Know how to select the proper charts both paper and electronic and how to determine chart accuracy and reliability.
    H. Apply correct plotting procedures when navigating in pilot water, including:
        a. Apply the six rules of dead reckoning in keeping a plot of ship movements.

b. Comprehend the definitions of the terms: track, speed of advance, speed over ground, PIM, EP, LOP, and relative bearing.
c. Know turn and danger bearings.
d. Demonstrate the ability to plot and interpret fixes and running fixes.

I. Know the advantages, disadvantages, and applications of gyro and magnetic compasses:
a. Apply terrestrial navigation methods to determine compass error.
b. Apply magnetic variation to a given location.
c. Know the concept of deviation and the use of the digital flux gate magnetic compass.

J. Know the capabilities and limitations of various instruments used in piloting to determine direction, speed, distance, and depth of water.

K. Know the essential publications and records used in navigation and comprehend their value.

L. Know the characteristics and application of various aids to navigation in piloting and comprehend their importance in safe navigation, including: buoyage systems IALA; lights/daymarkers; radar beacons/markers.

M. Apply correct procedures in planning and plotting approaches to harbors and anchorages.

N. Comprehend tidal action and know tide classifications and reference planes.

O. Demonstrate the ability to use the Current Triangle to find course made good, speed made good, set, drift and compensating course and speed to negate set and drift.

P. Know environmental weather factors affecting Naval operations.

Q. Know the sources of environmental products/predictions/ forecasts available to Naval units underway.

R. Know the impact of hazardous weather conditions on surface and flight operations at sea.

2. Comprehend relative motion and demonstrate capability to solve problems associated with relative motion:
A. Comprehend the theory of relative motion as graphically displayed by the geographic and relative plot.
B. Comprehend the significance of bearing drift and apply bearing drift to determine relative motion.
C. Demonstrate the ability to compute target angle.
D. Comprehend the speed triangle and the relative plot associated with maneuvering board.
E. Demonstrate the use of the maneuvering board to accurately:
a. Determine the closet point of approach, CPA and time of CPA of an approaching vessel.
b. Determine the true course and true speed of a maneuvering ship.
c. Determine course, speed, and time for proceeding to a new station or to intercept another vessel.
d. Determine an avoidance course of a given target.
e. Know the Rules of the Road preventing collisions at sea.

NVSC 2204. Naval Operations

Explores naval ship operations, tactical formations and dispositions; relative motion tactical plots and maneuvering boards are analyzed.

Student Learning Outcomes

1. Discuss the theory of relative motion as it applies to vessels at sea and learn methods to quickly and accurately compute maneuvering solutions.
2. Learn the fundamentals of the U.S. Navy's systems of communications used on sea-going vessels.
3. Discuss the many issues relating to ship handling and Naval Officers' responsibility.
4. Gain a broad understanding of the doctrines of Naval Warfare, Command and Control, and Joint Operations.
5. Upon completion, you will be prepared as line officers in the United States Navy.

NVSC 2231. Evolution of Warfare

Course Description

The purpose of Evolution of Warfare is to imbue students with an understanding of the origins of modern warfighting theory through an analysis of historical philosophies, domains, tactics and technology. Through a study of military history, students explore the timeless fundamentals of armed conflict as well as the central role of innovation. They will apply these fundamental warfighting concepts to historic amphibious and expeditionary operations through guided analysis and decision games.

Student Learning Outcomes

1. Explain core elements of U.S. Marine Corps warfighting culture
2. Comprehend baseline USMC doctrine.
3. To develop the students' critical thinking skills as they pertain to warfare.
4. Comprehend the major cultural, technological, and doctrinal transformations in warfare.
5. To develop fundamental USMC officer skills of writing, analytical thinking, professional writing, and public speaking.
6. Evaluate historical lessons from the development of warfare and apply them to assess how military leaders remain forward thinking.
7. Describe and compare contemporary conventional and irregular warfare using historical examples to explain how warfare has evolved over time.
8. Explain why military leaders must remain vigilant to changes in the character and conduct of warfare.

NVSC 2241. Leadership and Management

Course Description

Explores the structure and principles of naval leadership and management.

Student Learning Outcomes

1. Describe what leadership is, what a leader does, and how leadership is measured.
2. Demonstrate self-awareness in the context of leadership, to include promotion of leadership integrity.
3. Comprehend and examine prominent classical and contemporary leadership theories.
4. Understand and describe the relationship between ethics, moral courage, and leadership.
5. Develop leadership skills to include public speaking and teamwork.

New Mexico Nursing Education Consortium (NMNEC)

NMNC 2445	ADN Capstone
NMNC 3120	Evidence-Based Practice
NMNC 4445	Clinical Intensive II
NMNC 4510	Concept Synthesis
NMNC 4520	Professional Nursing Concepts II
NMNC 4535	Clinical Intensive III
NMNC 4545	BSN Capstone
NMNC 1110/3110	Introduction to Nursing Concepts
NMNC 1135/3135	Principles of Nursing Practice
NMNC 1210/3210	Health and Illness Concepts I
NMNC 1220/3220	Health Care Participant
NMNC 1230/3230	Nursing Pharmacology
NMNC 1235/3235	Assessment and Health Promotion
NMNC 2310/4310	Health & Illness Concepts II
NMNC 2320/4320	Professional Nursing Concepts I
NMNC 2335/4335	Care of Patients with Chronic Conditions
NMNC 2410/4410	Health & Illness Concepts III
NMNC 2435/4435	Clinical Intensive I

NMNC 1110. Introduction to Nursing Concepts

Course Description

Introduces the nursing student to the concepts of nursing practice and conceptual learning.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Integrate knowledge from nursing pre- and co-requisites into a conceptual learning model. [L1.3/P3; L1.6/P6].
2. Apply conceptual learning to select nursing concepts. [L1.6/P6].
3. Define personal values, beliefs, and attitudes about health and wellness. [L1.1/P1].
4. Describe importance of identifying patient safety issues. [L1.2/P2].
5. Describe roles and values of nursing and members of the healthcare team. [L1.5/P5].
6. Describe standards and regulations that apply to nursing practice. [L1.4/P4].

Course Competencies

Upon successful completion of this course, the student will:

1. Recognize one's own values, beliefs and attitudes. [L1.1/P1].
2. Recognize the need for health care access of diverse populations. [L1.1/P1].
3. Identify sources for evidence-based practice. [L1.3/P3].
4. Identify the difference between traditional or routine and evidence-based approaches to care. [L1.3/P3].
5. Identify evidence-based protocols and/or pathways used in nursing care. [L1.3/P3].
6. Define scope of practice in various education/practice environments. [L1.4/P4].
7. Identify information sources for healthcare policy. [L1.4/P4].
8. Describe ethics in relation to healthcare. [L1.4/P4].
9. Demonstrate effective collaboration with peers and faculty. [L1.5/P5].
10. Demonstrate effective communication with peers and faculty. [L1.5/P5] .

NURS 1135. Principles of Nursing Practice

Course Description

This course introduces the nursing student to the application of concepts through clinical skills in seminar, laboratory, and/or clinical settings. Principles of communication, assessments, safety, and interventions including accurate calculation, measurement, and administration of medications will be included.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Describe the different types and characteristics of communication in professional nursing practice. [L1.5/P5].
2. Utilize the concepts presented in Level One nursing courses in the application to the care of the patient. [L1.1; L1.6/P1; P6].
3. Demonstrate the principles of safety during the implementation of nursing skills. [L1.2/P2].
4. Demonstrate the learned skills in patient-based scenarios. [L1.6/P6].
5. Utilize the nursing process to provide safe and effective care. [L1.2/P2].

Course Competencies

Upon successful completion of this course, the student will:

1. Express one's own values, beliefs and attitudes in a respectful manner. [L1.1/P1].
2. Identify potentially harmful situations. [L1.2/P2].
3. Identify near misses and clinical errors. [L1.2/P2].
4. Perform identified skills to promote patient safety. [L1.2/P2].
5. Perform medication administration safely and accurately. [L1.2/P2].
6. Verbalize awareness of patient/family preferences and values. [L1.3/P3].
7. Identify and compare various communication styles. [L1.4/P4].

8. Identify interpersonal communication styles for the situation. [L1.4/P4].
9. Identify appropriate advocacy role related to patient safety using nursing interventions. [L1.4/P4].
10. Demonstrate effective collaboration with peers in the learning environment. [L1.5/P5].
11. Demonstrate effective communication with peers and faculty. [L1.5/P5].
12. Identify own areas for personal and professional growth. [L1.5/P5].
13. Identify or discuss the differences in the roles of health care team members. [L1.5/P5].
14. Document interventions using available technology. [L1.6/P6].
15. Select appropriate equipment for use in patient care. [L1.6/P6].

NMNC 1210. Health and Illness Concepts I

Course Description

This course will focus on health and illness concepts across the lifespan. Concepts covered are related to homeostasis/regulation, sexuality/reproductive, protection/movement and emotional processes.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Describe the scope, risk factors, physiologic processes, attributes, and clinical management of selected concepts and exemplars across the lifespan. [L2.3/P3].
2. Discuss evidence based practices and healthcare standards of care related to the concepts/exemplars of the course. [L2.2/P2, L2.3/P3, L2.4/P4].
3. Explain the collaboration necessary related to the concepts/exemplars of the course. [L2.5/P5].
4. Utilize informatics and resources related to the concepts/exemplars of the course. [L2.6/P6].
5. Integrate considerations of normal physiology and healthy adaptations into nursing practice of patients across the lifespan. [L2.3/P3] .

NMNC 1220. Health Care Participant

Course Description

This course introduces the nursing student to the attributes of the health care participant as an individual, a family, or a community.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Identify values, beliefs and attitudes towards health and illness of the health care participant. [L2.1/P1].
2. Articulate the role of nursing in relation to the health of vulnerable populations and elimination of health disparities. [L2.2/P2].
3. Describe the protective and predictive factors which influence the health of families, groups, communities, and populations. [L2.3/P3].
4. Describe the use of evidence-based practices to guide health teaching, health counseling, screening, outreach, disease and outbreak investigation, referral, and follow-up throughout the lifespan. [L2.3/P3].
5. Describe the use of information and communication technologies in preventive care. [L2.6/P6].
6. Examine the health care and emergency preparedness needs of the local community and state of New Mexico. [L2.2/P2].
7. Identify clinical prevention and population focused interventions with attention to effectiveness, efficiency, cost effectiveness, and equity. [L2.2/P2].

NMNC 1230. Nursing Pharmacology

Course Description

This course introduces the nursing student to pharmacologic nursing practice from a conceptual approach.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Identify the nurse's professional role related to pharmacotherapeutics in diverse populations across the lifespan. [L2.5/P5].
2. Identify safety issues and minimize risk potential associated with pharmacotherapeutics and complementary and alternative medicine. [L2.2/P2].
3. Utilize evidence-based information integrating pharmacologic and pathophysiologic concepts to guide medication therapeutics. [L2.3/P3].
4. Describe health-care system protocols related to pharmacotherapeutics. [L2.4/P4].
5. Identify methods for communication with the health care team related to pharmacotherapeutics. [L2.5/P5].
6. Utilize informatics systems related to pharmacotherapeutics. [L2.6/P6].
7. Describe common classes of drugs that are used in health care, including pharmacokinetics, pharmacodynamics, and pharmacotherapeutics. [L2.2/P2].

NMNC 1235. Assessment and Health Promotion

Course Description

This course introduces the nursing student to the assessment of and the health promotion for the health care participant as an individual, a family, or a community. This course uses seminar, laboratory and/or clinical settings.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Assess physical health including a focus on the health/illness beliefs, values, attitudes, developmental level, functional ability, culture, and spirituality of the participant. [L2.1/P1].
2. Assess family health including a focus on family health history, environmental exposures, and family genetic history to identify current and future health problems. [L2.2/P2].
3. Collaborate with a community to assess their health needs. [L2.1/P1].
4. Utilize community assessment data and evidence-based practice as basis for identifying community health needs. [L2.3/P3].
5. Document health assessments in electronic health record or written formats. [L2.5/P5, L2.6/P6].
6. Share community assessment data with other healthcare professionals to identify needed interventions. [L2.5/P5].
7. Explain the role of the nurse in relation to advocacy for the health care recipient. [L2.2/P2].

Course Competencies

Upon successful completion of this course, the student will:

1. Identify patient's values, beliefs and attitudes. [L2.1/P1].
2. Effectively communicate patient's values, preferences and expressed needs. [L2.1/P1].
3. Recognize the need for health care access related to diverse populations. [L2.1/P1].
4. Anticipate, identify, and eliminate potentially harmful situations in a wellness setting with guidance. [L2.2/P2].
5. Identify system contributions to clinical errors and near misses in a wellness setting, with guidance. [L2.2/P2].
6. Implement evidence-based procedures to reduce harm, promote safety, and improve care in a wellness setting with guidance. [L2.2/P2].
7. Describe the relationship between evidence and clinical practice. [L2.3/P3].
8. Assess outcomes of care when using evidence-based approaches, with guidance. [L2.3/P3].
9. Demonstrate knowledge of evidence-based protocols/pathways when providing nursing care. [L2.3/P3].
10. Illustrate scope of practice within assigned education/practice environments. [L2.4/P4].
11. Use various communication styles appropriate to team member roles. [L2.4/P4].
12. Identify resources related to healthcare policy, finance, and regulatory environments. [L2.4/P4].
13. Identify ethical issues within assigned education or practice environments. [L2.4/P4].
14. Advocate health promotion for healthcare consumers. [L2.4/P4].
15. Demonstrate understanding of the nursing role within an interprofessional team. [L2.5/P5].

16. Communicate effectively with the inter-professional team members in order to initiate shared decision making. [L2.5/P5].
17. Illustrate awareness of own strengths and limitations as a team member. [L2.5/P5].
18. Illustrate ability to work effectively as a team member. [L2.5/P5].
19. Demonstrate planning and documentation of nursing care using available technology in health promotion settings. [L2.6/P56].
20. Identify appropriate resources that will aid patients in continuing wellness or decreasing exacerbations of diseases. [L2.6/P6].
21. Safely operate appropriate technology in the wellness setting. [L2.6/P6].

NMNC 2310. Health and Illness Concepts II

Course Description

This course will cover health and illness concepts across the lifespan with the focus on chronic conditions. Concepts covered are related to oxygenation and hemostasis, homeostasis and regulation, protection and movement, and cognition and behavior processes.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Relate the scope, risk factors, physiologic processes, attributes, and clinical management of selected concepts and exemplars across the lifespan. [L3.2/P2].
2. Investigate evidenced-based practice, standards of nursing care, and factors to improve safety related to selected concepts and exemplars. [L3.3/P3, L3.4/P4].
3. Examine how members of the health care team collaborate in the delivery of care related to selected concepts and exemplars. [L3.5/P5].
4. Discuss available technology for the delivery of nursing care. [L3.6/P6].
5. Apply selected health and illness concepts to the nursing care of patients across the lifespan. [L3.3/P3].

NMNC 2320. Professional Nursing Concepts I

Course Description

This course covers foundational concepts for professional development, including selected professional attributes and care competencies.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Examine the ethical values, virtues, principles, and policies that guide the moral delivery of health care. [L3.1/P1].
2. Relate the nurse's interpretation of patient needs, concerns, and health problems with nursing decisions. [L3.2/P2].
3. Discuss the factors which motivate individuals, groups, and organizations to deliver quality nursing care. [L3.3/P3].
4. Determine how interactions of health care team members provide quality patient care. [L3.5/P5].

NMNC 2335. Care of Patients with Chronic Conditions

Course Description

The focus of this course is to provide safe, evidence-based nursing care for patients with chronic conditions, across the lifespan in a variety of settings. This course builds upon curricular concepts. This course is a combination of lab and clinical.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Demonstrate ethical practice in the delivery of nursing care to patients with chronic conditions. [L3.1/P1].
2. Apply understanding of the principles of safe nursing care for patients with chronic conditions. {L3.2/P2].
3. Demonstrate knowledge of appropriate evidence-based protocols when providing nursing care to patients with chronic conditions. [L3.3/P3].

4. Apply understanding of appropriate health care policy, finance, and regulatory environments in the care of patients with chronic conditions. [L3.4/P4].
5. Communicate effectively with patients with chronic conditions and health care team members. [L3.5/P5].
6. Demonstrate an understanding of the technology used in the care of patients with chronic conditions. [L3.6/P6].
7. Utilize the nursing process to deliver nursing care to patients with chronic conditions. [L3.1/P1, L3.2/P2, L3.3/P3, L3.4/P4, L3.5/P5, L3.6/P6] .

Course Competencies

Upon successful completion of this course, the student will:

1. Apply patient's values, beliefs and attitudes to the patient's plan of care. [L3.1/P1].
2. Using effective communication, apply the patient's expressed values, beliefs, and attitudes to nursing care. [L3.1/P1].
3. Identify health care resources for diverse patient populations at the local, regional, and national levels. [L3.1/P1].
4. Identify factors present in clinical settings that promote or hinder a culture of safety and caring. [L3.2/P2].
5. Anticipate, identify, and eliminate potentially harmful situations in nursing the patient with chronic illness. [L3.2/P2].
6 Interpret and evaluate system contributions and staff response to clinical errors and near misses in nursing the patient with chronic illness, with guidance. [L3.2/P2].
7. Implement evidence-based procedures to reduce harm, promote safety, and improve care in nursing the patient with chronic illness, with guidance. [L3.4/P4].
8. Analyze gaps between local/clinical site and best practice and system factors that support or hinder adoption of best practices. [L3.5/P5].
9. Apply evidence in providing care to patients with chronic health problems. [L3.3/P3].
10. Identify patient/family preferences and values and their effect on the delivery of optimal care. [L3.1/P1].
11. Assess outcomes of care when using evidence-based approaches. [L3.3/P3].
12. Implement evidence-based protocols/pathways when providing nursing care. [L3.4/P4].
13. Demonstrate clinical competency in care delivery to the chronic patient in lab and practice settings. [L3.4/P4].
14. Use effective communication style with team members in care of patients with chronic illness. [L3.5/P5].
15. Identify how healthcare policy, finance, and regulatory environments relate to the care of patients with chronic illness. [L3.4/P4].
16. Demonstrate ethical practice in the delivery of care to patients with chronic illness. [L3.4/P4].
17. Advocate for patients with chronic illness. [L3.5/P5].
18. Collaborate effectively within the inter-professional team, with guidance. [L3.5/P5].
19. Build on own strengths and compensate for limitations as a team member. [L3.5/P5].
20. Recognize leadership behaviors and begin to incorporate these behaviors into nursing practice. [L3.5/P5].
21. Document planning, implementation and evaluation of nursing care of patients with chronic illness using available technology. [L3.6/P6] .
22. Incorporate health care resources in sharing health information with patients with chronic illness. [L3.6/P6].
23. Safely operate appropriate technology in the delivery of care to chronically ill patients. [L3.6/P6].

NMNC 2410. Health and Illness Concepts III

Course Description

This course will cover health and illness concepts, with the focus on acute conditions across the lifespan. Concepts covered are related to homeostasis/regulation, oxygenation/hemostasis, protection/movement and, emotional processes.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Anticipate healthcare participants risk for potentially harmful situations related to the concepts/exemplars of the course. [L4.2/P2].

2. Integrate evidence-based practices and healthcare standards of care related to the concepts/exemplars of the course. [L4.3/P3, L4.4/P4].
3. Differentiate the multiple roles of the health care team related to the concepts/exemplars of the course. [L4.5/P5].
4. Integrate use of appropriate technology related to the concepts/exemplars of the course. [L4.6/P6].
5. Interrelate risk factors, concepts, physiologic processes, patient attributes and clinical management of the exemplars covered in this course. [L4.1/P1].

NMNC 2435 Clinical Intensive I

Course Description

This is the first of two Level Four clinical courses in which the student will apply the curricular concepts in the management of care participants with acute conditions across the lifespan. This course is a combination of seminar, lab, and clinical.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Integrate nursing practice concepts into their professional nursing practice. [L4.1/P1]
2. Integrate diverse patient values into plan of care for patients with acute illness. [L4.1/P1]
3. Interpret and analyze factors and system contributions that impact the quality and safety of nursing practice. [L4.2/P2]
4. Integrate an evidence-based approach in the delivery and evaluation of nursing care to acutely ill patients across the lifespan. [L4.3/P3]
5. Evaluate the use of policies and procedures within the acute care setting. [L4.4/P4]
6. Effectively collaborate with the healthcare team in the delivery of patient care. [L4.5/P5]
7. Integrate use of appropriate technology for the delivery of nursing care to acutely ill patients. [L4.6/P6]

Course Competencies

Upon successful completion of this course, the student will:

1. Integrate patient's values, beliefs and attitudes into the patient plan of care. [L4.1/P1]
2. Using effective communication, integrate patient's expressed values, beliefs, and attitudes in nursing care. [L4.1/P1]
3. Integrate the use of resources to meet health care needs for diverse patient populations. [L4.1/P1]
4. Analyze factors present in clinical settings that promote or hinder a culture of safety and caring. [L4.2/P2]
5. Anticipate, identify, and eliminate potentially harmful situations in an acute care setting with minimal guidance. [L4.2/P2]
6. Interpret and evaluate system contributions and staff response to clinical errors and near misses in an acute care setting, with minimal guidance. [L4.2/P2
7. Implement evidence-based procedures to reduce harm, promote safety, and improve care in an acute care setting with minimal guidance. [L4.2/P2]
8. Design methods to introduce best and/or evidence-based practice within an acute care setting. [L4.3/P3]
9. Incorporate patient/family preferences and values into an evidenced-based plan of care for participants with acute health problems. [L4.3/P3]
10. Apply evidence-based approaches to care for participants with acute health problems. [L4.3/P3]
11. Modify care based on evidence-based protocols/pathways when providing care for participants with acute health problems. [L4.3/P3]
12. Demonstrate clinical competency with the acute care patient in lab and practice settings. [L4.4/P4]
13. Use effective communication style with appropriate team members in care of patients with acute illness. [L4.5/P5]
14. Identify how healthcare policy, finance, and regulatory environments relates to the care of patients with acute illness. [L4.4/P4]
15. Demonstrate ethical practice in the delivery of care to patients with acute illness. [L4.4/P4]
16. Advocate for patients with acute illness. [L4.5/P5]
17. Begin to integrate the collaborative role of the nurse effectively within the inter-professional team. [L4.5/P5]

18. Engage effectively in shared decision making to provide quality patient care. [L4.5/P5]
19. Create supportive relationships with team members to leverage diverse skills. [L4.5/P5]
20. Demonstrate ability to function as team member or leader. [L4.5/P5]
21. Document planning, implementation and evaluation of nursing care of patients with acute illness using available technology. [L4.6/P6]
22 Incorporate health care resources in sharing health information with patients with acute illness. [L4.6/P6]
23. Safely operate appropriate technology in the delivery of care to acutely ill patients. [L4.6/P6]

NMNC 2445. ADN Capstone

Course Description

The synthesis, integration, and application of concepts to professional nursing practice will be applied in the final clinical course to ensure readiness to enter practice.

Student Learning Outcomes

Upon successful completion of this course, the student will:

1. Synthesize and integrate nursing practice concepts into their professional nursing practice. [L5.1/P1]
2. Engage in professional nursing practice that is patient-centered and appropriate for diverse individuals, families, and communities. [L5.1/P1]
3. Integrate principles of quality improvement and safety into nursing practice within healthcare organizations and systems. [L5.2/P2]
4. Deliver nursing care that is evidence-based. [L5.3/P3]
5. Demonstrate leadership behaviors through the application of policies that apply to healthcare delivery. [L5.4/P4]
6. Engage in effective interprofessional collaboration in the delivery of healthcare for quality patient outcomes. [L5.5/P5]
7. Utilize technologies for the management of information and in the delivery of patient care. [L5.6/P6]

Course Competencies

Upon successful completion of this course, the student will:

1. Provide patient-centered care that is respectful to diverse values, beliefs, and attitudes. [L5.1/P1]
2. Implement patient-centered care regarding patient values, preferences and expressed needs. L5.1/P1]
3. Support the increase of health care access of diverse patient populations. [L5.1/P1]
4. Promote a culture of safety through anticipating and eliminating potentially harmful situations. [L5.2/P2]
5. Collaborate in systems analysis when clinical errors or near misses occur to reduce harm, minimize blame, and encourage transparency. [L5.2/P2]
6. Design and implement evidence-based procedures to reduce harm, promote safety, and improve care. [L5.2/P2]
7. Base care and care planning on evidence and clinical expertise. [L5.3/P3]
8. Incorporate patient/family preferences and values with application of evidence for delivery of optimal health care. [L5.3/P3]
9. Utilize evidence in determining best clinical practice. [L5.3/P3]
10. Consult with clinical experts in developing evidence-based protocols/ pathways. [L5.3/P3]
11. Function competently within own scope of practice as a member or leader of the healthcare team. [L5.4/P4]
12. Communicate with team members, adapting own style of communicating to needs of the team and situation. [L5.4/P4]
13. Demonstrate basic knowledge of healthcare policy
14. Use an ethical framework to evaluate the impact of policies of healthcare, especially for vulnerable populations. [L5.4/P4]
15. Advocate for consumers and the nursing profession. [L5.4/P4]
16. Collaborate effectively with nursing and inter-professional teams. [L5.5/P5]
17. Foster open communication, mutual respect, and shared decision-making to achieve quality patient care. [L5.5/P5]

18. Assume role of team member or leader based on the situation. [L5.5/P5]
19. Demonstrate methods of documentation. [L5.6/P6]
20. Identify valid and credible sources of health information that are accessible to health care consumers. [L5.6/P6]
21. Identify appropriate technology to use in delivering patient care. [L5.6/P6] Nursing (NURS)

Nursing (NURS)

NURS 1110. Introduction to Practical Nursing Concepts

Course Description

Introduction to the concepts of nursing practice and conceptual learning. Students define personal values, beliefs, and attitudes about health and wellness. Provides opportunities for students to describe the importance of identifying patient safety issues, the roles and values of the practical nurse and members of the health care team, and specific standards/regulations that apply to practical nursing practice.

Student Learning Outcomes

1. Integrate knowledge from practical nursing pre-/co-requisites into a conceptual learning model.
2. Apply conceptual learning to selected practical nursing concepts.
3. Define personal values, beliefs, and attitudes about health and wellness.
4. Describe importance of identifying patient safety issues.
5. Describe roles and values of practical nursing and members of the health care team.
6. Describe standards and regulations that apply to practical nursing practice.

NURS 1113. Nursing Fundamentals

Course Description

This course provides an introduction to nursing and roles of the nurse as well as profession related and patient care concepts. Emphasis is placed on the knowledge and skills needed to provide safe, quality care. The theoretical foundation for basic assessment and nursing skills is presented. An introduction to the nursing process provides a decision-making framework to assist students in developing effective clinical judgment skills.

Student learning outcomes

1. Explain the nursing role within the healthcare system, including scope of practice, responsibilities, and practice settings.
2. Explain key concepts that guide safe, ethical, and professional nursing care and decision-making.
3. Describe how nurses assess, plan, implement, and evaluate patient care.
4. Identify how patient-specific factors, such as culture, environment, socio-economic factors, and health conditions, influence nursing care and outcomes.
5. Explain how basic nursing care concepts support patient health, safety, and well-being.

NURS 1113L. Nursing Fundamentals Clinical

Course Description

This course introduces nursing and roles of the nurse as well as profession related and patient care concepts. Emphasis is placed on the nursing process, knowledge and skills needed to provide safe, quality care. The theoretical foundation for basic assessment and nursing skills is presented.

Student Learning Outcomes

1. Apply fundamental nursing skills in a safe manner using proper technique and evidence-based principles.

2. Use proper infection control practices to reduce the risk of harm to patients and self.
3. Perform patient skills while maintaining comfort, dignity, and privacy.
4. Demonstrate safe use of equipment and proper body mechanics during patient care.
5. Communicate clearly, respectfully, and professionally while performing nursing skills.
6. Safely perform medication administration and apply basic dosage calculation principles.
7. Document patient care activities clearly, accurately, and in a timely manner.

NURS 1114L. Introduction to Health Assessment Laboratory

Course Description

This course provides the frameworkfor preparing students to perform comprehensive health assessments on patients acrossthe lifespan. Emphasis is placed on taking a thorough nursing history, performing physiological, psychological, sociological, cultural, and spiritual assessments, as well as identification of stressors and health risks. Laboratory experiences provide an opportunity to practice assessment skills on patients across the lifespan in a variety of settings

Student Learning Outcomes

1. Perform a comprehensive assessment that includes the psychological, sociological, cultural, spiritual and familial history aspects of the adult patient.
2. Interpret assessment data to determine patient safety and health risks, as well as personal and environmental stressors.
3. Plan and provide individualized, health-related teaching for adult patients.
4. Utilize appropriate verbal, written and electronic communication skills during patient interview, physical assessment and documentation process.
5. Use information technology to access evidence-based sources to determine the implications of identified genetic and health risks.
6. Demonstrate professional accountability and maintain confidentiality while performing physical assessments.
7. Recognize the importance of selected profession related concepts as they pertain to providing and directing safe, quality patient care.

NURS 1120. Principles of Practical Nursing Practice

Course Description

This course introduces the nursing student to the application of concepts through clinical skills in seminar, large and small group activities, laboratory, and/or clinical settings. Principles of communication, assessment, safety, and interventions, including accurate calculations, measurement, and administration of medications will be included.

Student Learning Outcomes

1. Describe the different types and characteristics of communication in professional practical nursing practice.
2. Utilize the concepts of communication and patient safety in the application in the care of the patient.
3. Demonstrate the principles of safety during the implementation of practical nursing skills bedside skills.
4. Demonstrate the learned skills in patient-based scenarios.
5. Utilize the nursing process to provide safe and effective care.

NURS 1121C. Fundamentals of Nursing Lecture and Laboratory

Course Description

This course will introduce the nursing student to foundational theoretical concepts of professional nursing practice, the nursing process, and fundamental nursing skills. It includes developmental concepts related to clients across the lifespan.

Clinical experiences in various healthcare settings will provide the student with the opportunity to apply learned skills to provide total care to meet client needs and to develop care planning skills related to actual problems.

Student Learning Outcomes

1. Describe personally held values, attitudes, and beliefs related to health and wellness.
2. Describe scopes of practice, roles and values of health care team members.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan.
4. Identify policies, procedures, standards of care and nursing leadership and management skills related to the provision of professional nursing care.
5. Describe strategies that reduce the risk of harm to self and others.
6. Identify essential information that must be available in a common database to support patient care across the lifespan.

NURS. 1125. Medical Surgical Nursing I

Course Description

This course introduces nursing care and management of the adult client with common medical-surgical conditions.

Student Learning Outcomes

1. Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to health and wellness.
2. Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly occurring chronic and acute health care problems throughout the lifespan.
3. Compare an individualized patient care plan utilizing an evidence-based approach for patient(s) across the lifespan to outcomes for the patient(s).
4. Demonstrate adherence to policies, procedures, and standards of care for the provision of care in healthcare delivery systems.
5. Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.
6. Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for patients with chronic illnesses across the lifespan.

NURS 1125L. Medical/Surgical Nursing I Clinical

Course Description

Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe patient care to adults in a variety of settings.

Student Learning Outcomes

1. Patient Centered Care: Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to health and wellness.
2. Teamwork and Collaboration: Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly occurring chronic and acute health care problems throughout the lifespan.
3. Evidenced Based Practice: Prepare an individualized patient care plan utilizing an evidence- based approach for patient(s) across the lifespan to outcomes for the patient(s).
4. Quality Improvement: Demonstrate adherence to policies, procedures, and standards of care for the provision of care in healthcare delivery systems.
5. Safety: Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.

6. Informatics: Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for patients with chronic illnesses across the lifespan.

NURS 1130. LPN Health and Illness Concepts I

Course Description

Covers health and illness concepts across the lifespan, as they relate to the practical nurse's caregiver and discipline-specific roles, with the focus on wellness and common variations. Concepts covered are related to homeostasis/regulation, sexuality/reproductive, protection/movement, and emotional processes.

Student Learning Outcomes

1. Describe the scope, risk factors, physiologic processes, attributes, and clinical management of selected concepts and exemplars across the lifespan.
2. Discuss evidence-based practices and health care standards of care related to the concepts/exemplars of the course.
3. Explain the collaboration necessary related to the concepts/exemplars of the course.
4. Utilize informatics and resources related to the concepts/exemplars of the course.
5. Integrate considerations of normal physiology and healthy adaptations into nursing practice of patients across the lifespan.

NURS 1131. Foundations of Pharmacology

Course Description

This course provides the nursing student with an introduction to the foundations of pharmacology including: science of drug action, principles of medication administration, accurate calculation of drug doses, medication therapy across the lifespan, application of medications to treat health alterations, normal and adverse responses by the client to medication therapy, medication safety, medication regulation, national patient safety goals, and appropriate nursing interventions to achieve the desired goals of medication therapy.

Student Learning Outcomes

1. Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to pharmacological therapy.
2. Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly related to adverse or side effects of pharmacological therapy throughout the lifespan.
3. Compare an individualized patient care plan utilizing an evidence-based approach for patient(s) across the lifespan to outcomes related to the administration of pharmacological therapy.
4. Demonstrate adherence to policies, procedures, and standards of care for the administration of pharmacological therapy in healthcare delivery systems.
5. Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.
6. Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for the administration of pharmacological therapy across the lifespan.

NURS 1133. Pharmacology in Nursing

Course Description

This course introduces the nursing student to pharmacological nursing practice across the lifespan utilizing a conceptual approach. The student identifies the nurse's professional role related to pharmacotherapeutics in diverse populations. Safety issues and minimization of risk potential associated with pharmacotherapeutics, complementary, and alternative medicines are discussed. Evidence-based pharmacological and pathophysiological concepts are integrated to guide medication therapeutics. Health care system protocols, communication methods, and informatics related to

pharmacotherapeutics are included in the course content. Common drug classes and the pharmacotherapeutics, pharmacodynamics, and pharmacotherapeutics associated with each class are included in this course.

Student Learning Outcomes

1. Identify the nurse's professional role related to pharmacotherapeutics in diverse populations across the lifespan.
2. Identify safety issues and minimize risk potential associated with pharmacotherapeutics and complementary and alternative medicine.
3. Utilize evidence-based information integrating pharmacologic and pathophysiologic concepts to guide medication therapeutics.
4. Describe health-care system protocols related to pharmacotherapeutics.
5. Identify methods for communication with the health care team related to pharmacotherapeutics.
6. Utilize informatics systems related to pharmacotherapeutics.
7. Describe common classes of drugs that are used in health care, including pharmacokinetics, pharmacodynamics, and pharmacotherapeutics.

NURS 1134. Foundation of Nursing Skills and Assessment

Course Description

This course provides nursing students with introductory nursing knowledge related to performance of nursing skills and assessment including: techniques of fundamental nursing care, basic and intermediate nursing skills, and foundational physical assessment techniques associated with care across the lifespan.

Student Learning Outcomes

1. Describe personally held values, attitudes, and beliefs related to health and wellness as measured by:
    a. Describe modifications to nursing care based on client cultural and religious influences.
    b. Demonstrate physical assessment skills for clients across the lifespan utilizing appropriate equipment and techniques.
2. Describe scopes of practice, roles and values of health care team members as measured by:
    a. Identify independent and collaborative nursing interventions.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan as measured by:
    a. Demonstrate safe performance of basic nursing procedures;
    b. Identify quality sources of information to verify skills and interventions are based on evidence.
4. Identify policies, procedures, and standards of care related to the provision of professional nursing care as measured by:
    a. Identify need/situation where reporting of incident/event/irregular occurrence/variance is appropriate.
5. Describe strategies that reduce the risk of harm to self and others as measured by:
    a. Identify methods utilized to provide safe and effective care;
    b. Identify and document changes in patient status.
6. Identify essential information that must be available in a common database to support patient care across the lifespan as measured by:
    a. Select standard technology utilized to provide basic care to clients across the lifespan; b. Identify approved abbreviations and standard terminology for documenting care.

NURS 1134L. Foundation of Nursing Skills and Assessment Laboratory

Course Description

This course provides nursing students with introductory nursing knowledge related to performance of nursing skills and assessment including: techniques of fundamental nursing care, basic and intermediate nursing skills, and foundational physical assessment techniques associated with care across the lifespan.

Student Learning Outcomes

1. Describe personally held values, attitudes, and beliefs related to health and wellness.
2. Describe scopes of practice, roles and values of health care team members.
3. Describe an evidence-based practice approach to provision of patient care and professional nursing practice across the lifespan.
4. Identify policies, procedures, and standards of care related to the provision of professional nursing care.
5. Describe strategies that reduce the risk of harm to self and others.
6. Identify essential information that must be available in a common database to support patient care across the lifespan.

NURS 1140. LPN Health Care Participant

Course Description

This course introduces the attributes of the health care participant as an individual, a family, or a community as they relate to the practical nurse's caregiver and discipline-specific roles.

Student Learning Outcomes

1. Identify values, beliefs, and attitudes toward health and illness of the health care recipient.
2. Articulate the role of practical nursing in relation to the health of vulnerable populations and elimination of health disparities.
3. Describe the protective and predictive factors that influence the health of families, groups, communities, and populations.
4. Describe the use of evidence-based practical nursing practices to guide health teaching, health counseling, screening, outreach, disease and outbreak investigation, referral, and follow-up throughout the lifespan.
5. Describe the use of information and communication technologies in preventive care.

NURS 1150. LPN Nursing Pharmacology

Course Description

An introduction to pharmacological nursing practice across the lifespan utilizing a conceptual approach. The student identifies the nurse's professional role related to pharmacotherapeutics in diverse populations. Safety issues and minimization of risk potential associated with pharmacotherapeutics, complementary, and alternative medicines are discussed. Evidence-based pharmacological and pathophysiological concepts are integrated to guide medication therapeutics. Common drugs classes and the pharmacotherapeutics, pharmacodynamics, and pharmacokinetics associated with each are included in this course.

Student Learning Outcomes

1. Identify values, beliefs, and attitudes toward health and illness of the health care recipient.
2. Articulate the role of practical nursing in relation to the health of vulnerable populations and elimination of health disparities.
3. Describe the protective and predictive factors that influence the health of families, groups, communities, and populations.
4. Describe the use of evidence-based practical nursing practices to guide health teaching, health counseling, screening, outreach, disease and outbreak investigation, referral, and follow-up throughout the lifespan.
5. Describe the use of information and communication technologies in preventive care.

NURS 1153. Medication and Dosage Calculation

Course Description

Techniques of dosage calculation for medication and fluid administration.

Student Learning Outcomes

1. Accurately calculate drug dosages.
2. Identify and define terms and symbols applicable to pharmacology and administration of drugs.
3. Identify the role of the nurse regarding drug therapy.
4. Identify the legal and ethical responsibilities of the nurse regarding medication administration and teaching.
5. Identify measures to safely administer medications via any of the acceptable routes of administration.
6. Discuss the basic principles of pharmacokinetics as it relates to each of the classes of pharmaceuticals.

NURS 1154C. Physical Assessment Laboratory and Clinical

Course Description

Beginning techniques of physical assessment by systems will be presented using the nursing process as a guide for providing safe client centered care throughout the life span. Laboratory and clinical experiences will provide an opportunity to practice assessment skills on patients across the lifespan in a variety of settings.

Student Learning Outcomes

1. Describe and demonstrate the purpose, guidelines, safety factors, and equipment necessary for performing a physical exam.
2. Discuss and demonstrate techniques necessary to facilitate communication to obtain a health history.
3. Identify and demonstrate correct documentation of each body system.
4. Define ethical/legal implications as they relate to documentation and the physical assessment exam.
5. Identify and discuss the nutritional implications as they relate to the physical assessment exam.
6. Recognize key terms, exam techniques, and the anatomy and physiology on the assessment of each body system.
7. Discuss developmental and cultural differences in performing a physical assessment.
8. Identify and discuss components of the nursing process focusing on assessment and beginning to recognize self-care deficits.
9. Identify opportunities to promote self-care assessment within the physical exam.
10. Identify methods by which caring behaviors facilitate the nurse-patient relationship in the performance of a physical assessment.

NURS 1154. Physical Assessment

Course Description

Beginning techniques of physical assessment by systems will be presented using the nursing process as a guide for providing safe client centered care throughout the life span. Laboratory experiences provide an opportunity to practice assessment skills on patients across the lifespan in a variety of settings.

Student Learning Outcomes

1. Discuss the purpose, guidelines, safety factors, and equipment necessary for performing a physical exam.
2. Discuss and demonstrate techniques necessary to facilitate communication to obtain a health history.
3. Identify and demonstrate correct documentation of each body system.
4. Define ethical/legal implications as they relate to documentation and the physical assessment exam.
5. Identify and discuss the nutritional implications as they relate to the physical assessment exam.
6. Recognize key terms, exam techniques, and the anatomy and physiology on the assessment of each body system.

7. Discuss developmental and cultural differences in performing a physical assessment.
8. Identify and discuss components of the nursing process focusing on assessment and beginning to recognize self-care deficits.
9. Identify opportunities to promote self-care assessment within the physical exam.
10. Identify methods by which airing behaviors facilitate the nurse-patient relationship in the performance of a physical assessment.

NURS 1157C.Maternal/Child Health Deviations Lecture/Laboratory

Course Description

This course introduces the student to the concepts and principles of nursing care of the family from conception to adolescence. Utilizing the assessment, analyzing, planning, and implementation phases of the nursing process (the Care map), the student focuses on the supportive-educative nursing system to assist members of the family in meeting self-care requisites and how they are affected by the health deviations common to each developmental level beginning with conception and ending with adolescence. Knowledge gained in theoretical instruction is then applied to the patient care situation. After an introduction to the necessary clinical skills in the campus laboratory setting, students will participate in clinical experiences with the focus on the family from conception to adolescence. The assessment, analysis, planning, and implementation phases of the nursing process are emphasized as a tool to assist patients in meeting universal and developmental self-care requisites. Utilizing the nursing process, the student provides safe, client- centered care to diverse clients and families. Theoretical instruction is applied to client care situations. Students collaborate with clients, families, and the interdisciplinary team in meeting health care needs. Experiences may occur in the physician's office, local health department, day care centers, schools, or the hospital.

Student Learning Outcomes

1. Determine how values of clients, families and medical personnel impact the involvement of clients in their health care related to maternal/child and pediatric clients.
2. Implement individualized client care utilizing an evidenced based approach related to maternal/child and pediatric clients.
3. Choose health protection, health promotion, and disease prevention strategies in the care of maternal/child and pediatric clients.
4. Apply the scope, risk factors, physiologic processes, and clinical management strategies to maternal/child and pediatric clients.
5. Choose resources for continuity of client care related to maternal/child and pediatric clients.
6. Give examples of significant information to report to other disciplines.
7. Apply the principles of delegation in the provision of client care with maternal/child and pediatric clients.
8. Utilize evidenced based information to implement a plan of care and employ nursing interventions for maternal/child and pediatric clients.
9. Use the principles of ethical practice in the delivery of nursing care for maternal/child and pediatric clients.
10 Apply policies, procedures and standards of care related to maternal/child and pediatric in the provision of client care.

NURS 1157. Maternal/Child Health Deviations

Course Description

This course provides the intermediate nursing student with an in-depth review of care of the childbearing woman, family structures and roles, and nursing care of the child from birth through adolescence. Emphasis includes the care of pre-partum, intra-partum and postpartum clients, the neonate and health deviations in pediatric clients. Clinical experiences in

the simulation laboratory, the community, and acute care settings will provide the student with the opportunity to apply learned skills to provide total care to meet needs of up to two adult, neonatal, or pediatric clients and to apply care planning skills related to actual, psychosocial and potential problems. Students must be concurrently enrolled in both the lecture and laboratory sections of the course. Students must be admitted into the Nursing Program to enroll in this course.

Student Learning Outcomes

1. Utilize diverse patients' values, preferences, and expressed needs to drive development of the plan of care for the child bearing woman (19-65 years) and pediatric client (newborn-18).
2. Evaluate ability to function within own scope of practice as a member of the healthcare team to deliver care to individuals and families across the lifespan with complex health alterations as it relates to the child bearing woman (19-65 years) and pediatrics.
3. Demonstrate the use of evidence-based approaches for the delivery and evaluation of care to patients across the lifespan as it relates to the child bearing woman (19-65 years) and pediatric client (newborn-18).
4. Formulate a plan of care for the provision of care in healthcare delivery systems using policies, procedures and standards of care as it relates to the child bearing woman (19-65 years) and pediatric client (newborn-18).
5. Interpret effective use of strategies to reduce risk of harm to self or others while providing professional nursing care including evidence-based practice, national patient safety goals, and core measures as it relates to the child bearing woman (19-65 years) and pediatric client (newborn-18).
6. Utilize information management tools to monitor outcomes of care processes and deliver nursing care to patients with chronic or acute illness across the lifespan as it relates to the child bearing woman (19-65 years) and pediatric client (newborn-18).

NURS 1160. LPN Assessment and Health Promotion

Course Description

This course introduces the nursing student to the assessment of and the health promotion for the health care participant as an individual, a family, or a community as it relates to the practical nurse's caregiver and discipline-specific roles. This course uses seminars, laboratory, and/or clinical settings.

Student Learning Outcomes

1. Assess physical health including a focus on the health/illness beliefs, values, attitudes, developmental level, functional ability, culture, and spirituality of the participant.
2. Assess family health including a focus on family health history, environmental exposures, and family genetic history to identify current and future health problems.
3. Collaborate with a community to assess their health needs.
4. Utilize community assessment data and evidence-based practice as a basis for identifying community health needs.
5. Document health assessments.
6. Demonstrate collaboration with other health care professionals to identify needed interventions.
7. Explain the role of the practical nurse in relation to advocacy for the health care recipient.

NURS 1170. LPN Health and Illness Concepts II

Course Description

This course will cover health and illness concepts across the lifespan, as they relate to the practical nurse's caregiver and discipline-specific roles. Concepts covered are related to oxygenation and hemostasis and regulation, protection and movement, and cognitive and behavioral processes.

Student Learning Outcomes

1. Relate the scope, risk factors, physiologic processes, attributes, and clinical management of selected concepts and exemplars across the lifespan.
2. Investigate evidence-based practice, standards of nursing care, and factors to improve safety related to selected concepts and exemplars.
3. Examine how members of the health care team collaborate in the delivery of care related to selected concepts and exemplars.
4. Discuss available technology for the delivery of nursing care related to selected concepts and exemplars.
5. Apply selected health and illness concepts to the nursing care of patients across the lifespan.

NURS 1190. Re-Entry First Year Nursing

Course Description

This is a refresher course for re-entry students on nursing concepts found in first year nursing courses using the NMNEC competencies which provide the organizing framework for the nursing program. Clinical simulation opportunities are designed to facilitate application of fundamental concepts through care of diverse populations in a variety of settings across the health care continuum.

Student Learning Outcomes

1. Recognize and assess diverse patients' values related to health.
2. Apply safety measures to well patient populations.
3. Implement evidence-based practices in care of well populations across the lifespan.
4. Adhere to policies and procedures in healthcare delivery settings.
5. Communicate with other healthcare providers to meet the needs of well patients.
6. Utilize informatics for well patient care.

NURS 1193. Nursing 1st Year Tutorial

Course Description

This course is designed to assist the 1st year nursing student to achieve success by developing critical thinking and problem-solving skills. This course will augment content with a focus on simple health deviations, including concepts relative to health promotion and maintenance. The nursing process is utilized to provide evidenced based, safe client centered care. Students are expected to apply clinical judgment, communicate and collaborate with clients and the interdisciplinary team for clients.

Student Learning Outcomes

1. Demonstrate the ability to organize their time to improve study habits.
2 Identify effective study strategies.
3. Incorporate interventions into the plan of care while remaining aware of the cultural, spiritual and ethical needs of the client.
4. Demonstrates skill in using client care technologies that support safe client care.
5. Demonstrate effective writing skills by using information systems.
6. Demonstrate clinical judgement and problem-solving skills by utilizing the nursing process as a guide in providing nursing care and rational to clients with simple health deviations.

NURS 1194. Nursing 2nd Year Skills Tutorial

Course Description

This course is designed to assist the 2nd year nursing students to achieve success by developing critical thinking and problem-solving skills. The course focuses on how to learn required content in the most efficient manner and preparation for the licensure exam.

Student Learning Outcomes

1. Incorporate the concepts and principles derived from the biological, developmental, social, nutritional, and computer sciences and nursing knowledge that relate to the nursing care of clients with complex health deviations.
2. Demonstrate critical thinking and problem-solving techniques in caring for clients with complex health deviations.
3. Utilize NCSBN Clinical Judgement Model to identify problems, prioritize them, and to aid in applying solutions to the highest priority.

NURS 1195. Essential Skills for the Sophmore Nursing Student

Course Description

This course is designed to assist the incoming sophomore nursing student achieve success in the clinical and didactic portion of the nursing curriculum.

Student Learning Outcomes

1. Utilize nursing knowledge as a guide for incorporating concepts and principles derived from the behavioral, social, developmental, and computer sciences to provide rationale for nursing care.
2. Utilize the beginning skills of interpersonal relations in establishing a therapeutic relationship with patients.
3. Perform safely the technical skills identified.
4. Demonstrate critical thinking and problem-solving skills by utilizing the nursing process as a guide in providing nursing care to patients with simple health deviations.

NURS 1989 Nursing Externship

Course Description

Building on clinical skills and concepts from Level 1, Level 2, and/or Level 3, this optional clinical course uses the New Mexico Nursing Education Consortium competencies. This intensive clinical course provides students with an opportunity to provide supervised total nursing care for select patients. Under the guidance of faculty, San Juan Regional Medical Center nurses, and the clinical scholar, students will spend 144 hours reinforcing and refining clinical competency and clinical reasoning skills learning in prior nursing courses.

Student Learning Outcomes

1. Recognize and assess diverse patients' values related to health.
2. Apply safety measures to acute care patient populations.
3. Implement evidence-based practices in care of acute care populations across the lifespan.
4. Adhere to policies and procedures in healthcare delivery settings.
5. Communicate with other healthcare providers to meet the needs of acute care patients.
6. Utilize informatics for the acute care patient.

NURS 2181. Maternal/Newborn Nursing

Course Description

This course provides an integrative, family-centered approach to the care of mothers and newborns. Emphasis is placed on normal and high-risk pregnancies, normal growth and development, family dynamics and the promotion of healthy behaviors in patients.

Student Learning Outcomes

1. Explain the normal and abnormal physiologic and psychological changes that occur during pregnancy and how these changes guide antepartum nursing care
2. Describe the stages of labor and birth, the identification and nursing management of intrapartum complications, and the nursing management of both spontaneous births and cesarean deliveries within a family-centered framework.

3. Discuss the physiologic and psychological changes of the postpartum period and the nursing interventions used to manage normal recovery, provide family-centered education, and identify/intervene in abnormal complications
4. Describe the physiologic transition of the newborn to extrauterine life and the nursing care required for both the healthy newborn and the at-risk infant.
5. Examine principles of women's health promotion, preventive care, and common gynecologic concerns across the lifespan.

NURS 2181L. Maternal/Newborn Nursing Clinical

College Description

Clinical experiences provide the student with an opportunity to apply theoretical concepts and implement safe patient care to mothers and newborns in selected settings.

Student Learning Outcomes

1. Participate in the safe nursing management of a laboring patient.
2. Perform accurate post-partum physical assessments of mothers and newborns, distinguishing between normal findings and potential complications.
3. Provide safe nursing care that meets the physical and emotional needs of the mother, newborn, and family.
4. Participate in an outpatient prenatal clinic visit OR analyze prenatal health records to monitor fetal growth, maternal wellness, and pregnancy risks.
5. Provide health education to mothers regarding their own care and the care of their newborn
6. Integrate wellness screenings, family planning (contraception), and reproductive health education into discharge planning for new mothers.

NURS 2182. Pediatric Nursing

Course Description

This course provides an integrative, family-centered approach to the care of children. Emphasis is placed on normal growth and development, family dynamics, common pediatric disorders and the promotion of healthy behaviors in patients.

Student Learning Outcomes

1. Describe the legal and ethical principles that guide pediatric nursing care.
2. Describe expected physical and psychosocial developmental milestones, types of play, and age-appropriate assessment findings.
3. Identify nursing priorities and appropriate plans of care for common acute and chronic pediatric health conditions.
4. Explain the principles of atraumatic care, family-centered care, and cultural sensitivity when supporting children and families during illness and hospitalization.
5. Describe age-appropriate communication and education strategies for pediatric patients and their families.
6. Outline nursing strategies for health promotion, immunization education, and prevention of communicable and age-specific environmental health risks.

NURS 2182L. Pediatric Nursing Clinical

Course Description

Clinical experiences provide the student with an opportunity to apply theoretical concepts and implement safe patient care to children in selected settings.

Student Learning Outcomes

1. Participate in safe, developmentally appropriate nursing care for infants, children, and adolescents.
2. Perform age-appropriate physical, developmental, and behavioral assessments of pediatric patients

3. Apply the nursing process (clinical judgment) to plan and implement care for children experiencing common acute and chronic health conditions.
4. Demonstrate family-centered nursing care when supporting children and their caregivers during illness and hospitalization.
5. Communicate effectively with pediatric patients and families using developmentally appropriate language and teaching strategies.
6. Participate in health promotion strategies through education related to immunizations, growth and development, and injury prevention.

NURS 2190. Re-Entry Second Year Nursing

Course Description

This is a refresher course for re-entry students on nursing concepts found in second year nursing courses using the NMNEC competencies which provide the organizing framework for the nursing program. Clinical simulation opportunities are designed to facilitate application of fundamental concepts through care of diverse populations in a variety of settings across the health care continuum.

Student Learning Outcomes

1. Incorporate diverse patient values, beliefs, and attitudes into plan of care for patients with chronic illness.
2. Identify and interpret factors for improvement in patient safety and nursing practice.
3. Utilize an evidence-based practice approach to the delivery and evaluation of nursing care to chronically ill patients across the lifespan.
4. Utilize policies and procedures within the health care setting.
5. Participate as a member of the healthcare team in the delivery of care.
6. Utilize appropriate technology for the delivery of nursing care to chronically ill patients.

NURS 2205. Professional Issues in Practical Nursing

Course Description

An overview of professional issues related to the role of the practical nurse (PN) or licensed practical nurse (LPN). Students learn about the LPN role according to the New Mexico Nurse Practice Act. Scope of practice and legal accountability are reviewed. Other topics include ethical and legal responsibilities of the LPN role, delegation of duties, and the role of the LPN as part of a health care team. On successful completion of this course, students are eligible to take the National Council Licensure Examination-Practical Nurse (NCLEX-PN).

Student Learning Outcomes

1. Describe elements of the New Mexico Nurse Practice Act that pertain to PN/LPN practice.
2. Identify the legal responsibilities of the PN/LPN role.
3. Explain the application of ethics to PN/LPN practice.
4. Describe the PN/LPN scope of practice.
5. Compare the duties that can be delegated to and delegated by PN/LPNs and Registered Nurses.
6. Identify the role of the PN/LPN as part of the health care team.

NURS 2210. Pharmacological Requisites of the Childbearing Family

Course Description

Basic concepts of pharmacology including pharmacokinetics, pharmacodynamics, and pharmacotherapeutics, and their relationship to nursing care will be discussed focusing on medications commonly utilized with the childbearing family.

Medication classes to be discussed include labor and delivery, analgesic, vitamins, respiratory, gynecological, endocrine, and anti-microbial/anti-infective drugs.

Student Learning Outcomes

1. Incorporate the values, preferences and expressed needs of maternal/child and pediatric clients in the administration of pharmacotherapeutics to these clients.
2. Apply principles of teaching/learning in education maternal/child and pediatric clients on the use, adverse effects and interactions of pharmacotherapeutic agents.
3. Explain how members of the health care team collaborate in the delivery of pharmacotherapeutics to maternal/child and pediatric clients.
4. Discuss pharmacokinetics and pharmacodynamics of drugs specific to the maternal/child and pediatric client.
5. Apply evidenced based information to the administration of pharmacotherapeutics to maternal/child and pediatric clients.
6. Give examples of policies, procedures and standards of care related to pharmacotherapeutics utilized in the care of maternal/child and pediatric clients.

NURS 2212. Professional Issues in PN Practice

Course Description

This course offers an overview of professional issues related to the role of the practical nurse (PN) or licensed practical nurse (LPN). Students learn about the LPN role according to the New Mexico Nurse Practice Act. Scope of practice and legal accountability are reviewed. Other topics include ethical and legal responsibilities of the LPN role, delegation of duties, and the role of the LPN as part of a health care team. On successful completion of this course and Level 3 of the Nursing Program, students can submit a request to the NMBON to take the NCLEX-PN.

Student Learning Outcomes

1. Describe elements of the New Mexico Nurse Practice Act that pertain to PN/LPN practice
2. Identify the legal responsibilities of the PN/LPN role.
3. Explain the application of ethics to PN/LPN practice.
4. Describe the PN/LPN scope of practice.
5. Compare the duties that can be delegated to and delegated by PN/LPNs and Registered Nurses.
6. Identify the role of the PN/LPN as part of the health care team.

NURS 2214C. Psychiatric Mental Health Nursing Theory and Clinical

Course Description

Nursing theory and practice as it relates to the care of the client experiencing psychosocial health deviations. The role of the nurse is discussed along with the ethical and legal aspects of care for the client with psychosocial disorders. Building upon the communication skills of listening and responding, the student develops the therapeutic skills of interpersonal relationships.

Student Learning Outcomes

1. Describe the effects of psychosocial deviations on the client's ability to maintain self-care.
2. Describe therapeutic communication and explain how to employ therapeutic interpersonal skills in the nurse-client relationship.
3. Analyze the influence of cultural elements on his/her attitudes and behaviors toward mental health and mental illness.
4. Utilize the nursing process to assist client's experiencing psychosocial health deviations.
5. Identify nursing interventions to meet the safety needs of the client with a psychosocial health deviation.

6. Analyze the legal and ethical issues regarding the client with a psychosocial health deviation.

NURS 2214. Psychiatric Mental Health Nursing Theory

Course Description

This course will allow the nursing student to develop skills necessary to provide nursing care for clients with mental health problems in various health care settings including: common mental health disorders, psychosocial dysfunction, psychosocial safety/substance abuse issues, violence, suicide, restraints, developmental age related pathophysiology, psychopharmacology, cultural/religious considerations, grief/loss, promotion of mental health, and therapeutic communication

Student Learning Outcomes

1. Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to health and wellness. wellness.
2. Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly occurring chronic and acute health care problems throughout the lifespan.
3. Compare an individualized patient care plan utilizing an evidence-based approach for patient(s) across the lifespan to outcomes for the patient(s).
4. Demonstrate adherence to policies, procedures, and standards of care for the provision of care in healthcare delivery systems.
5. Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.
6. Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for patients with chronic illnesses across the lifespan.

NURS 2214L. Psychiatric Mental Health Nursing Clinical

Course Description

This course will allow the nursing student to develop skills necessary to provide nursing care for clients with mental health problems in various health care settings including: common mental health disorders, psychosocial dysfunction, psychosocial safety/substance abuse issues, violence, suicide, restraints, developmental age related pathophysiology, psychopharmacology, cultural/religious considerations, grief/loss, promotion of mental health, and therapeutic communication. Selected clinical learning experiences in the simulation Laboratory, acute care, and community settings will allow the student to develop ability to develop: proficiency in performance of nursing skills, collaborative skills with clients, families, peers and health care team members, care planning skills related to patient actual, psychosocial, and potential problems in the delivery of total nursing care to meet needs of one client across the life span with acute/chronic mental health needs.

Student Learning Outcomes

1. Recognize personally held values and demonstrate assessment of the values held by diverse patients, as well as their preferences and expressed needs related to health and wellness.
2. Communicate with other members of the healthcare team to establish a plan to meet the needs of individuals, including commonly occurring chronic and acute health care problems throughout the lifespan.
3. Compare an individualized patient care plan utilizing an evidence-based approach for patient(s) across the lifespan to outcomes for the patient(s).
4. Demonstrate adherence to policies, procedures, and standards of care for the provision of care in healthcare delivery systems.
5. Apply strategies to reduce the risk of harm to self or others while providing professional nursing care.

6. Utilize varied communication technologies, electronic healthcare databases, and electronic health records to plan nursing care for patients with chronic illnesses across the lifespan.

NURS 2215. Pharmacological Requisites of Simple Health Deviations

Course Description

Basic concepts of pharmacology including pharmacokinetics, pharmacodynamics, and pharmacotherapeutics, and their relationship to nursing care are addressed focusing on medications related to the psychiatric, gastrointestinal, musculoskeletal, gynecological, hematological, and anti-neoplastic client.

Student Learning Outcomes

1. Identify and discuss each of the major classifications of drugs and drugs within the class, including the pharmacokinetics and pharmacodynamics involved for the following body systems: Central Nervous System; Immune/Hematological; Gastrointestinal; Musculoskeletal.
2. Discuss the relationship between the use of pharmaceuticals and the treatment of disease in clients with health deviations.
3. Discuss the importance of client education as it relates to each classification of drug presented, especially in preventing drug-drug and food drug interactions.
4. Describe the role of the nurse in safe medication administration to clients with simple health deviations.

NURS 2216. Pharmacological Requisites of Complex Health Deviations

Course Description

Basic concepts of pharmacology including pharmacokinetics, pharmacodynamics, and pharmacotherapeutics, and their relationship to nursing care is examined focusing on medications related to complex health deviations. Drug classes to be discussed include cardiovascular, renal, endocrine, and neurological.

Student Learning Outcomes

1. Apply principles of teaching/learning in educating clients on the use, adverse effects and interactions of pharmacotherapeutic agents used to treat complex health deviations.
2. Collaborate with members of the health care team in the delivery of pharmacotherapeutics to clients with complex health deviations.
3. Give examples of commonly prescribed drugs used to treat clients with complex health deviations and related pharmacokinetics and pharmacodynamics.
4. Discuss the relationship between the use of pharmacotherapeutics and the treatment of disease in clients with complex health deviations.
5. Identify safety issues and minimize risk potential associated with pharmacotherapeutics.

NURS 2225. Medical Surgical Nursing II

Course Description

This course focuses on the care of adult clients with complex medical/surgical health problems. Emphasis is placed on helping clients and their families cope with alterations in body functions. Concepts of pharmacology, health promotion and education, evidence-based practice, and interdisciplinary collaboration will be integrated throughout the course.

Student Learning Outcomes

1. Utilize diverse patients' values, preferences, and expressed needs to drive development of the plan of care for the adult client with acute illness.

2. Evaluate ability to function within own scope of practice as a member of the healthcare team to adult clients with acute illness.
3. Demonstrate the use of evidence-based approaches for the delivery and evaluation of care to patients across the lifespan as it relates to adult clients with acute illness.
4. Formulate a plan of care for the provision of care in healthcare delivery systems using policies, procedures and standards of care as it relates to adult clients with acute illness.
5. Interpret effective use of strategies to reduce risk of harm to self or others while providing professional nursing care including evidence-based practice, national patient safety goals, and core measures as it relates to adult clients with acute illness.
6. Utilize information management tools to monitor outcomes of care processes and deliver nursing care to adult clients with acute illness.

NURS 2225L. Medical Surgical Nursing Clinical II

Course Description

Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe care to clients and selected groups in a variety of settings.

Student Learning Outcomes

1. Utilize diverse patients' values, preferences, and expressed needs to drive development of the plan of care for the adult client with acute illness.
2. Evaluate ability to function within own scope of practice as a member of the healthcare team to adult clients with acute illness.
3. Demonstrate the use of evidence-based approaches for the delivery and evaluation of care to patients across the lifespan as it relates to adult clients with acute illness.
4. Formulate a plan of care for the provision of care in healthcare delivery systems using policies, procedures and standards of care as it relates to adult clients with acute illness.
5. Interpret effective use of strategies to reduce risk of harm to self or others while providing professional nursing care including evidence-based practice, national patient safety goals, and core measures as it relates to adult clients with acute illness.
6. Utilize information management tools to monitor outcomes of care processes and deliver nursing care to adult clients with acute illness.

NURS 2235. Medical Surgical Nursing III

Course Description

This course focuses on advanced concepts of nursing care as they relate to patients across the lifespan with complex, multisystem alterations in health. Emphasis is placed on implementing time management and organizational skills while managing the care of patients with multiple needs and collaborating with the interdisciplinary team. Complex clinical skills, as well as priority setting, clinical judgment, and tenets of legal and ethical practice, are integrated throughout the course.

Student Learning Outcomes

1. Integrate the values, preferences, attitudes, and expressed needs of the acutely ill patient into the plan of care related to the care of the adult client with complex health deviations.
2. Integrate the contributions of other members of the healthcare team into the delivery of nursing care for individuals across the lifespan with complex or multi-system health alterations related to the care of the adult client with complex health deviations.

3. Discriminate between valid and invalid reasons for modifying evidence-based clinical practice based on clinical expertise or patient/family preferences in the creation of a plan of care for delivery and evaluation of care for patients across the lifespan related to the care of the adult client with complex health deviations.
4. Evaluate the use of policies, procedures and standards of care in healthcare delivery systems and adapt the care as appropriate related to the care of the adult client with complex health deviations.
5. Interpret and analyze effective use of strategies to reduce risk of harm to self or others while providing professional nursing care, creating a structure for implementation of evidence- based practice, national patient safety goals, and core measures in the care of the adult client with complex health deviations.
6. Integrate use of appropriate technology and information management tools to support safe delivery of care to the adult client with complex health deviations.

NURS 2235L. Medical Surgical Nursing III Clinical

Course Description

Clinical experiences provide the student an opportunity to apply theoretical concepts and implement safe care to clients and selected groups in a variety of settings. Experiences that facilitate entry into practiceare included in this practicum.

Student Learning Outcomes

1. Integrate the values, preferences, attitudes, and expressed needs of the acutely ill patient into the plan of care related to the care of the adult client with acute, chronic, or complex health deviations.
2. Integrate the contributions of other members of the healthcare team into the delivery of nursing care for individuals across the lifespan with complex or multi-system health alterations related to the care of the adult client with acute, chronic, or complex health deviations.
3. Discriminate between valid and invalid reasons for modifying evidence-based clinical practice based on clinical expertise or patient/family preferences in the creation of a plan of care for delivery and evaluation of care for patients across the lifespan related to the care of the adult client with acute, chronic, or complex health deviations.
4. Evaluate the use of policies, procedures, and standards of care in healthcare delivery systems and adapt the care as appropriate related to the care of the adult client with acute, chronic, or complex health deviations.
5. Interpret and analyze effective use of strategies to reduce risk of harm to self or others while providing professional nursing care, creating a structure for implementation of evidence- based practice, national patient safety goals, and core measures in the care of the adult client with acute, chronic, or complex health deviations.
6. Integrate use of appropriate technology and information management tools to support safe delivery of care to the adult client with acute, chronic, or complex health deviations.

NURS 2246C. Health Deviations I

Course Description

Introduction to medical/surgical clients, whose health care needs are routine and predictable. Focus is on simple health deviations, including concepts relative to health promotion and maintenance. The nursing process is utilized to provide evidenced based, safe client centered care. Students are expected to apply clinical judgment, communicate and collaborate with clients and the interdisciplinary team in providing care for a group of two to three clients.

Student Learning Outcomes

1. Incorporate interventions into the plan of care while remaining aware of the cultural, spiritual and ethical needs of the client (1)
2. Utilize the beginning skills of interpersonal relations in establishing a therapeutic relationship with diverse clients and families. (2)
3. Demonstrates skill in using client care technologies that support safe client care. (2)

4. Demonstrate effective writing skills by using information systems and writing the entire nursing process at a level of 76% or better.
5. Demonstrate clinical judgement and problem solving skills by utilizing the nursing process as a guide in providing nursing care and rationale to clients with simple health deviations.
6. Assist members of the interdisciplinary team in the planning of safe client care and evidence based practice outcomes for clients with simple health deviations.
7. Operate within the ethical and legal responsibilities of nursing and society as they relate to the client with simple health deviations.
8. Utilize knowledge from current research studies and evidence based practice applicable to the care of clients when assessing, analyzing, planning, implementing, and evaluating nursing care.
9. Demonstrate behavior that reflects the values and ethics of the nursing profession.: Integrate the client's value system, culture, or religious beliefs while maintaining a non-judgmental attitude; Select to be respectful and courteous; Share compassion and empathy; Integrate therapeutic interpersonal skills; Integrate genuine concern for the client and his/her welfare; Select discharge planning as one method of preparing the client for self-care; Integrate the concepts of confidentiality and privacy at all times; Share a commitment and ownership to nursing; Promote safety and quality improvement as an advocate of nursing care.
10. Demonstrate knowledge of delegation, management, and leadership skills. (4)

NURS 2256C. Health Deviations II

Course Description

Concepts and principles applied to clients with complex health deviations. Building upon knowledge gained in Health Deviations I, focus will be on acutely ill clients. The nursing process continues to serve as a guide to provide safe, client centered care. The student collaborates with the interdisciplinary team in all aspects of client care. Student experiences the role of the staff nurse under the guidance and direction of the nursing instructor.

Student Learning Outcomes

1. Apply each step of the nursing process as a method of organizing the nursing care for patients with complex health deviations.
2. Discuss the patient's health care needs that occur as a result of complex health deviations.
3. Explain methods the nurse can employ in allowing the patient to assume the right and responsibility for his own care.
4. Incorporate the concepts and principles derived from biological, developmental, social, nutritional and computer sciences and nursing knowledge that relate to the nursing care of patients with complex health deviations.
5. Explain the roles and functions of the members of the health care team including ancillary personnel as they relate to the care of patients with complex health deviations.
6. Explain the rational for the performance of the following technical skills : EKG monitoring; Rhythm strip interpretation; Hemodynamic monitoring and interpretation; Tracheal suctioning.

NURS 2996. Nursing Topics

Course Description

Varies

Student Learning Outcomes

Varies

NURS 2999. LPN Capstone

Course Description

The focus of this course is applying practical nursing skills in clinical settings that include schools, clinics, hospitals, and long-term care facilities. This course gives the practical nursing student an opportunity to work with individuals and families across the lifespan with chronic, acute, and complex medical conditions.

Student Learning Outcomes

1. Engage in practical nursing practice appropriate to a new graduate.
2. Integrate diverse patient values into plan of care for assigned patients.
3. Recognize and practice system contributions that impact the quality and safety of practical nursing practice.
4. Engage in an evidence-based approach in the delivery and evaluation of practical nursing care to assigned patients across the lifespan.
5. Practice in accordance with policies and procedures in the assigned health care setting.
6. Collaborate with the health care team in the delivery of patient care.
7. Demonstrate the appropriate use of informatics in the management of information and in the delivery of patient care as a practical nurse.

NURS 2999. Nursing Capstone

Course Description

Varies

Student Learning Outcomes

Varies

Nursing Assistant (NUAS)

NUAS 1110C. Nursing Assistant Theory and Laboratory

Course Description

Equips students with the fundamental knowledge and skills necessary for providing safe and effective care to patients in various healthcare settings. Through a combination of theoretical instruction and practical experience, students will gain a comprehensive understanding of the Nursing Assistant role. Students experience a practical application of the Nursing Assistant role.

Student Learning Outcomes

1. Identify factors that promote safe, effective, age appropriate, ethical and culturally competent care.
2. Provide safe, effective, age appropriate, and culturally competent care in an ethical manner.
3. Perform basic nursing assistant skills related to various healthcare settings and various populations, respecting patients mental health and social needs.
4. Communicate effectively with patients, families, and members of the healthcare team.

NUAS 1110L. Nursing Assistant Laboratory

Course Description

Equips students with the fundamental skills necessary for providing safe and effective care to patients in various healthcare settings. Through laboratory experiences, students will practice Nursing Assistant skills.

Student Learning Outcomes

1. Practice safe, effective, age appropriate, and culturally competent care in an ethical manner.
2. Perform basic nursing assistant skills in the laboratory.

NUAS 1110. Nursing Assistant Theory

Course Description

Equips students with the fundamental knowledge necessary for providing safe and effective care to patients in various healthcare settings. Through theoretical instruction, students will gain a comprehensive understanding of the Nursing Assistant role.

Student Learning Outcomes

1. Identify factors that promote safe, effective, age appropriate, ethical and culturally competent care.

NUAS 1115. Nursing Assistant Clinical

Course Description

Synthesizes fundamental skills necessary for providing safe and effective care to patients in various healthcare settings. Students experience a practical application of the Nursing Assistant role.

Student Learning Outcomes

1. Provide safe, effective, age appropriate, and culturally competent care in an ethical manner.
2. Perform basic nursing assistant skills related to various healthcare settings and various populations, respecting patients mental health and social needs.
3. Communicate effectively with patients, families, and members of the healthcare team.

NUAS 1120. Nursing Assistant Supplemental Skills

Course Description

This course provides additional theory and laboratory instruction and practice of basic patient care skills required for Nursing Assistants. Skills practiced include patient assistance with activities of daily living, personal care, transfer and positioning, vital sign measurement, intake and output measurement, restorative care, and communication. Reinforces topics in preparation for state certification exams.

Student Learning Outcomes

1. Describe the Nursing Assistant's role and responsibilities.
2. Identify patient's rights when performing patient care skills.
3. Demonstrate appropriate written and verbal communication skills.
4. Perform safe and competent nursing care skills.
5. Exhibit professional behaviors while practicing skills.

NUAS 2996. Nursing Assistant Topics

Course Description

Varies

Student Learning Outcomes

Varies

Nursing Refresher (NRRF)

NRRF 2110. Nurse Refresher

Course Description

Designed to provide nurses with an active or expired New Mexico nursing license (RN or LPN) with an opportunity to learn current best practices in assessment, pharmacology, dosage calculation and medical surgical nursing.

Student Learning Outcomes

1. Review and update knowledge and skills essential in the practice of nursing, particularly clinical judgement.

2. Identify new trends and developments in the nursing care of diverse clients.
3. Develop independent learning and self-evaluation skills as a means of maintaining professional competency.
4. Increase confidence in knowledge and skills for providing nursing care.
5. Describe appropriate nursing care within the scope of practical/registered nursing, as applicable.

NRRF 2190. Nurse Refresher Clinical Application

Course Description

Course is designed to provide nurses with an opportunity to update their practice in a medical surgical or skilled nursing facility.

Student Learning Outcomes

1. Review and update knowledge essential in the practice of nursing, particularly clinical judgement.
2. Apply new trends and developments in the nursing care of diverse clients.
3. Practice independent self-study and self-evaluation skills as a means of maintaining professional competency.
4. Increase confidence in knowledge and skills for providing nursing care.
5. Provide appropriate nursing care within the scope of practical/registered nursing, as applicable.

Nuclear Engineering (NUCE)

NUCE 1110. Introduction to Nuclear Engineering

Course Description

An introduction to the profession of nuclear engineering; current research in this field; career choices; guidance and advice on curricular matters and effective study techniques for nuclear engineering students.

Student Learning Outcomes:

1. Have an understanding of the breadth of the nuclear engineering field and its impact on society.
2. Know about potential career paths for graduates in nuclear engineering.
3. Be aware of the ethical and professional obligations of nuclear engineers.
4. Be aware of support available to nuclear engineering students through the department, the School of Engineering, and UNM to help them succeed in their studies.
5. Have acquired entry level skills related to the curriculum such as knowledge of safety procedures, use of laboratory equipment, and basic tools used by nuclear engineers.

NUCE 1112. Nuclear Engineering Professional Skills

Course Description

This course will develop the professional skills and traits necessary for a successful nuclear engineering career.

Student Learning Outcomes

1. Develop confidence giving public presentations and build familiarity with presenting techniques.
2. Develop effective technical writing techniques.
3. Develop effective networking and communication techniques.
4. Learn to work and lead effectively in a team environment.
5. Gain familiarity with basic financial literacy and other life skills.

NUCE 2213. Laboratory Electronics for Nuclear, Chemical and Biological Engineers

Course Description

Basic DC and AC circuits including capacitors and inductors and their applications in radiation measurement equipment and chemical process parameter measurements. Oscilloscopes, Op Amps, and Sensors and their use in the CBE and NE laboratories. General basis in coding and coding techniques.

Student Learning Outcomes

1. Gain proficiency in using multimeters.
2 Learn and understand fundamental electrical CONCEPTS of AC and DC circuits, including but not limited to current, voltage, resistance, AC waveforms analysis, and inductive and capacitive reactance and impedance.
3. Create, use and debug simple and complex electrical circuits during laboratory exercises.
4. Identify and analyze series, parallel, and series-parallel resistive DC circuits.
5. Identify and analyze balanced and unbalanced Wheatstone bridges.
6. Identify and analyze the practical application and efficacy of diodes.
7. Identify and analyze series, parallel, and series-parallel capacitive and inductive DC and RLC AC circuits.
8. Gain useful and practical knowledge so students can recognize, analyze, and mitigate electrical hazards safely and competently.
9. Gain a working knowledge of and determine appropriate applications for various flow, temperature, and pressure sensors.
10. Identify and analyze RC integrating and differentiating circuits, RL integrating and differentiating circuits, for both single and repetitive input pulses.
11. Identify and calculate the gain of inverting and non-inverting op-amp circuits.
12. Gain understanding of the application and output data from oscilloscopes. (NE)
13. Develop programs using LabView software to aid data acquisition, analysis, simulations and visualization.

NUCE 2220. Principles of Radiation Protection

Course Description

Nuclear reactions, decay, interactions of physical radiation with matter, methods of radiation detection and biological effects of radiation, external and internal dosimetry. Open-ended exercises and design project.

Student Learning Outcomes

1. Students should be able to describe the different modes of radioactive decay and calculate Q-values for each process.
2. Students should be able to describe how heavy charge particles interact with matter and determine the range of such particles in different media.
3. Students should be able to describe how electrons and positrons interact with matter and determine the range of such particles in different media.
4. Students should be able to describe how electromagnetic radiation interacts with matter, identify the dominant mechanism and calculated the energy absorption from the interactions.
5. Students should be able to describe how different detectors detect radiation and provide the advantages and disadvantages of each type of detector for the various types of radiation.
6. Students should be able to describe how radiation interacts with the body and what effects might be seen for the various types and levels of radiation.
7. Students should be able to discuss the current DOE and NRC standards for radiation dose.

NUCE 2230. Principles of Nuclear Engineering

Course Description

Introduction to nuclear engineering and nuclear processes; neutron interactions with matter, cross sections, fission, neutron diffusion, criticality, kinetics, chain reactions, reactor principles, fusion and the nuclear fuel cycle. Includes open-ended exercises.

Student Learning Outcomes

1. Understand and apply physics to nuclear engineering problems.
2. Calculate atomic number densities and compounds and mixtures.

3. Define fission, fissionable, fertile.
4. Sketch binding energy curves and cross-section curves.
5. Calculate fractional energy loss of neutrons in scattering processes.
6. Use sub-critical, critical, and supercritical correctly when describing reactors.
7. Calculate infinite multiplication factors.
8. Explain the function of reflectors.
9. Use the one-group critical solutions to solve for critical masses and dimensions of bare reactors.
10. Sketch the nuclear fuel cycle and main features of pressurized water and boiling water reactors.

Nutrition (NUTR)

NUTR 1010. Personal and Practical Nutrition

Course Description

This class presents nutrition concepts from a practical viewpoint that can be applied to your personal goals. Current and controversial topics in nutrition that are of concern to the consumer will be included. Topics may vary but will address issues of individual nutrient needs, nutrition throughout the life cycle, alternative eating patterns and nutrition as part of disease prevention. This class fulfills the nutrition requirement for culinary arts but is not the course required for nursing majors. A computerized dietary analysis personalizes some of the information for the students.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Discuss influences of food and lifestyle on health.
    a. List classes of nutrients.
    b. Identify the components of a healthy diet.
    c. Discuss the role of nutrition on chronic disease.
    d. Discuss nutrient recommendations during life stages.
    e. Identify factors which impact food choices.
2. Explain how food preparation affects nutritional quality.
3. Identify safe food handling practices.
    a. State safe cooking/storage temperatures.
    b. Explain principles of infection control.
4. Identify credible sources of nutritional information.

NUTR 1010L. Personal and Practical Nutrition Laboratory

Course Description

This course introduces non-science majors to the basic science of nutrition. Information required to understand a variety of nutrition topics currently in the news affecting our community and society, and to promote nutritional science literacy in the public arena, will be presented. Students will investigate their own dietary practices using dietary assessment tools and apply the scientific principles of human nutrition to promote personal health and well-being. Case studies, problems and laboratory exercises will contribute to the process of scientific inquiry and help students to value science as a way to develop reliable nutrition knowledge.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Employ critical thinking by interpreting information from data represented in charts, graphs, tables and spreadsheets.
2. Evaluate scientific research using the scientific method.
3. Utilize various anthropometric methods for dietary assessment.
4. Determine and analyze personal risk factors for chronic disease.

5. Demonstrate food preparation techniques and the effect on nutritional quality.
6. Utilize mathematical techniques to evaluate and solve scientific problems.
7. Relate science to personal, social or global impact with discussions on current controversial nutrition topics and sustainability.
8. Communicate effectively about scientific ideas and topics in oral and/or written formats.

NUTR 1015. Nutrition Fundamentals and Medical Nutrition Therapy

Course Description

This course explores the fundamentals of nutrition science and medical nutrition therapy for various conditions and disease states. Topics covered include basic nutrition science, including macronutrients, micronutrients, vitamins, minerals, water, general dietary recommendations, as well as medical nutrition therapy basics such as scope of practice, screening for nutritional risks, assessment of dietary intake, dietary modifications for various health conditions, and care planning in the Nutrition Care Process. The course is intended for students enrolled in the Dietary Manager Certification program.

Student Learning Outcomes

Upon completion of the course, a student will be able to:

1. List classes of nutrients.
2. Identify the components of a healthy diet.
3. Discuss influences of food and lifestyle on health.
4. Discuss the role of nutrition on chronic disease.
5. Identify credible sources of nutrition information.
6. Calculate basic nutritional needs of patients including individualized energy, protein, and fluid needs.
7. Plan a diabetic diet menu using both carbohydrates counting and the ADA Exchange List systems.
8. List major dietary restrictions and interventions associated with various medical disorders and diseases such as diabetes, CVD, gastrointestinal, liver, and renal disease.
9. Analyze medical and dietary information and appropriately perform a nutritional screening.
10. Implement steps in the Nutrition Care Process.
11. Demonstrate appropriate documentation of nutrition assessment and intervention in the medical record.
12. Report responsibilities legally allowed for the Certified Dietary Manager in their scope of practice.
13. Describe major nutritional concerns through the lifecycle.
14. Discuss the various methods of nutrition support.

NUTR 1020. Sports Nutrition

Course Description

This course will explore the role of nutrition in physical performance of competitive and Recreational sports participants.

Student Learning Outcomes

Upon completion of the course, a student will be able to:

1. Identify the role nutrition plays in exercise performance.
2. Identify differences in substrate utilization across different forms of exercise.
3. Apply research-based concepts to develop nutrition-based plans for a variety of Exercise conditions.

Course Description

This course explores the fundamentals of non-commercial foodservice and dining services management for dietary managers, with a focus on quantity food production, meal service, and food safety and sanitation in care centers, schools, correctional facilities, hospitals, and employee feeding venues. The topics covered include standardized recipes, food production systems, preparation of nourishments and supplements, client satisfaction, quality processes, sanitation, and safe food handling. The course is intended for students enrolled in the Dietary Manager Certification program.

Student Learning Outcomes

Upon completion of the course, a student will be able to:

1. Identify types of food service production, meal service and menus.
2. Understand the role of the Certified Dietary Manager in foodservice operations.
3. Identify factors affecting menu planning.
4. Explain the importance of a standardized recipe as a management tool.
5. Evaluate the quality and accuracy of meal service.
6. Write specifications for purchasing, production, and preparation of food.
7. Understand types of nutritional support and their role in client care.
8. Evaluate client food acceptance and satisfaction of menu.

NUTR 1060. Food Service Management

Course Description

This course explores the fundamentals of non-commercial foodservice and dining services management for dietary managers, with a focus on quantity food production, meal service, and food safety and sanitation in care centers, schools, correctional facilities, hospitals, and employee feeding venues. The topics covered include standardized recipes, food production systems, preparation of nourishments and supplements, client satisfaction, quality processes, sanitation, and safe food handling. The course is intended for students enrolled in the Dietary Manager Certification program.

Student Learning Outcomes

Upon completion of the course, a student will be able to:

1. Identify types of food service production, meal service and menus.
2. Understand the role of the Certified Dietary Manager in foodservice operations.
3. Identify factors affecting menu planning.
4. Explain the importance of a standardized recipe as a management tool.
5. Evaluate the quality and accuracy of meal service.
6. Write specifications for purchasing, production, and preparation of food.
7. Understand types of nutritional support and their role in client care.
8. Evaluate client food acceptance and satisfaction of menu.

NUTR 1090. Dietary manager Clinical I

Course Description

This course provides a learning experience in clinical and community environments with emphasis on developing skills in Nutrition/Medical Nutrition Therapy and Sanitation/Food Safety. This is a coordinated supervised practice field experience requiring a minimum of 90 hours and is required for students seeking a certificate in the Dietary Managers Program. The course prepares learners to complete nutritional assessments and care plans for patients; describe the nutritional needs of people across the life cycle; prepare menus and transpose these to modified diets; develop infection control program based on principles of sanitation; and develop a preventative accident program to reduce work related accidents.

Student Learning Outcomes

Upon completion of the course, a student will be able to:

1. List and discuss examples of ethical considerations for the food and nutrition professional.
2. Describe the basic tenants of patient confidentiality according to the Health Insurance Portability and Accountability Act of 1006 (HIPPA).
3. Apply basic concepts and principles of nutrition and medical nutrition therapy in the screening of clients and provide basic medical nutrition therapy under the supervision of a registered dietitian.

4. Interpret and accurately document nutrition data in the medical record.
5. Effectively communicate client information to other health professionals.
6. Develop and evaluate effectiveness of client care plans.
7. Demonstrate proficiency in following requirements of local, state and federal regulations.
8. Participate in regulator agency surveys.
9. Plan and provide appropriate meal service to clients.
10. Demonstrate proficiency in the protection of food in all phases of storage, preparation, holding, service and transportation using HACCP guidelines.
11. Demonstrate ability to manage physical facilities to ensure compliance with safety and sanitation regulations.
12. Demonstrate ability to manage care, maintenance and use of facility equipment.

NUTR 1110. Nutrition for Health

Course Description

This course provides an overview of general concepts of nutrition, which can be applied to food choices that support a healthy lifestyle. The cultural, psychological, physiological and economic implications of food choices are explored.

Student Learning Outcomes:

1. Define the basic nutritional concepts as they pertain to nutritional science.
2. Develop basic literature searching skills to identify reliable nutritional information.
3. Apply basic knowledge to real life situations in class discussion.

NUTR 1120. Dietary Guidelines

Course Description

A presentation and explanation in detail of the Dietary Guidelines for Americans developed by the U.S. Department of Agriculture (U.S.D.A.) and the U.S. Department of Health and Human Services.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Recall, interpret and explain each of the Dietary Guidelines and U.S.D.A. nutrition education tools.
2. Translate the Dietary Guidelines into a diet and exercise program.
3. List and describe methods to select and prepare food which are consistent with the Dietary Guidelines for Americans.
4. Identify risk factors related to disease prevention.

NUTR 1190. Dietary Manager Clinical II

Course Description

This course provides a learning experience in clinical and community environments with emphasis on developing skills in Management of Food Service Operations and Human Resource Management. Focus areas include quality improvement and evaluation of service, meal planning, recipe development, safe and sanitary food procurement and production methods, facility layout and design, staffing, marketing, and financial management. This is a coordinated supervised practice field experience requiring a minimum of 90 hours and is required for students seeking a certificate in the Dietary Manager Program.

Student Learning Outcomes

Upon completion of the course, a student will be able to:

1. Demonstrate the ability to supervise the production of food that is safe, high quality, meets budget, is aesthetically pleasing, and reflects current nutrition practices.
2. Apply management principles to human resource functions, facility management, planning and goal setting, and development and measurement of outcomes and quality improvement.
3. List and discuss examples of ethical considerations for the food and nutrition professional.

4. Describe the basic tenants of patient confidentiality according to the Health Insurance Portability and Accountability Act of 1006 (HIPPA).
5. Demonstrate proficiency in following requirements of local, state and federal regulations.
6. Participate in regulator agency surveys
7. Plan and provide appropriate meal service to clients.
8. Demonstrate proficiency in the protection of food in all phases of storage, preparation, holding, service and transportation using HACCP guidelines.
9. Demonstrate ability to manage physical facilities to ensure compliance with safety and sanitation regulations.
10. Demonstrate ability to manage care, maintenance and use of facility equipment.

NUTR 1996. Topics in Nutrition
Course Description
Varies
Student Learning Outcomes
Varies

NUTR 2110. Human Nutrition
Course Description
This course provides an overview of nutrients, including requirements, digestion, absorption, transport, function in the body and food sources. Dietary guidelines intended to promote long-term health are stressed.
Student Learning Outcomes
1. Evaluate sources of nutrition information for reliability.
2. Identify elements of a nutritious diet.
3. Describe the digestion, transport, and absorption of nutrients.
4. Describe the importance of nutrition in weight control and health.
5. Identify nutritional needs as they relate to the life cycle and performance.
6. Describe behavior modification techniques that promote good health.
7. Evaluate popular nutrition trends for scientific accuracy and effectiveness.
8. Develop skills in the planning and assessing of healthy meal plans.
9. Describe the role of food choices in the development of chronic disease.
10. Describe the role of food in the promotion of a healthful lifestyle.

NUTR 2120. Seminar I – Becoming a Nutrition Professional
Course Description
This course will introduce students to the field experience, careers, and professions in nutrition.
Student Learning Outcomes
1. Describe career options within the fields of Nutrition & Dietetics.
2. Outline the HNDS field experience process.
3. Explain the educational pathways in HNDS.
4. List requirements for admission into the HNDS Dietetics pathway.
5. Begin an HNDS student portfolio.
6. Discuss the importance of personal responsibility & accountability.

NUTR 2130. Nutrition in the Life Cycle
Course Description
A presentation and explanation of the specific nutritional needs and recommendations for all phases of the human life cycle: pregnancy, infancy, childhood, adolescence, adulthood, and the elderly.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Outline the nutritional concerns and the nutrient requirements throughout the life cycle.
2. Identify risk factors related to the various stages of the life cycle.
3. Formulate guidelines for an adequate healthy diet for all stages of the life cycle.
4. Identify food sources of major nutrients.

NUTR 2140. Community Nutrition

Course Description

An exploration of food and nutrition issues and programs related to individuals, families, and groups living in a defined area.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Explain community nutrition problems.
2. Design programs to alleviate identified community nutrition problems.
3. Plan strategies to market community nutrition programs.
4. Evaluate community nutrition programs.

NUTR 2150. Nutrition in Chronic Disease

Course Description

Review of the relationship between nutrition and obesity, diabetes, hypertension, heart disease, and cancer. Dietary strategies for prevention and management of these chronic diseases are also examined.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify major chronic diseases and their nutritional relationships.
2. Identify nutritional recommendations for the prevention and treatment of the five major chronic diseases.
3. Describe the practical application of nutritional recommendations for the prevention and management of the five major chronic diseases.

NUTR 2160. Culinary Nutrition

Course Description

A combination of the science of nutrition and current dietary recommendations with the culinary arts. Strategies and techniques used to prepare healthful and appetizing food are explored and demonstrated. Information needed to meet the specialized dietary and health needs of individuals and groups is provided. Menu development, modification, and analysis are reviewed.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Recall the major categories of nutrients.
2. Identify food sources of nutrients.
3. Recall and explain current dietary recommendations.
4. Translate dietary recommendations into culinary strategies and techniques needed to prepare healthful food.
5. Analyze, modify, and develop menus that reflect current dietary recommendations.
6. Select and prepare healthful foods without compromising flavor and appeal.
7. Recognize the special dietary needs of individuals and groups.

NUTR 2170. Diabetes Management

Course Description

This course reviews the prevention and management of various types of diabetes. Included is information on blood glucose control, insulin and medications, nutrition and exercise recommendations, and the prevention of complications.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe the various types of diabetes.
2. Describe strategies for prevention of diabetes.
3. Summarize and explain the management of diabetes including blood sugar control and monitoring insulin and medications, recommendations for exercise and diet.
4. Describe the complications of diabetes.

NUTR 2996. Topics in Nutrition

Course Description

Varies

Student Learning Outcomes

Varies

Occupational Therapy Assistant (OTAP)

OTAP 1220. Introduction to Occupational Therapy Assistant

Course Description

This course includes the historical development and philosophy of the profession. Emphasis is on the roles and responsibilities of the occupational therapy assistant, occupation in daily life; educational requirements; current health care environment; and moral, legal, and ethical issues. Laboratory section focuses on development of professional behaviors and attitudes required for healthcare students and practitioners.

Student Learning Outcomes

1. Discuss the history, principles, and language of occupational therapy.
2. Differentiate between the roles and training of Occupational Therapists and Occupational Therapy Assistants, including the delivery of service.
3. Demonstrate beginning therapeutic and health care professional skills.

OTAP 1230. Functional Kinesiology in OT

Course Description

Study of musculoskeletal and nervous systems and human movement as it relates to Occupational Therapy Assistants, including assessment procedures and intervention techniques.

Student Learning Outcomes

1. Analyze human motion related to functional outcomes.
2. Identify normal and abnormal movement.
3. Perform selected movement assessments and techniques.
4. Identify components and functions of the nervous system and perform selected sensory and nervous system related assessments and techniques.

OTAP 1240. Analysis of OT Interventions I

Course Description

This course is the study of the language of Occupational Therapy using the occupational therapy practice framework as a guide. Students will analyze various activities and occupations, with an emphasis on safe implementation of therapeutic interventions used in occupational therapy.

Student Learning Outcomes

1. Describe the role that occupation and activity have in the history and philosophy of occupational therapy.
2. Demonstrate beginning understanding of the therapeutic process.
3. Identify various occupations or activities designed to enhance occupational performance for selected disabilities or diseases.
4. Demonstrate basic safety, problem solving, and management of resources used for occupations or activities related to OT interventions.
5. Explain Occupational Therapy Practice Framework (OTPF) terminology by analyzing selected occupations or activities.
6. Demonstrate basic documentation skills.

OTAP 1250. Documentation for OT

Course Description

This course provides students with the knowledge and skills to write accurate and professional documentation for reimbursement of occupational therapy services. Formats reviewed include narrative, SOAP (subjective, objective, assessment, plan), and DAP (data, assessment, plan) notes among others. Topics include documentation throughout the stages of the occupational therapy process, intervention plans, and increasing observational skills.

Student Learning Outcomes

1. Utilize Occupational Therapy Practice Framework (OTPF) and medical terminology effectively to document selected occupations or activities.

OTAP 1252. Fieldwork Level I-A

Course Description

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. A minimum of 70 hours.

Student Learning Outcomes

1. Demonstrate positive work behaviors.
2. Demonstrate critical thinking skills by accurately reporting observations and through safe clinic practices.
3. Demonstrate effective communication skills.

OTAP 1260. Pathophysiology and Occupational Therapy

Course Description

Pathology and general health management of diseases and injuries across the lifespan encountered in occupational therapy treatment settings. Includes etiology, symptoms, and the client's physical and psychological reactions to disease and injury.

Student Learning Outcomes

1. Identify characteristics of diseases and conditions.
2. Identify the effects of diseases and conditions on occupational performance.
3. Identify occupation-based interventions.

OTAP 1270. Growth and Development in OT

Course Description

General principles of occupational performance throughout the lifespan.

Student Learning Outcomes

1. Identify and adapt age appropriate occupations.

2. Identify factors which affect occupational performance.
3. Select appropriate intervention strategies for this population.

OTAP 1280. Analysis of OT interventions II

Course Description

This course is a continuation of OTAP 1240: Analysis-Occupations & Interventions I. Emphasis is on advanced techniques and applications used in traditional and non-traditional practice settings.

Student Learning Outcomes

1. Demonstrate ability to select, prioritize, and plan occupations or activities to implement for specific populations.
2. Demonstrate ability to teach others implementation techniques (i.e., compensatory strategies) to enhance occupational performance and/or use of equipment for specific populations, occupations or activities.
3. Demonstrate ability to implement safety while using techniques and equipment.
4. Demonstrate advanced documentation skills.
5. Demonstrate ability to promote occupational therapy to selected audiences.

OTAP 1992. Directed Studies in Occupational Therapy Assistant

Course Description

Varies

Student Learning Outcomes

Varies

OTAP 1996. Topics in Occupational Therapy Assistant

Course Description

Varies

Student Learning Outcomes

Varies

OTAP 2210. Mental Health and OT Interventions

Course Description

Study of the promotion of mental health through occupational therapy assessment/evaluation tools and intervention strategies using various frames of reference. Includes a survey of conditions and use of group process and group dynamics.

Student Learning Outcomes

1. Identify and explain psychiatric diagnoses and medical treatments
2. Identify components that impact the health and wellness and occupational functioning in individuals with mental illness.
3. Demonstrate ability to eectively select, plan, conduct, modify, and document evidenced-based evaluations and intervention strategies to facilitate occupational performance and participation for individuals with mental illnes

OTAP 2220. Elders and OT Interventions II

Course Description

Occupational performance of elders. Includes assessment/evaluation tools and techniques and intervention strategies in various frames of references, and regulatory factors specific to this population.

Student Learning Outcomes

1. Identify components that impact the health, wellness, and functioning in elders.

2. Demonstrate ability to effectively select, plan, conduct, modify, and document evidenced-based evaluations and intervention strategies to facilitate occupational performance and participation for elders based on case studies or scenarios.
3. Identify how regulatory factors impact health services for elders, including effective documentation skills.

OTAP 2250. Occupational Therapy Prep

Course Description

This course teaches the student program development in terms of administrative functions of occupational therapy, consulting skills and participation in program implementation. The students review for the certification examination.

Student Learning Outcomes

1. Demonstrate knowledge of applicable national requirements for credentialing and requirements for licensure, certification, or registration under state laws.
2. Demonstrate knowledge of occupational therapy ethics and standards of practice.
3. Demonstrate the ability to participate in the development, marketing, and management of service delivery options.
4. Identify the systems and structures that create federal and state legislation and regulations and their implications and effects on practice.
5. Demonstrate knowledge of various reimbursement systems (e.g., federal, state, third party, private payer) and documentation requirements that affect the practice of occupational therapy.
6. Participate in the documentation of ongoing processes for quality improvement and implement program changes as needed to ensure quality of services. Under the direction of an administrator, manager, or OT, collect, organize, and report on data for evaluation of client outcomes.
7. Identify the potential impact of current policy issues and the social, economic, political, geographic, or demographic factors on the practice of occupational therapy.
8. Articulate to consumers, potential employers, colleagues, third-party payers, regulatory boards, policymakers, other audiences, and the general public both the unique nature of occupation as viewed by the profession of occupational therapy and the value of occupation support performance, participation, health, and well-being.
9 Effectively communicate and work inter-professionally with those who provide services to individuals and groups in order to clarify each member's responsibility in executing an intervention plan.

OTAP 2332. Fieldwork Level I-B

Course Description

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. A minimum of 70 hours.

Student Learning Outcomes

1. Demonstrate positive work behaviors
2. Demonstrate critical thinking skills in safe clinic practices and by accurately reporting observations
3. Demonstrate effective communication skills

OTAP 2340. Pediatrics and OT Interventions

Course Description

Occupational performance of newborns through adolescents including assessment/evaluation tools and techniques and intervention strategies using various frames of references, and regulatory factors specific to this population.

Student Learning Outcomes

1. Differentiate and analyze developmental theories and milestones, and components of health and wellness in the pediatric population.
2. Demonstrate ability to effectively select, plan, conduct, modify, and document evidence-based evaluations and intervention strategies to facilitate occupational performance and performance for the pediatric population, based on case information.
3. Identify how regulatory factors impact health services for the pediatric population.

OTAP 2350. Physical Function and OT Interventions

Course Description

Physical function to promote occupational performance. Includes assessment/evaluation tools and techniques, and intervention strategies of various frames of reference for physical disabilities.

Student Learning Outcomes

1. Identify medical treatment of selected physical diseases, conditions, and disabilities.
2. Analyze components that impact the health and wellness and occupational functioning in individuals with physical disabilities.
3. Utilize evaluation tools and intervention techniques related to select OT frames of reference.
4. Demonstrate ability to effectively select, plan, modify, and share data from evidence-based evaluations and the status of intervention strategies to facilitate occupational performance and participation for individuals with physical disabilities, based on case information.

OTAP 2360. Health Care Management in OT

Course Description

Explore the roles of the occupational therapy assistant in health care delivery. Topics include documentation, reimbursement, credentialing, ethical standards, health care team role delineation, management techniques, analysis of professional literature, promotion of the profession, certification, licensure, and effective job search strategies.

Student Learning Outcomes

1. Demonstrate professional behaviors.
2. Identify basic management and business strategies required for effective healthcare delivery.

OTAP 2372. Fieldwork Level II-A

Course Description

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. 280-320 hours AND 8 weeks is required.

Student Learning Outcomes

1. Demonstrate fundamentals of occupational therapy practice by maintaining an ethical and safe clinical environment.
2. Demonstrate understanding of the occupational therapy philosophy, the roles of occupational therapy personnel, and make evidence-based decisions.
3. Demonstrate ability to gather data, administer selected assessment tools, assist with interpretation of the information and collaborate with the Occupational Therapist to establish client centered, occupation-based goals.
4. In collaboration with the occupational therapist practitioner, the student will design, implement and modify occupation based therapeutic interventions using therapeutic interactions to meet the treatment goals of clients.
5. Demonstrate professionalism through verbal and written communications with peers, staff, clients and family members.
6. Demonstrate professional work behaviors including responding to feedback, time management, interpersonal skills and respect for cultural diversity.

OTAP 2373. Documentation for OT-II-A

Course Description

Students will apply their advanced knowledge and skills to write accurate and professional documentation for reimbursement of occupational therapy services based on the work-based learning experiences of OTAP 272. Topics include documentation throughout the stages of the occupational therapy process, intervention plans and review of evidence.

Student Learning Outcomes

1. Utilize Occupational Therapy Practice Framework (OTPF) and medical terminology effectively to document selected occupations or activities.

OTAP 2374. Fieldwork Level II-B

Course Description

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. 280-320 hours AND 8 weeks is required.

Student Learning Outcomes

1. Demonstrate fundamentals of occupational therapy practice by maintaining an ethical and safe clinical environment.
2. Demonstrate understanding of the occupational therapy philosophy, the roles of occupational therapy personnel, and make evidence-based decisions.
3. Demonstrate ability to gather data, administer selected assessment tools, assist with interpretation of the information and collaborate with the Occupational Therapist to establish client centered, occupation-based goals.
4. In collaboration with the occupational therapist practitioner, the student will design, implement and modify occupation based therapeutic interventions using therapeutic interactions to meet the treatment goals of clients.
5. Demonstrate professionalism through verbal and written communications with peers, staff, clients and family members.
6. Demonstrate professional work behaviors including responding to feedback, time management, interpersonal skills and respect for cultural diversity.

OTAP 2375. Documentation for OT-II-B

Course Description

Students will apply their advanced knowledge and skills to write accurate and professional documentation for reimbursement of occupational therapy services based on the work-based learning experiences of OTAP 272. Topics include documentation throughout the stages of the occupational therapy process, intervention plans and review of evidence.

Student Learning Outcomes

1. Utilize Occupational Therapy Practice Framework (OTPF) and medical terminology effectively to document selected occupations or activities.

OTAP 2992. Directed Studies in Occupational Therapy Assistant

Course Description

Varies

Student Learning Outcomes

Varies

OTAP 2996. Topics in Occupational Therapy Assistant

Course Description

Varies

Student Learning Outcomes

Varies

Office Technology (OTEC)

OTEC 1101. Beginning Keyboarding

Course Description

Develops proper keyboarding technique to achieve speed and accuracy. A minimum average of 25 wpm on three five-minute timings is required.

Student Learning Outcomes

Students completing this course will:

1. Demonstrate proper keyboarding techniques.
2. Key the numeric keypad by touch.
3. Type straight copy at a minimum rate of 25 GWAM for 5 minutes with no more than 5 errors using the proper touch method (backspace key not allowed on timed writings).

OTEC 1102. Keyboard Skillbuilding

Course Description

Continues development of speed and accuracy. A minimum average speed of 35 wpm on three five-minute timings is required.

Student Learning Outcomes

Students completing this course will:

1. Demonstrate proper keyboarding techniques.
2. Type straight copy at a minimum rate of 35 GWAM for 5 minutes with no more than 5 errors using the proper touch method. To be submitted for credit, timings must have no more than 5 errors (errors are not deducted from gross speed).

OTEC 1103. Keyboard Skillbuilding II

Course Description

Continues development of speed and accuracy. A minimum average speed of 45 wpm on three five-minute timings is required.

Student Learning Outcomes

Students completing this course will:

1. Demonstrate proper keyboarding techniques.
2. Type straight copy at a minimum rate of 45 GWAM for 5 minutes with no more than 5 errors using the proper touch method. To be submitted for credit, timings must have no more than 5 errors (errors are not deducted from gross speed).

OTEC 1125. Writing, Proofreading and Editing

Course Description

Develop proofreading skills: punctuation, grammar, spelling and usage errors. Edit documents for appropriate content, conciseness, clarity and point of view. Compose effective business letters, e-mails, memos, and reports.

Student Learning Outcomes

1. Apply document formatting standards for professional business correspondence.
2. Apply standard proofreader's marks when proofreading and editing.
3. Proofread and edit letters, memos, reports, and other business documents to produce a professional copy.

4. Review English mechanics (spelling, grammar, punctuation, and format).
5. Write business memos, letters, e-mails, and informal reports.
6. Rewrite and edit the message for organization, clarity, complete information, and conciseness.
7. Produce the message utilizing the correct design and format.

OTEC 1170. Business Telephone Techniques

Course Description

Presents concepts to develop effective speaking, listening and questions skills. Methods for handling income calls, outbound call, customer orders, customer problems and customer complaints.

Student Learning Outcomes

1. Define telephone safety and security.
2. Correctly pronounce and clearly enunciate words.
3. Demonstrate Active Listening Skills and communicating using positive language.
4. Identify Telephone features such as conference calls and call forwarding.
5. Analyze and assess voice messages.
6. Demonstrate proper netiquette communications skills using e-mail.

OTEC 1175. Computers in the Medical Office

Course Description

Introduces tasks performed in a medical office utilizing a computerized software package, including scheduling appointments, gathering and recording patient information, recording diagnoses and procedures, billing patients, filing insurance claims, recording payments and preparing reports.

Student Learning Outcomes

1. Identify the core functions of electronic health record programs.
2. Describe the Health Insurance Portability and Accountability Act (HIPAA) regarding privacy of electronic records.
3. Describe the function of the file maintenance utilities using medical database software.
4. Identify and describe the basic concepts common to most medical insurance plans including defining the major types of medical insurance plans.
5. Demonstrate basic appointment scheduling tasks using medical database software, including creating and editing patient appointments.
6. Describe the types of transactions recorded in a medical office.
7. Demonstrate how to enter different types of payment and charge transactions using database software.
8. Demonstrate ability to use medical database software to enter patient records, enter insurance payments, apply insurance payments to charges, enter capitation payments, and create patient statements.
9. Demonstrate report generation in medical database software.

OTEC 2201. Document Production and Integration

Course Description

Create and format documents to develop business document production skill. Presents advanced applications for document integration.

Student Learning Outcomes

Students completing this course will:

1. Develop business document production skill by utilizing Microsoft Office to create a wide variety of business documents including medical and legal office applications.
2. Demonstrate an introductory knowledge of Access by creating a database and utilizing the database to perform specific administrative tasks.
3. Demonstrate integration of documents, spreadsheets, databases and presentation software.

OTEC 2260. Business Procedures
Course Description
Covers office procedures, technology, human relations, ethics, telecommunications and job portfolio.
Student Learning Outcomes
Demonstrate knowledge of an office professional's duties by:

1. Demonstrating strategies and tools for organizing your work area.
2. Demonstrating effective techniques for handling telecommunication.
3. Identifying unethical behavior in the workplace.
4. Demonstrating qualities of an effective team member.
5. Identifying methods for handling incoming and outgoing mail.
6. Planning and arranging domestic and international travel.
7. Planning a business meeting.
8. Demonstrating qualities of effective leaders.

Demonstrate knowledge of the job application process by:

1. Developing skills and qualities necessary for the administrative profession.
2. Completing an employment application, compose a letter of application, and prepare a resume for a specific administrative position.
3. Completing a mock interview

OTEC 2270. Medical Transcription
Course Description
Reinforces medical terminology and develops proficiency in transcribing medical reports, forms, and other types of medical communications using correct format, grammar, punctuation, number, abbreviation, symbol, and metric measurement rules.
Student Learning Outcomes

1. Transcribe a variety of medical reports, letters, and memorandums according to the American Association for Medical Transcription (AAMT) and Joint Commission on Accreditation of Healthcare Organizations (JCAHO) guidelines.
2. Apply correct grammar, word usage, and format or style.
3. Use punctuation, capitalization, abbreviations, and numbers correctly.
4. Demonstrate mastery of terminology, spelling, editing/proofreading, and transcribing skills.

OTEC 2998. Office Technology Internship
Course Description
Varies
Student Learning Outcomes
Varies

Outdoor Leadership Studies (OLST)

OLST 1110. Rock Climbing
Course Description
This course begins with a class orientation session, followed by a 'ground school' session and two days of field experience on the 'rock'. Rock climbing history, equipment, technique and safety system management will be the curriculum focus as students gain knowledge and practical skills in the basics of technical rock climbing.
Student Learning Outcomes

Throughout the course students will learn about and become familiar with climbing's rich history, technical climbing equipment, safety system management, trip logistics, and safety protocols.

OLST 2013. Wilderness First Aid

Course Description

This course will introduce you to wilderness medicine, focusing on general concepts, basic anatomy, physiology, pathophysiology, and assessment and treatment. Provides exposure to concepts and techniques in basic wilderness medicine and a pathway to more advanced training as a wilderness first responder or EMT.

Student Learning Outcomes

1. Understand general wilderness first aid concepts including basic anatomy, human physiology, and pathophysiology, and basic assessment and treatment.
2. Apply patient assessment techniques to stabilize an illness or injury
3. Apply appropriate treatment strategies to stabilize an injured or ill patient in an outdoor setting.
4. Develop judgement under pressure to call for advanced medical support.

OLST 2110. Skills for the Outdoor Leader

Course Description

Student Learning Outcomes

1. Demonstrate appropriate LNT campsite selection and departure; list 7 LNT principles.
2. Ability to plan an outdoor trip for a group.
3. Ability to plan a nutritious menu to meet dietary requirements.
4. Ability to light and manage opens fire.
5. Describe appropriate methods of minimum impact hygiene.
6. Demonstrate appropriate construction of a latrine and a cathole.
7. Demonstrate the safe use of three different types of camp stoves and their repair.
8. Tie 6 common knots and explain the application of their use.
9. Be able to identify 10 native plants of the Gila Region and 5 common birds.
10. Demonstrate the ability to use a map and compass to navigate a route.
11. Demonstrate the ability to construct a variety of shelters (tents and tarps) and explain the utility of each in particular settings.
12. Demonstrate the ability to interpret clouds and weather patterns.
13 Demonstrate the ability to properly size and select a backpack.
14 Demonstrate the ability to choose appropriate outdoor apparel.

OLST 2120. Fundamentals of Search & Rescue

Course Description

Designed to teach concepts and techniques for the safe location and evacuation of injured persons in backcountry environments. The goal of the course is to expose students to the critical thinking and analysis skills necessary to safely affect a variety of SAR activities. Material covered will include: an overview of Search and Rescue (SAR) systems, legal issues, physiology, fitness, survival and improvisation, clothing, safety in SAR environments, ready pack considerations/contents, personal equipment, navigation, SAR resources and technology, travel skills, tracking, basic search theory and operations, and basic rescue equipment and operation. A field practicum and National Association for Search and Rescue certification exam are part of the course.

Student Learning Outcomes

1. Define the components of SAR operations.
2. List the major responsibilities for search and rescue.
3. Describe the components of ICS and their functions.
4. List and prioritize the necessities of life.
5. Explain the survival situation plan (STOP) Stay, Think, Observe, Plan.
6. List the similarities or differences and advantages or disadvantages of the different natural and synthetic materials used for SAR clothing.
7. Describe and demonstrate the function of each of the layers of clothing.
8. Differentiate between a 24-hour ready pack and urban ready pack.
9. Demonstrate the use of a 24-hour ready pack.
10. Describe advantages and disadvantages of the equipment used for SAR.
11. Demonstrate the use of personal SAR equipment.
12. Demonstrate traveling skills used for his/her environment.
13. Define, describe, and identify the signs and symptoms, and describe the treatment of common medical emergencies during SAR operations.
14 List and differentiate between at least three types of maps used in SAR.
15. Identify, define, and demonstrate the use of the topographical maps.
16. Define the plotting methods or grid systems and demonstrate the ability to use them to determine the coordinates for a given point.
17. Describe the parts of the compass and demonstrate the ability to use it.
18. Describe the navigational functions used in map and compass.
19. Demonstrate the ability to navigate during daylight and nighttime hours.
20. Differentiate between the two basic categories of search tactics (Passive and Active).
21. Describe the primary types of active search tactics.
22. Describe the techniques and methods used for search tactics.
23. List and demonstrate at least five of the searching or tactical skills needed by field searchers.
24. Explain why SAR personnel search for clues not subject.
25. List the information needed by the searcher when alerted.
26. Define and demonstrate the functions of the search crew positions.
27. Define track or print, sign, and step-by-step tracking as well as demonstrate the step-by-step tracking procedures.
28. List at least two materials used in rope and at least two types of design used in rope, as well as list at least five of the rules of rope etiquette.
29. List the different advantages and disadvantages of materials used in carabiner.
30. Describe the advantages and disadvantages of at least two types of stretchers or litters.
31. List at least five common radio procedures and guidelines.
32. Describe the basic legal philosophy concerning searcher knowledge, training, physical abilities, equipment, discipline, and control.

Patient Care Technician (PACA)

PACA 1020. Patient Care Technician

Course Description

Provides instruction needed to function as a Patient Care Technician including communication with patients and the healthcare team, medical terminology, principles of sterile technique, urinary catheterization, 12-lead EKG acquisition, venipuncture, point of care testing and other concepts related to the care of a patient in an acute care setting.

Student Learning Outcomes

1. Communicate effectively using verbal, non-verbal, electronic and written techniques.
2. Demonstrate positive attitude and maintains ethical standards.
3. Recall commonly used medical terminology and medical abbreviations.
4. Describe the role and scope of practice of the patient care technician.

PACA 1090. Patient Care Tech Clinical Experience

Course Description

Provides students who have successfully completed the Patient Care Tech course with clinical experience in an acute care setting or clinic. Students will perform the skills within the role of the patient care tech on various inpatient units. Background check and drug screen required.

Student Learning Outcomes

1. Demonstrate the principle of teamwork in interactions with health care personnel, patients, and families.
2. Perform patient care skills within the scope of practice for the Patient Care Technician Perform clerical duties related to the patients chart and Health Unit Coordinator procedures for admission, transfer, and discharge of patients.

PACA 1092L. Patient Care Technician Laboratory

Course Description

Provides supervised practice in a Laboratory and simulation setting of concepts and skills related to caring for the hospitalized patient.

Student Learning Outcomes

1. Communicate effectively using verbal, non-verbal, electronic and written techniques.
2. Perform duties and skills in a safe and competent manner.
3. Perform patient care technician skills and procedures using learned techniques.
4. Demonstrate competency in measurement skills.

PACA 1110. Personal Care Attendant

Course Description

Students prepare to work as a Personal Care Attendant in home healthcare, as independent contractors/self-employment, or to provide care for a relative. Course includes lectures, group learning, video instruction, workbook exercises, instructor demonstrations, hands-on skills practice, and exams. The course consists of 80 total clock hours -- 64 hours lecture and stills Laboratory; 16 hours job shadowing in a home healthcare or assisted living facility.

Student Learning Outcomes

1. Demonstrate basic caregiver skills with emphasis on patient safety.
2. Define and use basic medical Terminology as well as define and demonstrate knowledge of basic anatomy and physiology.
3. Demonostrare how to conduct themselves with basic professionalism, demonstrate and practice HIPPA regulations on Privacy and demonstrate competence in basic caregiver skills.

Peace Studies (PCST)

PCST 1110. Introduction to Peace Studies

Course Description

Introduction to peace research. Primary content of Peace Studies Program; focuses on the concepts of peace/war, security/conflict, and violence/non-violence. Special emphasis on non-violent conflict resolution, human rights, and social/environmental justice issues.

Student Learning Outcomes

1. Students will carry out critical analysis and engagement with complex, interdependent global systems and legacies (natural, physical, social, cultural, economic, and political) and their implications for people's lives and the earth's sustainability.
2. Students will explore issues/objects/works through collection and analysis of evidence that result in informed conclusions/judgments, understanding and analysis of critical literacy and ethics pertaining to the dynamics of diversity, equity, inclusion and social change.
3. Students will examine habits of mind characterized by the comprehensive exploration of issues, ideas, artifacts and events related to diversity, equity and inclusion before accepting or formulating an opinion or conclusion.
4. Students will demonstrate the capacity to combine or synthesize existing ideas, images, or expertise in original ways.
5. Students will prepare, purposeful presentations designed to increase knowledge, foster understanding, or promote change in listener's values, beliefs, or behaviors pertaining to the dynamics of diversity, equity, inclusion and social change.
6. Students will develop and express ideas in writing and learning in many genres and styles using different writing technologies, mixing texts, data and images that relate to the dynamics of diversity, equity, inclusion and social change.

PCST 2110. Global Issues

Course Description

The global context of patterns of development in nation-states with an emphasis on industrializing countries. Selected topics of social, economic and cultural change. Inequality, war, reform and revolution in global perspective. Meets New Mexico Lower-Division General Education Common Core Curriculum Area IV: Social/Behavioral Sciences.

Student Learning Outcomes

1. Students will carry out critical analysis and engagement with complex, interdependent global systems and legacies (natural, physical, social, cultural, economic, and political) and their implications for people's lives and the earth's sustainability.
2. Students will examine habits of mind characterized by the comprehensive exploration of issues, ideas, artifacts and events related to intersectionality, diversity, equity and inclusion before accepting or formulating an opinion or conclusion.
3. Students will demonstrate the capacity to combine or synthesize existing ideas, images, or expertise in original ways.
4. Students will prepare, purposeful presentations designed to increase knowledge, foster understanding, or promote changes in listener's values, beliefs, or behaviors pertaining to the dynamics of intersectionality, diversity, equity, inclusion and social change.
5. Students will demonstrate the ability to know a need for information or visual literacy and understanding of the dynamics of historic and contemporary inequality and how they shape individual and community power, biases, structural arrangements and social justice bias.
6. Students will enact behaviors and efforts and interact with others on the team to enhance the quality and quantity of contributions made to team discussions.
7. Students will design, evaluate and implement strategies to answer open-ended questions in multiple ways.
8. Students will work to make a difference in the civic life of communities and develop the combination of knowledge, skills and values and motivation to make a difference.
9. Students will develop their cognitive, affective and behavioral skills and characteristics to support effective and appropriate interaction in a variety of cultures.

10. Students will develop their ethical self-identity as they practice ethical decision-making skills while learning how to describe and analyze positions on ethical issues.
11. Students will engage in self-reflection regarding one's own history and position in contemporary U.S. society as well as in a global context.
12. Student learners will connect perspectives and integrate relevant experience and academic knowledge from multiple disciplines.

Petroleum Engineering (PETR)

PETR 1110. Introduction to Petroleum Engineering

Course description

Introduction to energy supply and demand. Define reservoir, drilling and production aspects of petroleum engineering. Included are professionalism and ethics in the work environment.

Student Learning Outcomes

1. Students will understand basic concepts of the petroleum engineering profession form drilling, production and reservoir to geology and surface facilities.
2. Students will become aware of the pros and cons of all energy sources and the impact each has to the state, country, and world.
3. Students will be introduced to the ethical code of conduct and then recognize the appropriate action for a series of ethical situations from the oilfield.
4. Students will obtain a history of the oilfield and discuss current events with regards to fossil fuels.
5. Students will be introduced to SPE and how the organization promotes continuous learning.

PETR 1111. Computer Applications in Petroleum Engineering

Course Description

Development of algorithms in ExcelTM to solve petroleum engineering problems: gas z-factor, static and flowing gradients, pump design, well testing functions and others.

Student learning Outcomes

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to communicate effectively with a range of audiences.

PETR 2245. Petroleum Fluid

Course Description

Characteristics and properties of reservoir fluids. Representation of fluid property data for computer uses with models and regression.

Student Learning Outcomes

1. Learn the formation of crude oil from the remains of ancient marine organisms.
2. Learn the fundamentals of phase-equilibrium thermodynamics applied in petroleum engineering applications.
3. Learn the physical and chemical properties of petroleum fluids.
4. Learn to estimate the gas and crude oil properties using the field data.
5. Use Microsoft Excel Spreadsheet to solve engineering problems.

PETR 2245L. Petroleum Fluid Laboratory

Course Description

Characterize pressure, volume and temperature relationships using virtual simulation and Laboratory measurement of reservoir fluid properties.

Student Learning Outcomes

1. Learn the physical and chemical properties of petroleum fluids
2. Learn to read industry-standard PVT report, analysis the PVT experiments in the lab.
3. Learn to estimate oil and gas properties using the field data. They learn how to tune an EOS to predict the fluid properties in different pressure and temperature.

Pharmacy Technician (PHAR)

PHAR 1003. Pharmacy Calculations

Course Description

Provides skills in pharmaceutical calculations necessary for safely compounding and preparing prescriptions or other pharmacy products.

Student Learning Outcomes

1. Perform mathematical calculations to solve for the correct answer when given mathematical problems using Roman numerals, Arabic numerals, fractions, apothecary symbols, and decimals.
2. Perform mathematical calculations to solve for the correct answer when given mathematical problems involving conversion of weights and measures and direct ratio and proportion.
3. Calculate or measure finished dosage forms as specified by the prescription/medication order.
4. Convert among the measurement systems, depending upon the desired endpoint.
5. Determine the correct amounts of ingredients for a compounded product.
6. Perform mathematical calculations essential to the duties of pharmacy technicians in a variety of settings.

PHAR 1011. Pharmacy Technician Introduction

Course Description

Provides a discussion of the pharmacy technician, pharmacist, and other healthcare occupation roles in the healthcare environment. Emphasizes the history of pharmacy, state and federal laws, ethics, professional standards of practice, prescription preparation, inventory management, and institutional drug distribution.

Student Learning Outcomes

1. Describe the pharmacy technician's role, pharmacist's role, and other occupations in the healthcare environment.
2. Describe the pharmacy technician's role in the medication-use process
3. Define the Pharmacists' Patient Care Process and describe the role of the pharmacy technician in the patient care process.
4. Describe and apply state and federal laws pertaining to processing, handling and dispensing of medications including controlled substances.
5. Describe state and federal laws and regulations pertaining to pharmacy technicians.
6. Recognize that differences exist between states regarding state regulations, pertaining to pharmacy technicians, and the processing, handling and dispensing of medications.
7. Describe pharmacy compliance with professional standards and relevant legal, regulatory, formulary, contractual, and safety requirements.
8. Describe how state laws and regulations determine what activities associated with collection of patient specific information can be delegated by the pharmacist to technicians.
9. Discuss accepted procedures in inventory control of medications, equipment, and devices.
10. Choose proper procedures and communication channels to use in the event of a product recall or shortage, a medication error, or identification of another problem.

PHAR 1140. Pharmacy Technician

Course Description

This course is a review of the basic concepts and applications of pharmacy technology. It includes the laws and regulations and the pharmacy profession, reading and interpreting prescriptions, dosage calculations and conversions, blood and lymph systems, IV flow rates, prescriptions, drug compounding, dispensing of prescriptions, inventory, billing and reimbursement. It also provides a review of practical applications of pharmacy technician.

Student Learning Outcomes

1. Knowledge to start and complete the process of filling a prescription and utilize inventory control, billing and reimbursement systems.
2. Effectively communicate using proper medical and pharmaceutical terminology.
3. Identify the top 200 drug list put out by the FDA.
4. Exhibit the needed skills, knowledge and professionalism to become employed in a facility.

PHAR 1141. PTCB Test Prep and Exam

Course Description

A comprehensive review of topics found on the Pharmacy Technician Certification Board (PTCB) exam. This course is designed to prepare the student to sit for the Pharmacy Technician Certification Exam (PTCE). The exam will be required at the end of this course.

Student Learning Outcomes

1. Students will recognize names, classes and usage of the Top 200 FDA drug list
2. Students will demonstrate understanding of the federal requirements applicable to the Pharmacy industry.
3. Students will apply patient safety and quality assurance techniques.
4. Students will demonstrate skills necessary for order entry and processing.
5. Students will study and sit for the PTCB exam.

PHAR 1192L. Pharmacy Technician Processes Laboratory

Course Description

Focuses on the fundamentals of current pharmacy practice and technology, including basic pharmacy skills including reading and entering prescription/medication orders into a computer software program, Labeling, packaging and dispensing medications, and inventory management in various pharmacy settings. Patient safety, drug safety, and patient service are introduced and practiced.

Student Learning Outcomes

1. Demonstrate active and engaged listening skills.
2. Apply interpersonal skills, including negotiation skills, conflict resolution, customer service, and teamwork.
3. Assist pharmacists in collecting, organizing, and recording demographic and clinical information for the Pharmacist Patient Care Process.
4. Receive, process, and prepare prescriptions/medication orders for completeness, accuracy, and authenticity to ensure safety.
5. Assist pharmacists in the identification of patients who desire/require counseling to optimize the use of medications, equipment, and devices.
6. Prepare patient-specific manufactured medications for distribution.
7. Prepare non-patient-specific manufactured medications for distribution.
8. Assist pharmacists in preparing, storing, and distributing medication products including those requiring special handling and documentation.

9. Assist pharmacists in the monitoring of medication therapy.
10. Maintain pharmacy facilities and equipment.
11. Apply quality assurance practices to pharmaceuticals, durable and non-durable medical equipment, devices, and supplies.
12. Use current technology to ensure the safety and accuracy of medication dispensing.
13. Collect payment for medications, pharmacy services, and devices.
14. Use accepted procedures in purchasing pharmaceuticals, devices, and supplies.
15. Apply patient- and medication-safety practices in aspects of the pharmacy technician's roles.
16. Recognize accepted procedures utilized in identifying and disposing of expired medications.

PHAR 1316. Pharmacy Technician Pharmacology I

Course Description

Presents a study of therapeutic categories and classifications of drugs that affect the Central Nervous System (CNS) and Skeletal Muscles exploring the pharmacologic and mechanism of actions, adverse effects, side effects, drug interactions, and disease prevention concepts.

Student Learning Outcomes

1. Describe wellness promotion and disease prevention concepts.
2. Demonstrate basic knowledge of anatomy, physiology and pharmacology, and medical terminology relevant to the pharmacy technician's role.
3. Describe investigational drug process, medications being used in off-Laboratoryel indications, and emerging drug therapies.
4. Distinguish between the different pharmacologic actions and adverse effects that Sympathomimetic/lytic, parasympathomimetic/lytic, skeletal muscle relaxants, local anesthetics, sedative-hypnotic, antipsychotic, anxiolytic, antidepressants, psychomotor stimulants, lithium, and psychotomimetic drugs produce.
5. Interpret medication orders and identify the various classifications of drug therapy.
6. Match various prescription and non-prescription medication to the specific drug classification and indication for use.
7. Describe the use and side effects of prescription medications, nonprescription medications, and alternative therapies (e.g., herbal products, dietary supplements, homeopathy, lifestyle modification) used to treat common disease states.

PHAR 1710. Intermediate Pharmacy Technician

Course Description

Provides a discussion of the pharmacy technician and pharmacist roles in medication management services and direct patient care in various practice settings. This course emphasizes quality assurance measures, basic safety, and emergency preparedness procedures as described by Occupational Safety and Health Administration (OSHA), National Institute of Occupational Safety and Health (NIOSH), United States Pharmacopeia (USP) and other quality organizations.

Student Learning Outcomes

1. Identify pharmacist and pharmacy technician roles in medication management services.
2. Define federal and state laws governing the substitution of medication products.
3. Compare and contrast the provision of direct patient care in various patient-care settings.
4. Describe Food and Drug Administration product tracking, tracing and handling requirements.
5. Describe Occupational Safety and Health Administration (OSHA), National Institute of Occupational Safety and Health (NIOSH), and United States Pharmacopeia (USP) requirements for prevention and treatment of exposure to hazardous substances (e.g., risk assessment, personal protective equipment, eyewash, spill kit).

6. Describe OSHA requirements for prevention and response to blood-borne pathogen exposure (e.g., accidental needle stick, post-exposure prophylaxis).
7. Describe OSHA Hazard Communication Standard (i.e., "Employee Right to Know").
8. Describe best practices regarding quality assurance measures according to leading quality organizations.
9. Compare advantages and disadvantages of different dosage forms and routes of administration, including manufactured and compounded products.
10. Define accepted procedures in delivery and documentation of immunizations.
11. Give examples how pharmacy technicians assist pharmacists in responding to emergent patient situations, safely and legally.
12. Identify basic safety and emergency preparedness procedures applicable to pharmacy services.

PHAR 1716. Pharmacy Technical Pharmacology II

Course Description

Presents a study of therapeutic categories and classifications of drugs that affect the Central Nervous System (CNS) and Cardiovascular System exploring the pharmacologic and mechanism of actions, adverse effects, side effects, drug interactions, and disease prevention concepts.

Student Learning Outcomes

1. Distinguish between the different pharmacologic actions and adverse effects that antiepileptic, antiparkinson, general anesthetics, opioid analgesics, nonopioid analgesics, nonsteroidal anti-inflammatories, anti-gout, antiarrhythmic, antianginal, diuretics, antihypertensive, anticoagulants, coagulants, nutritional therapy, hypolipidemic, and antianemic drugs produce.
2. Interpret medication orders and identify the various classifications of drug therapy.
3. Match various prescription and non-prescription medication to the specific drug classification and indication for use.
4. Describe the use and side effects of prescription medications, nonprescription medications, and alternative therapies (e.g., herbal products, dietary supplements, homeopathy, lifestyle modification) used to treat common disease states.
5. Summarize point of care testing & CLIA waivers.
6. Describe investigational drug process, medications being used in off-Laboratoryel indications, and emerging drug therapies.

PHAR 1792. Non-sterile UPS Compounding Laboratory-Hazardous & Non-Hazardous Preparations

Course Description

Provides a study and practice of compounding non-sterile preparations according to current United States Pharmacopeia (USP) chapters, National Institute of Occupational Safety and Health (NIOSH) Hazardous Drug List, Occupational Safety and Health Administration (OSHA) guidelines, and Board of Pharmacy regulations.

Student Learning Outcomes

1 .Practice and adhere to effective infection control procedures.
2. Prepare patient-specific non-sterile compounded medications for distribution.
3. Prepare non-patient-specific non-sterile compounded medications for distribution.
4. Assist pharmacists in preparing, storing, and distributing non-sterile compounded medication products including those requiring special handling and documentation.
5. Describe basic concepts related to preparation for non-sterile compounding.
6. Prepare medications requiring moderate and high level non-sterile compounding as defined by USP (e.g., suppositories, tablets, complex creams).

7. Prepare or simulate non-sterile chemotherapy/hazardous drug preparations per applicable, current USP Chapters.
8. Prepare simple non-sterile medications per applicable USP chapters (e.g., reconstitution, basic ointments and creams).
9. Use information from Safety Data Sheets (SDS), National Institute of Occupational Safety and Health (NIOSH) Hazardous Drug List, and the United States Pharmacopeia (USP) to identify, handle, dispense, and safely dispose of hazardous medications and materials.
10. Assist pharmacists in preparing medications requiring compounding of non-sterile products.

PHAR 1996. Pharmacy Technician Topics

Course Description

Varies

Student Learning Outcomes

Varies

PHAR 2010. Pharmacy Technician Professionalism

Course Description

Provides practical aspects of successful employment, patient service, and pharmacy professionalism including lifelong learning, Board of Pharmacy registration and national certification requirements.

Student Learning Outcomes

1. Describe how the practice setting is used to contribute to the development of new medication products.
2. Discuss resources (e.g., journals, newsletters, educational conferences) for staying current with advances in pharmacy practice (e.g., automation, medication therapy, devices).
3. Describe the process and responsibilities required to obtain and maintain registration and/or licensure to work as a pharmacy technician.
4. Communicate clearly and effectively, both verbally and in writing.
5. Practice the importance of maintaining competency through continuing education and continuing professional development.
6. Review federal and state pharmacy law and regulations, explain workplace (non-pharmacy) laws, and demonstrate knowledge of ethical conduct expectations in the pharmacy setting.
7. Compose or rewrite a professional pharmacy technician resume and Cover Letter.
8. Identify the national pharmacy technician certification (PTCE) application process and maintenance requirements.

PHAR 2016. Pharmacy Technician Pharmacology III

Course Description

Presents a study of therapeutic categories and classifications of drugs that affect the Respiratory System, Digestive System, Endocrine System, and Immune System exploring the pharmacologic and mechanism of actions, adverse effects, side effects, drug interactions, and disease prevention concepts.

Student Learning Outcomes

1. Describe investigational drug process, medications being used in off-Laboratoryel indications, and emerging drug therapies.
2. Summarize point of care testing.
3. Distinguish between the different pharmacologic actions and adverse effects that antihistaminic, mast cell stabilizer, antiasthmatic, agents for COPD, peptic ulcers, GERD, antiemetic, agents that affect intestinal motility, adrenal steroids, gonadal hormones, oral contraceptives, erectile dysfuntion, agents affecting the thyroid and parathyroid

glands, bone affecting agents, pancreatic hormones and antidiabetic, antidiuretic hormone and oxytocin, antibacterial, antifungal, antiviral, antiprotozoal, anthelminitic, antiseptics, disinfectants, antineoplastic, and immunopharmacologic drugs produce.
4. Interpret medication orders and identify the various classifications of drug therapy
5. Match various prescription and non-prescription medication to the specific drug classification and indication for use.
6. Describe the use and side effects of prescription medications, nonprescription medications, and alternative therapies (e.g., herbal products, dietary supplements, homeopathy, lifestyle modification) used to treat common disease states.

PHAR 2090. Pharmacy Technical Clinical

Course Description

Provides the opportunity for practical experience applying skills gained through classroom and Laboratory instruction, within institutional and community pharmacies.

Student Learning Outcomes

1. Demonstrate ethical conduct.
2. Present an image appropriate for the profession of pharmacy in appearance and behavior.
3. Demonstrate a respectful and professional attitude when interacting with diverse patient populations, colleagues, and professionals.
4. Apply self-management skills, including time, stress, and change management.
5. Apply problem solving skills to troubleshoot common technical, systematic, and processing errors in the pharmacy setting.
6. Maintain confidentiality of patient information, and understand applicable state and federal laws.
7. Assist the pharmacist in collecting, organizing, and evaluating information for direct patient care, drug use review, and departmental management.
8. Assist the pharmacist in monitoring the practice site for compliance with federal, state and local laws, regulations and professional standards.
9. Purchase pharmaceuticals, devices, and supplies according to an established purchasing program.
10. Assist the pharmacist in assuring the continuous quality control improvment of pharmacy services.
11. Identify the pharmacy department's process for preventing medication misadventures.
12. Organize and efficiently manage work whether performed alone or as part of a team.
13. Assist the pharmacist in screening prescriptions/medical orders for completeness and authenticity and preparing and distributing medications.

PHAR 2092. Sterile USP Compounding Laboratory-Hazardous and Non-Hazardous Preparations

Course Description

Provides a study and practice of compounding sterile preparations according to current United States Pharmacopeia (USP) chapters, National Institute of Occupational Safety and Health (NIOSH) Hazardous Drug List, Occupational Safety and Health Administration (OSHA) guidelines, and Board of Pharmacy regulations.

Student Learning Outcomes

1. Practice and adhere to effective infection control procedures.
2 . Prepare patient-specific sterile compounded medications for distribution.
3. Prepare non-patient-specific sterile compounded medications for distribution.
4. Assist pharmacists in preparing, storing, and distributing sterile compounded medication products including those requiring special handling and documentation.

5. Describe basic concepts related to preparation for sterile compounding.
6. Prepare compounded sterile preparations per applicable, current USP Chapters.
7. Prepare or simulate sterile chemotherapy/hazardous drug preparations per applicable, current USP Chapters.
8. Use information from Safety Data Sheets (SDS), National Institute of Occupational Safety and Health (NIOSH) Hazardous Drug List, and the United States Pharmacopeia (USP) to identify, handle, dispense, and safely dispose of hazardous medications and materials.
9. Demonstrate ability to perform Aseptic Manipulations by completing contaminant free Media Fill Challenge Tests.

PHAR 2510. Advanced Pharmacy Technician

Course Description

Presents an introduction to the knowledge and skills required for achieving Advanced Pharmacy Technician competencies. Current trends, initiatives, goals, and issues in the profession of pharmacy are emphasized.

Student Learning Outcomes

1. Apply critical thinking skills, creativity, and innovation.
2. Demonstrate the ability to effectively and professionally communicate with other healthcare professionals, payors and other individuals necessary to serve the needs of patients and practice.
3. Describe investigational drug process, medications being used in off-Laboratoryel indications, and emerging drug therapies.
4. Describe further knowledge and skills required for achieving advanced competencies.
5. Process, handle, and demonstrate administration techniques and document administration of immunizations and other injectable medications.
6. Describe major trends, issues, goals, and initiatives taking place in the pharmacy profession.
7. Support wellness promotion and disease prevention programs.

PHAR 2515. Advanced Pharmacy Technician Medication and Patient Safety

Course Description

Expands Medication and Patient Safety practice concepts introduced in the Entry-Level courses. Error reduction strategies are discussed using current Institute for Safe Medication Practices (ISMP) guidelines. Pharmacy Technician roles in the Medication Reconciliation and Transition of Care processes are introduced and practiced.

Student Learning Outcomes

1. Identify both active and latent failures that contributed to a described event or hazardous condition.
2. Match the latent failures of a described event or hazardous condition to ISMP's Key Elements of the Medication Use System Distinguish between human error, at risk behavior, and reckless behavior associated with the active failures.
3. Identify error-reduction strategies for latent failures.
4. Summarize risk identification theory and select methods that could be used for identifying similar, repeated, or new risks.
5. Describe the Medication Reconciliation process.
6. Describe the Transition of Care process.
7. Practice Active Listening techniques in the patient interview process.
8. Develop open ended questions used in the Medication Reconciliation process.
9. Communicate effectively with other Transition of Care Healthcare Professionals.

PHAR 2520. Advanced Pharmacy Technician Informatics

Course Description

Provides an introduction to Pharmacy Informatics. Focuses on key technologies and the role the Information Technology and Pharmacy teams play in increasing Medication Safety.

Student Learning Outcomes

1. Describe pharmacy informatics.
2. Discuss the various roles and responsibilities of individuals during the implementation process in pharmacy informatics.
3. Compare and contrast the major differences between the IT department and the Pharmacy IT team.
4. Discuss how medication Safety is improving within the Electronic Order Entry Systems.
5. Identify the key technologies used across the medication use spectrum.

PHAR 2592L. Advanced Pharmacy Technician Laboratory

Course Description

Provides the opportunity to manage, supervise, and verify the work of pharmacy technicians or other healthcare professionals in a simulated pharmacy setting. Simulated patient point of care testing and immunization techniques are practiced. Communication with healthcare professionals and patients is emphasized.

Student Learning Outcomes

1. Demonstrate capability to manage or supervise pharmacy technicians in matters such as conflict resolution, teamwork, and customer service.
2. Apply supervisory skills related to human resource policies and procedures.
3. Apply the appropriate medication use process to investigational drugs, medications being used in off-Laboratoryel indications, and emerging drug therapies as required.
4. Process, handle, and demonstrate administration techniques and document administration of immunizations and other injectable medications.
5. Verify measurements, preparation, and/or packaging of medications produced by other healthcare professionals.
6. Perform point-of-care testing to assist pharmacist in assessing patient's clinical status.
7. Demonstrate the ability to effectively and professionally communicate with other healthcare professionals, payors and other individuals necessary to serve the needs of patients and practice.

PHAR 2690. Advanced Pharmacy Technical Clinical

Course Description

Provides the opportunity for practical experience applying advanced skills gained through classroom and Laboratory instruction, within institutional and community pharmacies.

Student Learning Outcomes

1. Apply accepted procedures in purchasing pharmaceuticals, devices, and supplies.
2. Apply accepted procedures in inventory control of medications, equipment, and devices.
3. Manage drug product inventory stored in equipment or devices used to ensure the safety and accuracy of medication dispensing.
4. Assist the pharmacist in providing medication management services.
5. Assist in the operational activities that support the Pharmacists' Patient Care Process.
6. Monitor pharmacy compliance using professional standards and relevant legal, regulatory, formulary, contractual, and safety requirements.
7. Support wellness promotion and disease prevention programs.
8. Initiate, verify, and manage the adjudication of billing for complex and/or specialized pharmacy services and goods.

PHAR 2999. Advanced Pharmacy Technician Capstone
Course Description
Varies
Student Learning Outcomes
Varies

Philosophy (PHIL)

PHIL 1115. Introduction to Philosophy
Course Description

In this course, students will be introduced to some of the key questions of philosophy through the study of classical and contemporary thinkers. Some of the questions students might consider are: Do we have free will? What is knowledge? What is the mind? What are our moral obligations to others? Students will engage with and learn to critically assess various philosophical approaches to such questions.
Student Learning Outcomes
1. Comprehend and differentiate between various philosophical approaches to questions within fields such as metaphysics, epistemology, ethics, and aesthetics.
2. Critically evaluate various philosophical arguments and positions.

PHIL 1120. Logic, Reasoning, and Critical Thinking
Course Description
The purpose of this course is to teach students how to analyze, critique, and construct arguments. The course includes an introductory survey of important logical concepts and tools needed for argument analysis. These concepts and tools will be used to examine select philosophical and scholarly texts.
Student Learning Outcomes
1. Comprehend components of arguments.
2. Acquire a general understanding of the essential logical concepts needed for argument analysis, such as validity, soundness, deduction, and induction.
3. Critically assess arguments with an aim toward identifying what constitutes effective and reasonable argument strategies.
4. Learn to identify common logical fallacies.
5. Apply knowledge of argumentation principles to philosophical and scholarly texts.

PHIL 1130. Contemporary Moral Issues
Course Description
This course will introduce students to and engage them in the philosophical analysis of contemporary moral issues. Students will read and discuss texts dealing with various controversial social issues, which might include health care access, physician-assisted suicide and euthanasia, the death penalty, incarceration, war, and terrorism.
Student Learning Outcomes
1. Understand and analyze various textual arguments on contemporary moral issues.

2. Demonstrate the ability to critically read, write, and discuss contemporary moral issues from the standpoint of a variety of ethical theories.

PHIL 1135. Introduction to Asian Philosophies

Course Description

For as long as human beings have recorded their thoughts, they have shown an interest in what it means to be a human being of good character, a useful citizen within society and a fulfilled and contented person. In this course we shall examine how several thinkers from India and China have approached this problem. Some have provided anecdotes from which the reader is expected to extract an important lesson, while others have written more systematic essays or set out programs for the cultivation of virtue and guidelines of appropriate conduct. The class will combine background lectures and class discussion of assigned readings.

Student Learning Outcomes

1. Identify some of the core problems in the philosophical tradition in Asian philosophies.
2. Identify and compare various philosophical assumptions and viewpoints of Asian philosophies, including their own and those of their society.
3. Compare and analyze the ideas and arguments of various Asian philosophical viewpoints, including their own.

PHIL 1140. Philosophy and World Religions

Course Description

A philosophical enquiry into the religious life; an introduction to philosophical questions about religions focused on consideration of some of the traditional approaches to God and what it means to be religious.

Student Learning Outcomes

1. Identify and describe philosophical theories regarding religion
2. Develop and enhance your critical thinking skills, particularly in the evaluation of arguments about the truth or applicability of particular religious or secular viewpoints.
3. Analyze the teachings of world religions by describing their similarities and differences.
4. Explain the philosophical beliefs, practices, and ethical standards of the major world religions as well as emerging religious movements.
5. Explain how each religion evolved historically, philosophically, and spiritually as well as the contemporary ideas and practices each religion.

PHIL 1145. Philosophy, Law, and Ethics

Course Description

An introduction to practical problems in moral, social, political, and legal philosophy. Topics to be discussed may include ecology, animal rights, pornography, hate speech on campus, same-sex marriage, justice, abortion, terrorism, treatment of illegal immigrants, and New Mexican Aboriginal Peoples' land claims**.**

Student Learning Outcomes

1. The aim of this course is to familiarize students with some of the ethical and philosophical issues that arise in connection with laws/legality in general and criminal and constitutional law in the U.S. in particular.
2. It examines issues in moral philosophy, political philosophy, and philosophy of law.

PHIL 1146. Ethics and Values in STEM (previous title -Philosophy in Science and Engineering)

Course Description

In this course, students learn about research ethics and the social responsibilities of scientists and engineers. They also examine the diverse roles for values throughout research and development in STEM, including judgments about funding, methodology, communication, and public engagement. The course introduces students to pressing questions about justice,

equality, and democracy related to the responsibilities for technological development by surveying issues in areas such as computer science, environmental justice, global ethics, health equity, and military ethics.

Student Learning Outcomes

By the end of class, students will be able to:

1. Construct and defend arguments about ethics in science and engineering, avoiding logical fallacies and responding to strong objections.
2. Write creative and analytic essays about ethical issues in science and engineering, based on charitable readings of other scholars and with clear structure.
3. Conduct basic research in scholarly literature related to ethics and STEM.
4. Collaborate fairly with team members in a group to analyze an ethical problem and weigh different perspectives and solutions.
5. Describe the rights and responsibilities of researchers, participants, and technologists.
6. Recognize how value judgments shape the process of research and development.
7. Weigh the ethical risks and benefits of funding sources, including governmental, industrial, and philanthropic.
8. Consider and evaluate diverse viewpoints in research or policy making locally and globally, accounting for gender, race, ethnicity, class, nationality, and financial conflicts of interest; and
9. Deliberate over their social responsibility for technological development and the burden of social consequences.

PHIL 1150. Philosophy of Play

Course Description

Play is everywhere in our thinking, speaking, and behaving we “play hardball,” “play the fool,” “play devil’s advocate,” we play “for real, for all it’s worth” and for “just fooling.” We “play along” and “play around,” play some things “up” and others “down,” we wait to see how “things will play out” When we want to get even with somebody, we say “two can play that game.” Play is for bucking authority (“when the cat’s away, the mice will play”) and for conforming to it (“play along with”) Play is about fairness (we like a “level playing field”), but we “play dirty” too. We use play as an excuse - “I’m just playing with you; can’t you take a joke?”- and as a way to deceive others (“playing someone for a fool”). Quitters “roll over and play dead,” while responsible people “play their part.” Often the things that are most everywhere and ordinary are the things we investigate and understand the least. The purpose of this class is to investigate play: what it is, how it works, what it does and contributes, and what’s at stake in play.

Student Learning Outcomes

This course will develop your

1. Knowledge of the three major philosophical fields (metaphysics, epistemology, and values) and key philosophical methods (skepticism, logic, analysis, reflection, and judgment)
2. Understanding of the workings of play in language and culture, academic disciplines and professional fields, creativity and growth
3. Understanding of ethics and play
4. Ability to use play to enhance your thinking and working
5. Ability to articulate your philosophical understanding clearly and effectively, orally and in writing

PHIL 1155. Philosophy of Music

Course Description

This is an introductory course in the philosophy of music. This course will focus on two general themes. The first will concern the nature of music: What is music? Why is music important? How can we distinguish good music from bad music? The second will reflect upon how specific pieces of music speak to certain traditional philosophical problems, perhaps in a way unique to music. We will draw examples from a wide variety of musical genres, from classical music, gospel, jazz and blues to folk, rock, punk and rap. Students will be encouraged to think philosophically about their preferred musical form.

Student Learning Outcomes

The aim of this course is to introduce some important philosophical questions and methods in such a way as to develop the student's ability for abstract logical thinking and critical analysis of arguments and ideas while fostering an understanding of our philosophical heritage through focus on music. By the end of the course students will be able to

1. Understand and articulate some of the leading philosophical theories of music,
2. Justify through philosophical argumentation their own views on issues in the philosophy of music, and
3. Through reflection on pieces of music articulate and address their own views on some perennial philosophical issues. A student's success in this class depends on how well he/she meets these goals.

PHIL 1160. History of Philosophy
Course Description
Not Available
Student Learning Outcomes
Not Available

PHIL 1997. Philosophy Independent Study
Course Description
Varies
Student Learning Outcomes
Varies

PHIL 2040. Science and Gender
Course Description
This course introduces students to the complex interplay between science and gender, with special attention to intersections with sexuality, race, and ethnicity. We analyze the concepts of “sex” and “gender” by critically investigating the nature/nurture debates about sex differences. The course further prompts students to think more broadly about gender in science in discussions over bias, values, and scientific objectivity. Throughout the course, we also survey different critical approaches to biomedicine involving women’s health and LGBTQ medicine, e.g., breast cancer, HIV/AIDS, and reproductive health.
Student Learning Outcomes
By the end of class, students will be able to:

1. Construct and clearly communicate arguments about sex/gender/sexuality and science; and defend their judgments with charity and without logical fallacies.
2. Write and research essays about contemporary scientific debates over gender with analytic structure that engage with popular and scholarly conversations.
3. Recognize how human cultures and value judgments shape the process of science and the practice of medicine, including dichotomies (e.g., nature/culture, sex/gender), biases (e.g., heteronormativity, Eurocentrism), and standpoints (e.g., Black feminism, disability rights).
4. Evaluate critically scientific studies in terms of their assumptions about sex, gender, sexuality, etc., and their methodology; and analyze how to improve their theories, inferences, and objectivity.

PHIL 1996. Topics in Philosophy
Course Description
Varies
Student Learning Outcomes
Varies

PHIL 2110. Introduction to Ethics

Course Description
This course introduces students to the philosophical study of morality and will explore questions concerning our human obligations to others and related issues. Students may be asked to relate various approaches to ethics to present-day ethical debates and their own lives.
Student Learning Outcomes
1. Differential between various ethical theories, which may include virtue ethics, deontology, and consequentialism.
2. Critically evaluate various ethical theories and positions.

PHIL 2117. Ethics and Sustainability
Course Description
This course provides a broad survey of ethics with an emphasis on sustainability. Students will acquire an understanding of the fundamental's normative ethical theory, and theories of justice through analysis of moral arguments that arise through consideration of topics in sustainability. The course will also provide opportunities for practice making moral arguments. Writing Intensive.
Student Learning Outcomes
1. Analyze, and critique the moral arguments of others.
2. Explain and apply normative ethical theories in the context of sustainability.
3. Explain leading theories of justice in the context of sustainability.
4. Demonstrate the ability to create original moral arguments relevant to issues in sustainability, both written and oral.
5. Explain basic concepts in sustainability, such as the three basic dimensions of sustainability--environmental health, social equity, and economic sustainability.

PHIL 2120. Biomedical Ethics
Course Description
The course examines ethical theories against the reality of current issues in the medical professions and in the fields of bioresearch. Topics such as euthanasia, genetic experimentation, informed consent, abortion and human and animal experimentation are studied from widely different ethical perspectives.
Student Learning Outcomes
1. Identify strengths and weaknesses of various ethical theories and conceptions of rights.
2. Apply various ethical theories and conceptions of rights to current issues within biomedical ethics.
3. Summarize and examine various positions and arguments in current issues within biomedical ethics.

PHIL 2125. Comparative World Religions
Course Description
A comparative exploration of major world religions, including Islam, Taoism, Hinduism, Buddhism, Confucianism, Judaism, Christianity, Native-American, and Zen traditions. Emphasis is placed on the historical and philosophical contexts of these religions and on their common and diverse values, theories of reality, knowledge, and beauty.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Understand the nature of a comparative analysis of religious traditions
2. Describe the historical contexts of the major religious traditions wherein the similarities and differences among them are identified.
3. Describe the cultural contexts of the major religious traditions wherein the similarities and differences between them are identified.
4. Describe the philosophical contexts of the major traditions wherein the metaphysical, epistemological, ethical, and aesthetic similarities and differences between them are identified.

PHIL 2130. Environmental Ethics

Course Description

This course will be an introductory survey of approaches to the ethical responsibilities humans have to the environment. Students will explore the ethical issues raised by the way humans engage with the environment in areas that might include science, engineering, and technology.

Student Learning Outcomes

1. Examine the human relationship to the environment against the background of classical and contemporary ethical theories.
2. Comprehend central controversies and assumptions in contemporary environmental ethics.
3. Comprehend the connections between environmental ethics, science, engineering, business, technology, and public policy.

PHIL 2135. Ethics of Technology

Course Description

Provides a forum for discussion of the ethical and social problems arising from the uses of computers and technology.

Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Apply different moral theories to the issues covered in the course
2. Apply techniques for moral decision-making in problematic situations
3. Critique positions and arguments in contemporary technology debates

PHIL 2136. Understanding Technoscientific Controversies

Course Description

This science and technology studies course challenges students to think more carefully and critically about technoscientific environmental problems and controversies, such as climate change, vaccine hesitancy, genetic engineering, pharmaceutical drugs, and nuclear energy. Students will examine the cognitive, cultural, economic, ethical, political, and communicative roots of disagreement, learning to recognize that these issues are not solved by presenting a “balanced view” of both sides or by simply informing “ignorant” opponents. Students will apply these thinking skills in order to develop more productive and empathic solutions to tenacious and highly polarized public conflicts.

Student Learning Outcomes

1. Discern and describe how subjective judgements influence scientific decisions about what to study, how to study it, and how to deal with uncertainty.
2. Recognize and articulate past experiences, trust, and moral commitments influence whether people embrace, or reject, particular scientific facts or technologies.
3. Uncover how values are laundered through ostensibly scientific rhetoric about public issues.
4. Explore more productive and democratic pathways for reconciling disagreements about enduring.

PHIL 2140. Professional Ethics

Course Description

This course focuses on some of the ethical issues that arise in the context of professional life. Beginning with an overview of several major ethical theories, the course will consider how these theories, which traditionally concern personal morality, apply to life in a professional setting. The course will focus on issues that might include lying and truth-telling, whistleblowing, confidentiality, the obligations of businesses toward the public, and the ethical concerns of privacy in journalism. Using a combination of readings, case studies, and discussion, students will explore these issues by critically evaluating ethical principles and also applying them to real-world settings.

Student Learning Outcomes

1. Gain a basic understanding of major ethical theories.

2. Engage in informed critical discussion on the nature of professionalism and the ethical challenges inherent in professionalism.
3. Recognize and analyze the types of ethical challenges and moral dilemmas that confront members of a range of professions, such as in business, engineering, and medical.
4. Relate ethical concepts and materials to ethical problems in specific professions both in writing and in discussion.

PHIL 2145. Survey of the New Testament
Course Description
This course will examine philosophic and religious topics within the Western tradition, starting with the Greek philosophers and moving to the modern time period. Additionally, the course will weave in eastern thought. Central to the course will be emphasizing the capacity to think logically and critically. We will examine Figures studied will include most of the following: Plato Aristotle, Descartes, Berkely. Hume, Kant, Mill and Nietzsche and may include others.
Student Learning Outcomes
Not Available

PHIL 2150. Morality and Society
Course Description
This course will focus on the philosophical analysis of contemporary moral issues. Students will read and discuss texts dealing with various controversial social issues, which might include health care access, physician-assisted suicide and euthanasia, the death penalty, incarceration, war, and terrorism.
Student Learning Outcomes
1. Understand and analyze various textual arguments on contemporary moral issues.
2. Demonstrate the ability to critically read, write, and discuss contemporary moral issues from the standpoint of a variety of ethical theories.

PHIL 2160. Philosophy in Film
Course Description
In this course we will be using films (and discussions of particular films and filmmaking techniques), along with an assortment of more "traditional" academic texts, as a means to explore important philosophical themes and debates. It is intended to be an introduction not only to philosophy but also critical thinking.
Student Learning Outcomes
1. Students will analyze and critically interpret significant and primary texts.
2. Students will compare art forms, modes of thought and expression, and processes across a range of historical periods and/or structures (such as political, geographic, economic, social, cultural, religious, and intellectual).
3. Students will recognize and articulate the diversity of human experience across a range of historical periods and/or cultural perspectives.
4. Students will draw on historical and/or cultural perspectives to evaluate any or all of the following: contemporary problems/issues, contemporary modes of expression, and contemporary thought.
5. Students will possess an understanding of the present that is informed by an awareness of past heritages in human history, arts, philosophy, religion, and literature, including the complex and interdependent relationships among cultures.

PHIL 2165. Navajo Philosophy
Course Description
Examines Dine philosophical thought regarding metaphysics, epistemology, aesthetics, ethics, religion, and traditional social structure.
Student Learning Outcomes

Upon completion of the course, the student will be able to develop:

1. An understanding of Navajo origins.
2. An understanding of the Navajo identity.
3. A broader perspective on the history of the Navajo People according to mythology.
4. Insight into the values and relationship of Navajo principles.
5. An understanding of the origins of some of these principles.
6. An understanding of the Navajo's perception of the environment.
7. An understanding on one's roles and responsibilities in terms of the Navajo worldview.
8. An understanding of Navajo organization of knowledge, as designed to promote a lifestyle becoming an ideal life, as espoused in the Blessing Way.
9. A better understanding of Navajo values, through study of the traditional Navajo values.

PHIL 2210. Early Modern Philosophy

Course Description

This course is an introductory survey of early modern Western philosophy. Through an in-depth reading of primary source material, this course will examine the traditions of Rationalism and Empiricism that emerged during the seventeenth and eighteenth centuries. Concepts to be discussed might include theories of knowledge and metaphysics, early modern scientific thought, and theories of the self.

Student Learning Outcomes

1. Analyze philosophical arguments from philosophical texts of the early modern period, including the thesis that the author is trying to establish, as well as the premises and intermediate statements that allegedly entail the conclusion.
2. Identify fundamental questions peculiar to philosophy as a discipline in Western thought, including questions of metaphysics, epistemology, and ethics through the reading of primary texts.
3. Summarize and compare various responses to these fundamental questions and how they change through time throughout the early modern period.

PHIL 2220. Greek Philosophy

Course Description

This course is an introductory survey of early and classical Greek philosophy. The course will include discussion of such philosophers as the Pre-Socratics, the Sophists, Socrates, Plato and Aristotle. Topics to be discussed may include the beginnings of scientific thought, theories of the self, the concept of being, virtue ethics, happiness, and theories of justice.

Student Learning Outcomes

1. Acquire a general understanding of the cultural and intellectual contexts out of which early and classical Greek philosophy arose.
2. Summarize and examine the basic philosophical theories of the early and classical Greek philosophers, which might cover their conceptions of knowledge, ethics, metaphysics, and political philosophy.
3. Identify and compare the various approaches and answers to fundamental questions asked by Greek philosophers.

PHIL 2225. Greek Thought

Course Description

An introductory survey of early and classical Greek philosophy, literature, and history. Figures: the Pre-Socratics, Socrates, Plato and Aristotle; Homer and Sophocles; Herodotus and Thucydides.

Student Learning Outcomes

At the conclusion of the course, students should be able to:

1. Identify and discuss major intellectual or philosophical themes within the assigned works.

2. Discuss the assigned works within the context of ancient Greek cultural attitudes, intellectual thought, history, or some combination thereof.
3. Discuss ways in which ancient Greek attitudes and intellectual ideas connect to or differ from those of the modern world.

PHIL 2230. Philosophical Thought
Course Description
In this course, students will grapple with some of the key questions of philosophy through the study of classical and contemporary thinkers. Students will become familiar with the perennial problems in subfields of philosophy such as metaphysics, epistemology, ethics, and aesthetics. They will learn to approach these problems both critically and sympathetically.
Student Learning Outcomes
1. Comprehend and differentiate between various philosophical approaches to questions within fields such as metaphysics, epistemology, ethics, and aesthetics.
2. Critically evaluate various philosophical arguments and positions.
3. Identify the differences that characterize the major subfields of philosophy.

PHIL 2240. Introduction to Existentialism
Course Description
The aim of this course is to introduce students to the tradition of existential philosophy through a careful reading of philosophical texts by authors, such as Kierkegaard, Nietzsche, Sartre, de Beauvoir, and Heidegger.
Student Learning Outcomes
1. Comprehend and analyze positions defended by authors who have contributed to the existentialist tradition, such as Kierkegaard, Nietzsche, Sartre, de Beauvoir, and Heidegger.
2. Identify and comprehend recurring themes in the existentialist tradition, including authenticity, freedom, and meaninglessness.
3. Develop an appreciation for how authors in the existentialist tradition depart from previous philosophical thinking about reality, knowledge, and values.

PHIL 2255. Western Philosophy
Course Description
Western Philosophy will introduce you to
- major philosophical problems, systems, and thinkers in the western tradition
- the language and methodology of philosophy
- evaluating and applying philosophical concepts and theories
- the role of philosophy in the study and practice of other areas such as science
- politics, and religion
- one form of eastern philosophy, Taoism, for comparison.

Student Learning Outcomes
By the end of the course, you will need to demonstrate that you
1. Have a working understanding of the philosophical texts covered in the class
2. Can use philosophical methods effectively to formulate, consider, and explore your ideas and experience
3. Can write about philosophical texts, concepts, and processes in original, sophisticated, and perceptive ways while using academic conventions of citation and style.

PHIL 2310. Business Ethics
Course Description

Business Ethics is a philosophy course that studies ethical theory and applies it to contemporary ethical and social problems that arise in the practice of business. These will include concerns with how businesses affect employees, stakeholders, governments, economics, and the environment. This will entail concerns about how society should cope with certain kinds of problems of production and distribution, for instance, how it should distribute wealth or regulate commerce.

Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Identify the strengths and weaknesses of different moral theories and conceptions of rights.
2. Apply different moral theories and conceptions of rights to the issues covered in the course.
3. Analyze positions and arguments in contemporary business ethics debates.

PHIL 2993. Workshop in Philosophy

Course Description

Varies

Student Learning Outcomes

Varies

PHIL 2996. Topics in Philosophy

Course Description

Varies.

Student Learning Outcomes

Varies.

Phlebotomy (PHLB)

PHLB 1110C. Phlebotomy Concepts Lecture and Laboratory

Course Description

A special course covering the basic concepts and skills involved in phlebotomy and laboratory procedures. The first half of the course includes didactic instruction (60 hours) of basic anatomy and physiology, medical terminology, medical legal and ethical issues, patient care, best practices, and quality assurance. The Laboratory (10 hours) addresses collection and handling of blood and non-blood specimens, patient communication skills, and ethical considerations. Prepare students for clinical skills rotations. Course standards are based on the Clinical Laboratory Standards Institute, Needlestick Prevention Act, Joint Commission, 2008 National Safety Goals, OSHA, and CDC.

The second half of the course includes application of skills through 90 hours practicum, providing hands on experiences in a supervised work environment collecting blood specimens from patients at local Laboratory draw facilities. Prepare students for employment and entry level phlebotomist in health care settings.

Student Learning Outcomes

1. Identify basic Anatomy and Physiology as it pertains to the circulatory system to effectively locate veins for blood collection.
2. Perform various blood collection techniques, including venipuncture and capillary puncture, while adhering to healthcare regulations and facility safety and infection control protocols.
3. Identify variables that affect procedures and results; take appropriate corrective action when needed.
4. Demonstrate infection control measures, including the use of personal protective equipment (PPE) and proper disposal of biohazardous materials.
5. Demonstrate skills to communicate effectively with patients, including explaining procedures, addressing concerns, and ensuring patient comfort during blood collection.

6. Practice proper procedures for labeling, handling, and transporting blood specimens to maintain integrity and prevent contamination.
7. Meet requirements to sit for the Phlebotomist Certification Exam, Including 100 clinical hours (10 Laboratory hours+90 rotation hours) and 100 successful unassisted venipunctures.

PHLB 1110. Phlebotomy Concepts

Course Description

An examination of concepts of phlebotomy and venipuncture procedures along with basic anatomy and physiology, medical terminology, medical legal and ethical issues, patient care, best practices, and quality assurance.

Student Learning Outcomes

1. Discuss the evolution of phlebotomy and the role of a practicing phlebotomist.
2. Describe the structure of the health care delivery system.
3. Identify the concepts of infection control and other safety protocols as they relate to the role of the phlebotomist.
4. Define and correctly use selected medical terms in their proper context.
5. Discuss basic anatomy and physiology, to include the circulatory system, as it relates to the role of the phlebotomist.
6. Identify appropriate blood collection equipment, additives, order of draw techniques, and venipuncture procedures.
7. Describe quality assurance as it pertains to phlebotomy.
8. Identify legal and ethical issues and considerations pertaining to phlebotomy.
9. Describe effective communication with patients and members of the healthcare team.

PHLB 1110L. Phlebotomy Concepts Laboratory

Course Description

A Laboratory course in which students practice phlebotomy procedures. Major topics include collection and handling of blood and non-blood specimens, patient communication skills, and ethical considerations.

Student Learning Outcomes

1. Apply best practice guidelines for patient, Laboratory, and personal safety.
2. Demonstrate an understanding of Laboratory work equipment and quality control measures.
3. Utilize appropriate equipment and supplies need to collect blood by venipuncture.
4. Demonstrate correct technique for venipuncture blood collection using evacuated tube system, syringe, and/or butterfly.
5. Demonstrate actions taken for patient complications and special conditions pertaining to blood collection.
6. Implement professional communication behaviors with patients and members of the health care team.

PHLB 1112. Phlebotomy Clinical

Course Description

A course providing clinical experience in phlebotomy. Students work in a health-care setting, collect blood and non-blood specimens, and provide patient care.

Student Learning Outcomes

1. Practice phlebotomy in accordance with established standards of practice and institutional policies and procedures.
2 Participate as a member of the phlebotomy health care team.
3. Use verbal and nonverbal communication that promotes caring and fosters therapeutic relationships with patients and members of the health care team.
4. Use cultural and age-appropriate interventions when performing phlebotomy procedures.
5. Maintain professional accountability and responsibility when performing phlebotomy procedures.

PHLB 1115. Introduction to Phlebotomy

Course Description

An introductory course in which students practice phlebotomy procedures. The general topics included are collection and handling of blood and non-blood specimens, patient communication skills, and ethical considerations.

Student Learning Outcomes

1. Apply best practice guidelines for patients, Laboratory, and personal safety.
2. Demonstrate an understanding of phlebotomy work equipment and quality control measures.
3. Utilize appropriate equipment and supplies needed to collect blood by venipuncture.
4. Demonstrate correct technique for venipuncture blood collection using evacuated tube system, syringe, and/or butterfly.
5. Demonstrate suitable problem-solving strategies in a practical laboratory environment.
6. Apply professional communication behavior strategies with patients and members of the health care team.

PHLB 1120. Special Practices in Phlebotomy

Course Description

This phlebotomy course focuses on the theory of capillary blood collection, specialized blood and non-blood specimen collection, handling, and processing including point-of-care testing (POCT). Other topics include expanded considerations of medical terminology and non-cardiac anatomy and physiology. Review of material to prepare the student for the national certification exam is included.

Student Learning Outcomes

1. Explain pre-analytical variables, complications, and procedural errors associated with blood collection.
2. Describe the procedures for the collection, processing, and handling of capillary blood samples, arterial blood gases, and special blood and non-blood specimen collections.
3. Define Point-of-Care testing (POCT) to include the instruments used.
4. Explain the Laboratory Information System (LIS) and how it supports the laboratory processes.

PHLB 1120L. Special Practices in Phlebotomy Clinical

Course Description

This phlebotomy course provides students with the opportunity to practice phlebotomy procedures in a laboratory/simulation setting. Emphasis is placed on capillary blood collection and handling; specialized blood and non-blood specimen collection, processing, and handling; and point-of-care testing (POCT).

Course Outcomes

1. Apply best practice guidelines for patients, laboratory, and personal safety.
2. Demonstrate an understanding of pre-analytical variables, complications, and procedural errors associated with blood collection
3. Utilize appropriate equipment and supplies needed for the collection, processing, and handling of capillary blood specimens; arterial blood specimens; specialized blood specimens; non-blood specimens; and point-of-care testing (POCT).
4. Demonstrate correct technique for capillary blood collection; arterial blood collection; specialized blood and non-blood collection; and point-of-care testing (POCT).
5. Demonstrate general laboratory computer skills.

PHLB 1160. Phlebotomy Exam Review

Course Description

This course is designed to prepare phlebotomy students for the Phlebotomy Certification Exam through the American Society of Clinical Pathologists. Topics include a review of phlebotomy theory, anatomy, infection control, blood collection procedures, nonblood specimen collection, and point of care testing.

Student Learning Outcomes

1. Identify the phlebotomist role in patient identification, preparation, specimen collection, specimen handling, and specimen delivery.
2. Identify the major arm veins.
3. Identify the various types of antiseptics used in phlebotomy.
4 Identify the various elements of the order of draw.
5. Identify the various supplies used in an ETS, Syringe, and Butterfly draw.
6. Identify the criteria for specimen rejection.

PHLB 1190. Phlebotomist Basic

Course Description

This course provides the latest information, techniques, skills, and equipment for blood and specimen collection based on the standards of the Clinical and Laboratory Standards Institute, Needlestick Prevention Act, Joint Commission 2008 National Patient Safety Goals, OSHA and CDC. An advanced skills Laboratory is included in the course to provide a "hands-on" practice experience and a 30 hour practicum in a supervised work environment collecting blood and specimens on actual patients for Laboratory tests. Attendance is mandatory. Prepares students for employment as a phlebotomist in health care settings. Requires a "C" or better to pass. Upon successful completion of the course, student has the opportunity to test for National Healthcareer Certification.

Student Learning Outcomes

1. Demonstrate use of available resources and equipment pertinent to the role of a phlebotomist.
2. Employ concepts of medical asepsis and infection control.

PHLB 1990. Phlebotomy Practicum

Course Description

Varies

Student Learning Outcomes

Varies

PHLB 2996. Phlebotomy Topics

Course Description

Varies

Student Learning Outcomes

Varies

Physical Education (PHED)

PHED 1110. Dance:

Course Description

Individual sections vary based on topic content; “audience”; type or level of participation.

Student Learning Outcomes
Varies

PHED 1140. Zumba:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1160. The Art of Dancing
Course Description
The Art of Dancing is a course for students who wish to learn to dance or to improve their dancing. Emphasis is on ballroom dancing with techniques for dancing the Fox Trot, Waltz, Tango, Rumba, La Conga, Samba Jitterbug and the Lindy Hop. Students will be introduced to ballroom etiquette, will understand the elements of leading and following, and will be able to tell what kind of dance the orchestra is playing.
Student Learning Outcomes
Successful course completion implies that a student should be able to do the following with at least 70% accuracy:

I. Introduction Students will:
   A. Define dancing as an art.
   B. Demonstrate the walking step, or one step.
   C. Develop dance form.
      1. Define the line of direction.
      2. Demonstrate walking correctly.
      3. Understand the man's instructions.
      4. Understand the girl's instructions.
   D. Keep time to music and develop a sense of rhythm.
II. Dances Students will:
   A. Demonstrate the Fox Trot.
   B. Demonstrate the Waltz.
   C. Demonstrate the Tango.
   D. Demonstrate the Rumba.
   E. Demonstrate La Conga.
   F. Demonstrate the Samba.
   G. Demonstrate the Little Foot.
   H. Demonstrate the Jitterbug.
   I. Demonstrate the Lindy Hop.
III. Etiquette

PHED 1210. Basketball:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1230. Individual Sport:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1280. Volleyball:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1290. Team Sport:
Course Description
Individual sections vary based on topic content; "audience"; type or level of participation.

PHED 1290. Team Sport: Pickleball Beginner Level I
Course Description
This introductory course is designed for students who are new to pickleball. Emphasis is placed on fundamentals skills, rules, scoring, and court awareness. Students will learn proper grip, footwork, and stroke mechanics while developing confidence through drills and modified gains. Instruction focuses on forehand and backhand groundstrokes, serving, returning, and safe play.
Student Learning Outcomes
1. Identify and apply pickleball rules and terminology.
2. Demonstrate proper stroke mechanics and basic shot control.
3. Serve legally and maintain simple rallies.
4. Exhibit teamwork, communications, and sportsmanship.

PHED 1290. Team Sport: Pickleball Beginner Level II
Course Description
Designed for players who possess basic skills and understanding of pickleball rules, this course advances shot consistency, placement, and control. Students will refine serves, returns, volleys, and dinks, while learning more complex elements such as third shot drops, transitions, and doubles positioning. Emphasis is placed on teamwork, communication, and court strategy. Competitive drills and structured match play helps students apply tactics for effective selection and game management.
Student Learning Outcomes
1. Execute consistent serves, returns, and third shot drops.
2. Perform volleys and dinks under game conditions.
3. Demonstrate movement through transition zones.
4. Communicate effectively with partners during doubles play.
5. Apply strategic thinking and decision making in competitive situations.

PHED 1290. Team Sport Pickleball Intermediate Level I
Course Description
This course is intended for experienced players seeking to refine advanced techniques and develop strategic awareness for competitive play. Students will work on advanced dinking, resets, third-shot decision making, and transition zone movement. Topics include defense recovery, anticipation, partner formations, and match strategy. Instruction emphasis precision, adaptability, and mental composure under pressure. Regular match play and performance feedback prepare students for tournament or league level competition.
Student Learning Outcomes
1. Execute advanced shot types with precision and control.
2.Adjust strategies dynamically in response to opponents tactics.
3.Apply advanced doubles formations and teamwork.
4.Demonstrate composure and ethical play and competition.
5.Compete effectively in structured match environments.

PHED 1310. Swim I:
Course Description

Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1320. Aqua Fit:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1330. Lifeguarding:
Course Description:
Skills training for a non surf lifeguard. The course will include Standard First Aid and CPR certification.
Student Learning Outcomes:

1. To help the student become aware of the common hazards associated with various types of aquatic facilities and to develop the knowledge and skills to eliminate or minimize such hazards.
2. To help the student develop the skills necessary to recognize a person in distress or in a drowning situation and to effectively rescue that person.
3. To help the student understand their responsibility to their employer, fellow employees and especially to the patrons of their facility.
4. To provide explanations, demonstrations, practice and review of the rescue skills essential for lifeguarding.
5. To instill in the students an understanding and appreciation for the responsibilities, swimming skills and additional duties of lifeguarding.
6. To develop more advanced swimming skills to assist in a water rescue.

PHED 1410. Yoga:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1420. Stretch/Relax:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1430. Pilates:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1440. Tai Chi
Course Description
Introduces the practice and philosophy of Tai Chi. Students will use breathing, alignment, precise body mechanics and soft, graceful movements to develop their understanding of the practice.
Student Learning Outcomes

1. Demonstrate basic skills, principles, and breathing techniques that are needed to practice Tai Chi.
2. Demonstrate relaxation and revitalization techniques through Tai Chi skills.
3. Apply the principles of alignment, stretching, and relaxation to the Tai Chi postures.
4. Demonstrate specific Tai Chi poses and postures.
5. Understand and explain the history of Tai Chi.
6. Recognize the benefits of Tai Chi practice.

PHED 1460. Conditioning:
Course Description

Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1510. Training:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1610. Fitness for Life
Course Description
An introduction to current physical activity guidelines emphasizing activities that improve the five health-related components of fitness. Current principles and guidelines of fitness and nutrition are used as the foundation for designing an individualized exercise program.
Student Learning Outcomes
1. Describe the most current physical activity guidelines.
2. Interpret individual fitness assessment and apply results to personal fitness goals.
3. Identify and explain the six fitness principles.
4. Execute a safe and effective exercise regimen.
5. Demonstrate an understanding of basic nutrition as it relates to the U.S. Dietary Guidelines.
6. Demonstrate the skills to create aerobic, resistance training and stretching programs based on individual fitness assessment results and lifetime goals.

PHED 1620. Fitness:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1620. Fitness: Concepts in Physical Education
Course Description
A foundation in the historical development; the physiological, psychological, and sociological components; current trends; contemporary issues and the professional elements of physical education.
Student Learning Outcomes
1. Explain the history, purpose, benefits, and philosophy of physical education (PE).
2. Identify the duties and challenges in PE.
3. Identify, develop, and implement organizational and instructional methods in PE that align with state content standards with benchmarks.
4. Create and assess appropriate instructional resources that meets learner developmental needs in the psychomotor, cognitive, and affective domains.
5. Understand assessment tools to measure student learning in the psychomotor, cognitive, and affective domains.
6. Use a variety of formal and informal assessment techniques that are developmentally appropriate and congruent with physical activity learning goals that align with state content standards with benchmarks.

PHED 1630. Career Fitness:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1670. Aerobics:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1710. Martial Arts:

Course Description

Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 1810. Muay Thai Boxing Fundamentals

Course Description

An introduction to Muay Thai boxing. Students will learn the basic techniques, skills and practice, including kicks, punches, elbows, knees and basic combinations with partners on Thai pads and solo on punching bags. Students will increase flexibility, strength, balance and cardiovascular health. Emphasis is placed on safety, injury prevention, conditioning, flexibility and clear communication.

Student Learning Outcome

1. Demonstrate, name and perform at a basic level the striking skills and movements of Muay Thai boxing including: jab, cross, hooks, uppercuts, roundhouse kicks, teeps, skip knees, straight knees, round knees and six elbows.
2. Demonstrate the respect and tradition associated with the practice of Muay Thai boxing including the wai.
3. Demonstrate at a basic level safe and accurate Thai pad holding for each strike.
4. Demonstrate and practice the principles of Muay Thai boxing and Conscious Combat including informed and active consent, clear verbal communication, respect of boundaries and integration of instructor feedback.

PHED 1810. Muay Thai Boxing Intermediate

Course Description

Students will hone the techniques, skills and practice of Muay Thai boxing including kicks, punches, elbows, knees and more complex combinations. Students will learn to defend from attack and respond. Students will practice partner drills while wearing protective equipment or holding pads. Students will increase speed, balance, flexibility, strength and cardiovascular health. Emphasis is placed on safety, injury prevention, conditioning, physical form, accuracy and clear communication.

Student Learning Outcomes

1. Demonstrate, name and perform the striking skills and movements of Muay Thai boxing including: jab, cross, hooks, uppercuts, roundhouse kicks, teeps, skip knees, straight knees, round knees and six elbows.
2 Demonstrate, name and perform basic defenses of Muay Thai boxing including: parry, slip, evade, arm and leg blocks and block-and-returns.
3. Demonstrate safe and accurate Thai pad and focus mitt holding for each of the above strikes.
4. Demonstrate how to put on protective gear and move through a safe offense/defense round with a partner.
5. Demonstrate and practice the principles of Muay Thai boxing and Conscious Combat including informed and active consent, clear verbal communication, respect of boundaries and integration of instructor feedback.

PHED 1810. Muay Thai Boxing Advanced

Course Description

Advanced techniques, skills and practice of Muay Thai boxing including striking combinations of Muay Thai kicks, punches, elbows, knees and defense against strikes. Partner drills, including optional light sparring wearing protective equipment and advanced pad-holding skills. Shadow boxing, heavy bag work and increased cardio and conditioning drills. Emphasis is placed on proper Muay Thai form, efficacy of strikes, defenses and skills as a training partner, clear communication, safety and injury prevention.

Student Learning Outcomes

1. Demonstrate, name and perform the striking skills and movements of Muay Thai boxing including: jab, cross, hooks, uppercuts, roundhouse kicks, teeps, cut kicks, clinch, skip knees, straight knees, round knees, clinch, elbows and advanced variations of these strikes.
2. Demonstrate, name and perform basic defenses of Muay Thai boxing including: parry, slip, evade, arm and leg blocks, catch, counter, guard, feint, block-and-returns.

3. Demonstrate safe and accurate Thai pad and focus mitt holding for each of the above strikes as well as complex combinations of these strikes.
4. Demonstrate how to effectively use protective gear and move through a safe offense/defense round with a partner
5. Demonstrate and practice the principles of Muay Thai boxing and Conscious Combat including informed and active consent, clear verbal communication, respect of boundaries and integration of instructor feedback

PHED 1830. Running:
Course Description
Individual sections vary based on topic content; "audience"; type or level of participation.

PHED 1910. Outdoor Experience:
Course Description
Individual sections vary based on topic content; "audience"; type or level of participation.

PHED 1950. Rodeo:
Course Description
Individual sections vary based on topic content; "audience"; type or level of participation.

PHED 1996. Topics in Physical Education
Course Description
Varies

PHED 2110. Dance II
Course Description
Individual sections vary based on topic content; "audience"; type or level of participation.

PHED 2120. Health Life Skills and Personal Wellness
Course Description
This course has been designed to provide students with the knowledge and skills necessary to cultivate a holistic approach to well-being by giving students effective strategies for achieving and maintaining a balanced and fulfilling life, including coping skills to navigate the challenges of college life. Through a combination of lectures, discussions, activities, and self-reflection, students will explore various dimensions of wellness and develop practical strategies to enhance their overall health and vitality.
Student Learning Outcomes
1 Explain the principles of wellness, emphasizing the significance of exercise, nutrition, and wellbeing for sustaining health throughout life.
2 Describe effective strategies and methodologies to enhance wellness.
3 Develop individualized goals pertaining to various facets of wellness to promote personal growth and fulfillment.
4 Evaluate personal wellness levels to establish baseline and monitor progress towards specific goals across diverse dimensions of well-being.
5 Participate in a self-tailored wellness regimen, integrating introspective assessments to monitor personal progress effectively.
6 Critically assess and refine wellness plans based on alterations in wellness evaluations and personal reflections, ensuring continuous alignment with evolving health and fitness aspirations.

\

PHED 2210. Basketball II:
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2230. Individual Sport II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2280. Volleyball II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2310. Swim II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2320. Aqua Fit II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2410. Yoga II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2430. Pilates II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2440. Tai Chi II
Course Description
A program of Tai Chi designed for students to further their study of physical and energy movements for health, defense and longevity. Students will lie introduced to part II of the Wu style Tai Chi short form.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:

1. Apply the principles of alignment, stretching and relaxation to the Tai Chi postures
2. Demonstrate an understanding of part I of the Wu Tai Chi short form
3. Demonstrate "Push Hands"
4. Demonstrate the progression of part II of the Wu Tai Chi short form

PHED 2460. Conditioning II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2510. Training II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2620. Fitness II:

Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2670. Aerobics II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2710. Martial Arts II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2830. Running II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2855. Marathon Preparation
Course Description
Student Learning Outcomes

PHED 2910. Outdoor Experience II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2950. Rodeo II:
Course Description
Individual sections vary based on topic content; “audience”; type or level of participation.

PHED 2993. Workshop in Physical Education
Courses Description
Specific subjects to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

PHED 2996. Topics in Physical Education
Courses Description
Specific subjects to be announced in the Schedule of Classes.
Student Learning Outcomes
Varies

Physical Science (PHSC)

PHSC 1110C. Physical Science for General Education I
Course Description
This course is designed for students who need a physical science requirement. Topics include mechanics, physics, and forms of energy, chemistry, earth science, and astronomy. Students will be expected to form logical ideas about science.
Student Learning Outcomes

1. Understand science as a way of knowledge.
2. Have a basic knowledge about the way the universe works.

3. Understand basic physic and mechanics.
4. Understand forms of energy.
5. Understand basic chemistry.
6. Understand the basic structure of the earth and how it functions as a planet in our solar system.
7. Understand stars, planets and celestial bodies and their function.

PHSC 1120. Forensic Science I

Course Description

An introduction to forensic science, emphasizing the multi-disciplinary approach required to document, understand, and solve forensic problems. Topics for this course include those on general science and applying scientific methods to answer questions of interest to the legal system. Case studies will be used to illustrate how science was used to solve crimes.

Student Learning Outcomes

1. Develop and utilize skills of scientific inquiry, asking questions, gathering, analyzing and interpreting data, drawing conclusions, predicting, and communicating results.
2. Develop an awareness of forensic science issues that may impact learners and introduce the different techniques used to analyze a variety of crimes.
3. Evaluate information and interpret graphs and charts to make informed forensic science decisions.
4. Enhance academic skills including the use of electronic resources.

PHSC 1120L. Forensic Science I Lab

Course Description

Forensic Science is the application of science to law. This lab component provides overview of the basic techniques utilized by forensic scientists in the lab in analyzing common types of physical evidence that includes analysis of fingerprints, fiber analysis, trace evidence, poisons, body fluids, DNA analysis, and blood spatters. Students are also taught the proper collection, preservation, and documentation of various samples. Once the evidence has been processed, the student will use critical thinking skills to interpret the evidence in the context of the case.

Student Learning Outcomes

Upon completion of this course, students will have an understanding of:

1. Developing and utilizing skills of scientific inquiry, asking questions, gathering, analyzing and interpreting data, drawing conclusions, predicting, and communicating results.
2. Developing and awareness of forensic science issues that may impact learners and introduce the different techniques used to analyze a variety of crimes.
3. The history and development of forensic sciences.
4. The proper procedures for collecting, preserving, and documenting physical evidence.
5. The handling, value, and capabilities of DNA evidence.
6. The various types and analysis methods of physical and trace evidence.
7. Serology and blood spatter analysis.

PHSC 1130. Forensic Science II

Course Description

This course is designed to introduce students to recognition, documentation and collection of physical evidence in a practical environment such as law enforcement. Course material will be presented in such a manner as to allow practical application of proper technique, limited analysis and presentation in the field. A laboratory component of the course will be conducted in concert. The criminal justice field is an identified fast-paced, exciting profession with continued significant job growth.

Student Learning Outcomes

Not Available

PHSC 1130L. Forensic Science II Lab

Course Description

Covers correct police procedure for processing a crime scene and recognizing evidence. Forensic photography and collection of physical evidence are examined. Specific skills studied include collection of fingerprints and footprints, toolmark evidence collection, blood splatter analysis, and forensic analysis of firearms.

Student Learning Outcomes

A successful student will learn basic skills in scientific methodology, proper laboratory safety, and proper measuring techniques & equipment. A successful student will have beginner's skill in recognition, collection and preservation of physical evidence, as well as techniques on testing physical evidence.

Physics (PHYS)

PHYS 1105. Physics & Society

Course Description

If you are curious about how common things work, about physics that is relevant to social and political issues, or just about the natural world in general, Physics and Society is just the course for you! No previous background in physics or mathematics (beyond high school algebra) is required or expected. Just bring a lively curiosity and a dedication to learning new things.

Student Learning Outcomes

Not Available

PHYS 1110. Explorations in Physics

Course Description

This course will introduce students to university resources, pre-professional student societies, learning strategies to help strengthen academic performance, and will explore career paths for graduates. Students will also discuss the roles of physicists in society, physics research being performed at and nearby New Mexico Higher Education Institutions, and what the latest discoveries in physics tell us about nature and the universe.

Student Learning Outcomes

1. Describe effective learning strategies for science/engineering classes.
2. Give examples of impactful scientists from groups underrepresented in physics and describe their career paths.
3. Research examples of positions open to physics majors.
4. Identify critical components of an effective resume.
5. Write a professional cover letter for an internship/undergraduate research application.
6. Discuss the boundaries of ethical science and give an example of an accidental breach of ethics.
7. Describe the societal impact of misinformation about scientific results or research.
8. Explore ways scientists can engage with the general public to shape the discourse of knowledge or the ways scientists are perceived.
9. List some of the burning questions current physicists are trying to answer.
10. Establish a sense of community within the department, the university, and the greater physics world.
11. Discover useful resources to help with academic success and avoid pitfalls while pursuing a physics degree.
12. Better understand the value of a physics degree, and what can be expected entering the workforce or academia.
13. Understand and discuss how the field of physics connects with the issues and problems facing society today.

PHYS 1111. Introductory Computational Physics

Course Description

Introduction to computational techniques for the solution of physics-related problems.

Student Learning Outcomes

1. Use computers for visualizing and analyzing data.
2. Apply techniques of structured programming and software development.
3. Trouble shoot and debug programs.

PHYS 1112. Introductory Physics for the Health Sciences

Course Description

Algebra-level introduction to topics required for the Health Sciences including basic mechanics (including sound, mechanical waves and fluids), heat and thermodynamics, electricity and magnetism, optics and electromagnetic waves, atomic and nuclear physics and applications to medical imaging.

Student Learning Outcomes

1. The objective of the course is to familiarize the student with the concepts and methods used in the underlying physics associated with various Health Science disciplines.
2. The course will demonstrate how the basic principles of mechanics, thermodynamics, electricity, magnetism, electromagnetic waves and optics can be applied to solve particular problems in Health Sciences applications. Introduces the student to selected topics in modern physics including quantum physics, atomic and nuclear physics.

PHYS 1112L. Introductory Physics for the Health Sciences Lab

Course Description

A series of laboratory experiments associated with the material presented in PHYS 1112.
Co-requisite: PHYS 1112 Introductory Physics for the Health Sciences.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Become familiar with correct laboratory procedures.
2. Be able to identify laboratory apparatus.
3. Use of laboratory safety equipment.
4. Be able to use common laboratory apparatus.
5. Become confident in collecting, organizing, and presenting data in a scientific form.
6. Be able to use graphs, units, and formulas to analyze data.
7. Be able to use technology for locating scientific literature, gathering data, and problem-solving.
8. Be capable of recognizing and using sound scientific information for the betterment of the community.

PHYS 1114. Survey of Physics

Course Description

Designed to provide non-science majors with a toolbox of physics concepts that enables them to make sense of the world around them, from nature and its myriad puzzles to everyday technology to science policy.

Student Learning Outcomes

1. Discuss the difference between science and pseudoscience.
2. Recognize and discuss the importance of physics in our everyday lives and technologies.
3. Demonstrate familiarization with terminology and units used in the physical sciences.
4. Describe common technologies and the underlying physical principles governing their behavior.
5. Demonstrate awareness of physical theories, laws, and their implications.
6. Read an article and understand its scientific importance.

PHYS 1115. Survey of Physics

Course Description

Overview of the concepts and basic phenomena of physics. This course provides a largely descriptive and qualitative treatment with a minimum use of elementary mathematics to solve problems. No previous knowledge of physics is assumed.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Apply concepts of classical mechanics (such as velocity, acceleration, force, inertia, momentum, torque, work, energy) to simple static and dynamic systems.
2. Apply concepts of thermodynamics (such as heat, temperature, internal energy, entropy) to simple processes.
3. Apply concepts of electricity and magnetism (such as fields, potential, charge conservation, static and dynamic induction) to simple circuits, motors, and other simple electrical contrivances.
4. Apply simple geometric and wave optics in simple situations.

Optional Student Learning Outcomes

1. Apply quantum theory in simple situations such as the Bohr model of the atom, dual nature of light, atomic spectra.
2. Apply simple concepts of relativity.

PHYS 1115L. Survey of Physics Laboratory

Course Description

A series of laboratory experiments associated with the material presented in PHYS 1115.
Co-requisite: PHYS 1115 Survey of Physics

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Test ideas using modern laboratory equipment.
2. Estimate experimental uncertainties.
3. Use computers to analyze and report laboratory results.
4. Draw appropriate conclusions from quantitative scientific observations.
5. Accurately and clearly communicate the results of scientific experiments.

PHYS 1115C. Survey of Physics with Lab

Course Description

Overview of the concepts and basic phenomena of physics. This course provides a largely descriptive and qualitative treatment with a minimum use of elementary mathematics to solve problems. No previous knowledge of physics is assumed. Includes laboratory.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Apply concepts of classical mechanics (such as velocity, acceleration, force, inertia, momentum, torque, work, energy) to simple static and dynamic systems.
2. Apply concepts of thermodynamics (such as heat, temperature, internal energy, entropy) to simple processes.
3. Apply concepts of electricity and magnetism (such as fields, potential, charge conservation, static and dynamic induction) to simple circuits, motors, and other simple contrivances.
4. Apply simple geometric and wave optics in simple situations.
5. Test ideas using modern laboratory equipment.
6. Estimate experimental uncertainties.
7. Use computers to analyze and report laboratory results.
8. Draw appropriate conclusions from quantitative scientific observations.
9. Accurately and clearly communicate the results of scientific experiments.

Optional Student Learning Outcomes

1. Apply quantum theory in simple situations such as the Bohr model of the atom, dual nature of light, atomic spectra.

2. Apply simple concepts of relativity.

PHYS 1121. Introduction to Applied Physics

Course Description

This course is designed to introduce the concepts of physics focusing on kinematics, newton's law, and mechanical energy at a slower pace. Students who have difficulty with general problem-solving should take this course before Algebra-based Physics. The course will teach and give improved insight into mechanical phenomena of the physical world and show the role that mechanics plays in many facets of our life. Students will gain an appreciation of those physicists and mathematicians who made significant contributions to our current understanding of the world as it exists today.

Student Learning Outcomes:

1. Apply principles of Newtonian mechanics to predict or calculate the translational motion of particles in one or higher dimensions using algebra.
2. Demonstrate an understanding of the physical principles, such as Newtonian laws of mechanics and Newton's theory of gravitation.
3. Apply the work and energy principle to understand energy transfer and solve the problem with kinetic energy and potential energy.

PHYS 1121L. Introduction to Applied Physics Laboratory

Course Description

A series of laboratory experiments associated with the material presented in PHYS 1121.
Co-requisite: PHYS 1121 Introduction to Applied Physics.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Become familiar with correct laboratory procedures.
2. Be able to identify laboratory apparatus.
3. Use of laboratory safety equipment.
4. Be able to use common laboratory apparatus
5. Become confident in collecting, organizing, and presenting data in a scientific form.
6. Be able to use graphs, units and formulas to analyze data.
7. Be able to use technology for locating scientific literature, gathering data and problem solving.
8. Be capable of recognizing and using sound scientific information for the betterment of the community.

PHYS 1125. The Physics of Music

Course Description

Introduction for non-science majors to basic concepts, laws, and skills in physics, in the context of a study of sound, acoustics, and music.

Optional Topics: Basics of music theory, modes, temperaments, consonance and dissonance: Building acoustics: Connections to other physical topics such as but not limited to: cosmology, microwave background radiation, quantum theory, Bohr model, entropy, electromagnetic waves and special relativity, string theory.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Demonstrate converting units and other aspects of dimensional analysis in the working of numerical problems.
2. Apply basic classical mechanics to static and dynamic fluids, including Archimedes' principle and Bernoulli's principle.
3. Apply the general properties of waves to simple models of musical instruments.

4. Demonstrate knowledge of basic operating principles of wind, string, and percussion instruments.
5. Demonstrate knowledge of how objectively measurable properties of sound waves correspond to the perceptions of pitch, loudness, and timbre.
6. Demonstrate understanding of the description of vibrations and waves in terms of Fourier's Theorem and normal modes.
7. Demonstrate understanding of vocalization in terms of physical principles such as resonance and fluid dynamics.
8. Demonstrate understanding of how the ear works.

PHYS 1125L. Physics of Music Lab

Course Description

Experiments to accompany PHYS 1125.
Co-requisite: Physics of Music

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Draw appropriate conclusions from quantitative scientific experiments.
2. Accurately and clearly communicate the results of scientific experiments.
3. Test ideas using modern laboratory equipment.
4. Use computer to analyze and report laboratory results.

PHYS 1131. Technical Physics

Course Description

This course covers the principles of mechanics, heat, and electricity as applied to automotive technology. This course is designed for students in the ASEP (GM), ASSET (FM), and Automotive Technology (AT) training programs and does not count as a lab science course.

Student Learning Outcomes

Upon completion of Technical Physics, students should be able to:

1. Convert between metric and customary units.
2. Convert units within the metric and customary systems.
3. Solve kinematics problems with distance, speed, velocity, acceleration.
4. Find the stopping distance of an automobile under certain conditions.
5. Demonstrate the difference between a vector and a scalar.
6. Find the cornering acceleration.
7. Describe the process of torque transmission via the transmission system.
8. Explain centripetal and centrifugal forces.
9. Demonstrate and apply Newton's laws of motion.
10. Determine the rotational force of a vibrating component.
11. Apply the relation between torque and force.
12. Find the force of friction of a physical situation involving automobiles
13. Find the coefficient of friction.
14. Demonstrate the difference between static friction and kinetic friction.
15. Determine the maximum safe speed in a turn.
16. Determine the force of friction given the coefficient of friction.
17. Demonstrate the importance of balance in rotating automotive systems.
18. Demonstrate rotational inertia of a rolling object.
19. Apply angular kinematical relations to find angular displacement, angular velocity, and angular acceleration.
20. Find the centripetal force of a rotating object.
21. Calculate the work done and the power of a physical process.

22. Find the brake horsepower for a dynamometer Prony brake setup.
23. Calculate the efficiency of an engine.
24. Demonstrate simple machines.
25. Demonstrate the different classes of simple machines.
26. Find the IMA and AMA of a simple machine.
27. Find the efficiency of a machine.
28. Explain and apply the concepts of potential and kinetic energies.
29. Apply the law of energy conservation
30. Calculate the momentum and impulse of automotive systems.
31. Demonstrate stress and strain.
32. Find the proper bolt size and grade based on applied torque
33. Find the stress and strain applying the relations of stress and strain.
34. Discuss the three ways of heat transfer.
35. Explain the importance of insulation in the automobile.
36. Find the amount of heat flow of a system.
37. Find the specific heat capacity of a system.
38. Calculate the expansion or contraction of an object subject to a temperature change.
39. Explain how a radiator works.
40. Demonstrate the basic properties of waves.
41. Demonstrate how sound works.
42. Apply the sound relationship.
43. Demonstrate intensity, pitch, frequency, speed of sound, and sound speed in various media.
44. Describe the characteristics of light waves.
45. Find the frequency and period of a wave.
46. Demonstrate the Doppler Effect.
47. Find the index of refraction.

PHYS 1209C. Introduction to Laboratory Physics

Course Description

Physics 1209C will be your hands-on introduction into the fascinating wonderful world of physics. You will learn about how Sir Isaac Newton got hit on the head with an apple (or did he?) and toppled over 2000 years of Aristotelian physics. You will (safely) launch projectiles into the air and be delighted when your physics knowledge enables you to predict exactly where they will land. You will finally be able to quantify the many physics phenomena you have witnessed but not yet had the pleasure of describing mathematically. The course is an algebra-based introduction covering kinematics, Newtonian mechanics, and conservation principles; it is taught in a laboratory setting, with emphasis on hands-on work, the scientific method, and formal laboratory reports.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Apply principles of Newtonian mechanics to predict and account for simple phenomena modeled by the motion of particles in one and two dimensions.
2. Apply the mathematics of vectors to the principles of Newtonian mechanics.
3. Demonstrate converting units and other aspects of dimensional analysis in the working of numerical problems.
4. Explain the scientific method.
5. Test ideas using modern laboratory equipment.
6. Draw appropriate conclusions from quantitative scientific observations.
7. Accurately and clearly communicate the results of scientific experiments.

PHYS 1230. Algebra-based Physics I

Course Description

An algebra-based treatment of Newtonian mechanics. Topics include kinematics and dynamics in one and two dimensions, conservation of energy and momentum, rotational motion, equilibrium, and fluids.

Optional topics may include (some schools include these in Physics I, others in Physics II)**:** sound**:** waves**:** heat**:** oscillatory motion and thermodynamics.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Demonstrate converting units and other aspects of dimensional analysis in the working of numerical problems.
2. Apply principles of Newtonian mechanics to predict and account for simple phenomena modeled by the motion of particles in one and two dimensions.
3. Apply principles of Newtonian mechanics to predict and account for simple phenomena modeled by the motion of a rigid body in two dimensions.
4. Apply Newton's theory of gravitation to circular orbits and demonstrate understanding of how Kepler's laws of planetary motion provide the empirical foundation for Newton's theory.
5. Apply the mathematics of vectors to the principles of Newtonian mechanics.
6. Apply principles of Newtonian mechanics to the case of static and dynamic incompressible fluids, including Archimedes' and Bernoulli's principles.

Optional Student Learning Outcomes

1. Describe the fundamental properties of periodic motion.
2. Explain and apply the basic concepts of sound and wave motion.
3. Explain the basic concepts of heat and thermodynamics.

PHYS 1230L. Algebra-based Physics I Laboratory

Course Description

A series of laboratory experiments associated with the material presented in PHYS 1230.

Pre- or co-requisite: PHYS 1230 Algebra-based Physics I

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Explain the scientific method.
2. Test ideas using modern laboratory equipment.
3. Estimate experimental uncertainties using statistical methods.
4. Use computers to analyze and report laboratory results.
5. Draw appropriate conclusions from quantitative scientific observations.
6. Accurately and clearly communicate the results of scientific experiments.

PHYS 1230C. Algebra-based Physics I Lecture + Laboratory

Course Description

Combined PHYS 1230 and PHYS 1230L

Student Learning Outcomes

Not Available

PHYS 1231. Problems in Algebra-based Physics I

Course Description

This is a supplemental course for Algebra-based Physics I.

Student Learning Outcomes

Not Available

PHYS 1240. Algebra-based Physics II

Course Description

The second half of a two-semester algebra-based introduction to Physics. This course covers electricity, magnetism and optics.

Optional Topics (some schools include these in Physics I, others in Physics II)**:** sound; waves; heat; thermodynamics; oscillatory motion; and modern physics

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Be able to state Coulomb's Law and Gauss's laws and apply them.
2. Apply the concepts of electric charge, electric field and electric potential to solve problems.
3. Analyze simple DC and AC circuits.
4. Apply the Lorentz force to solve problems.
5. Apply Faraday's law of induction (and Lenz's law) to solve problems.
6. Apply ray optics to practical lens systems such as microscopes and corrective lenses.
7. Apply the wave nature of light to the phenomena of reflection, refraction, and diffraction.

Optional Student Learning Outcomes

1. Describe the fundamental properties of periodic motion.
2. Explain and apply the basic concepts of sound and wave motion.
3. Explain the basic concepts of heat and thermodynamics.
4. Explain the basic concepts of quantum theory and special relativity.

PHYS 1240L. Algebra-based Physics II Laboratory

Course Description

A series of laboratory experiments associated with the material presented in PHYS 1240.

Pre- or co-requisite: PHYS 1240 Algebra-based Physics II.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Explain the scientific method.
2. Test ideas using modern laboratory equipment.
3. Estimate experimental uncertainties using statistical methods.
4. Use computers to analyze and report laboratory results.
5. Draw appropriate conclusions from quantitative scientific observations.
6. Accurately and clearly communicate the results of scientific experiments.

PHYS 1240C. Algebra-based Physics II Lecture + Laboratory

Course Description

Combined PHYS 1240 + PHYS 1240L

Student Learning Outcomes

Varies

PHYS 1241. Problems in Algebra-based Physics II

Course Description

This is a supplemental course for Algebra-based Physics II.

Student Learning Outcomes

Not Available

PHYS 1310. Calculus-based Physics I

Course Description

A calculus level treatment of classical mechanics and waves, which is concerned with the physical motion concepts, forces, energy concepts, momentum, rotational motion, angular momentum, gravity, and static equilibrium.

Optional Topics may include (some schools include these in Physics I, others in Physics II): oscillations; waves; sound; and thermodynamics.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Describe the relationships among position, velocity, and acceleration as functions of time.
2. Use the equations of kinematics to describe motion under constant acceleration.
3. Analyze linear motion using Newton's laws, force, and linear momentum.
4. Analyze rotational motion using torque and angular momentum.
5. Analyze motion using work and energy.

Optional Student Learning Outcomes

1. Describe and apply the fundamental properties of waves, oscillations, and periodic motion.
2. Describe and apply the laws of thermodynamics.

PHYS 1310L. Calculus-based Physics I Laboratory

Course Description

A series of laboratory experiments associated with the material presented in Calculus-based Physics I.
Students will apply the principles and concepts highlighting the main objectives covered in coursework for Calculus-based Physics I.
Co-requisite: Calculus-based Physics I

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Develop a reasonable hypothesis.
2. Work effectively as part of a team.
3. Take measurements and record measured quantities to the appropriate precision.
4. Estimate error sources in experimental techniques.
5. Apply appropriate methods of analysis to raw data, including using graphical and statistical methods via computer-based tools.
6. Determine whether results and conclusions are reasonable.
7. Present experimental results in written form in appropriate style and depth.
8. Experience the relationship between theory and experiment.

PHYS 1310C. Calculus-based Physics I Lecture + Laboratory

Course Description

Combined PHYS 1310 + PHYS 1310L

Student Learning Outcomes

Not Available

PHYS 1311. Problems in Calculus-based Physics I

Course Description

This is a supplemental course for Calculus-based Physics I.

Student Learning Outcomes

Not Available

PHYS 1320. Calculus-based Physics II

Course Description

A calculus level treatment of classical electricity and magnetism. It is strongly recommended that this course is taken at the same time as Calculus-based Physics II laboratory.

Optional Topics may include (some schools include these in Physics I, others in Physics II)**:** oscillations; waves; sound; and thermodynamics.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Apply the concepts of electric charge, electric field and electric potential to solve problems**.**
2. Sketch the electric field in the vicinity of point, line, sheet, and spherical distributions of static electric charge**.**
3. Sketch the magnetic field in the vicinity of line, ring, sheet, and solenoid distributions of steady current**.**
4. Describe the relationship between electric field and electric potential**.**
5. Calculate the Lorentz force on a moving charge for simple geometries of the fields and use it to analyze the motion of charged particles**.**
6. Apply the integral forms of Maxwell's equations**.**
7. Calculate the energy of electromagnetic fields**.**
8. Analyze DC circuits**.**

Optional Student Learning Outcomes

1. Describe the function of simple lenses.
2. Describe two-slit interference.
3. Describe interference by a slit and a circular aperture.
4. Analyze AC circuits.
5. Describe and apply the fundamental properties of waves, oscillations, and periodic motion.
6. Describe and apply the laws of thermodynamics.

PHYS 1320L. Calculus-based Physics II Laboratory

Course Description

A series of Laboratory experiments associated with the material presented in Calculus-Based Physics II.
Students will apply the principles and concepts highlighting the main objectives covered in coursework for Calculus-Based Physics II.

Co-requisite: Calculus-based Physics II

Student Learning Outcomes

Upon completion of this course, the student will be able to:

1. Develop a reasonable hypothesis.
2. Work effectively as part of a team.
3. Take measurements and record measured quantities to the appropriate precision.
4. Estimate error sources in experimental techniques.
5. Apply appropriate methods of analysis to raw data, including using graphical and statistical methods via computer-based tools.
6. Determine whether results and conclusions are reasonable.
7. Present experimental results in written form in appropriate style and depth.
8. Experience the relationship between theory and experiment.

PHYS 1320C. Calculus-based Physics II Lecture + Laboratory

Course Description

Combined PHYS 1320 + PHYS 1320L

Student Learning Outcome

Combined PHYS 1320 + PHYS 1320L

PHYS 1321. Problems in Calculus-based Physics II
Course Description
This is a supplemental course for Calculus-based Physics II.
Student Learning Outcomes
Not Available

PHYS 1410. Introduction to Weather and Climate
Course Description
This course is an introductory course to weather and climate, suitable for any NMT major. When taken with the lab (offered spring semester), it may serve as a degree requirement for lab science course (consult your degree requirements from your major department). It introduces physics concepts that are covered in more detail in PHYS 1310 & 1320; these include energy, momentum, angular momentum, Newton's second law and thermodynamics. It covers the basic structure and composition of the atmosphere, atmospheric circulations, atmospheric stability, radiative transfer, and the energy balance of the atmosphere.
Student Learning Outcomes
By the end of this course, students will

1. Distinguish weather from climate and know the major components of the climate system.
2. Be able to draw and identify the thermodynamic layers of the atmosphere and be able to identify the major source of heating for the troposphere and stratosphere.
3. Identify the major processes that contribute to the atmospheric energy cycle. They will be able to calculate the mean surface temperature of the Earth in the absence of an atmosphere.
4. Understand the seasonal cycle and identify internal and external forces that influence energy balance.
5. Be able to determine atmospheric stability and make general predictions based on temperature and moisture in soundings.
6. Understand why it is so difficult to understand convection, identify sources of uncertainty in weather models, and understand limitations of climate models.
7. Have some experience in data analysis, including familiarity with Matlab.
8. Know how to identify "good" and "bad" literature regarding climate science.
9. Understand what positive and negative feedback are, and give examples of each as they relate to the atmosphere.
10. Have read and analyzed several outside sources of information, including peer-reviewed journal articles and excerpts from the executive summary of the IPCC report.

PHYS 1992. Physics Directed Study
Course Description
Varies
Student Learning Outcomes
Varies

PHYS 1993. Physics Workshop
Course Description
Varies
Student Learning Outcomes
Varies

PHYS 1996. Physics Topics

Course Description
Varies
Student Learning Outcomes
Varies

PHYS 1996L. Physics Topics Laboratory
Course Description
Varies
Student Learning Outcomes
Varies

PHYS 1997. Physics Independent Study
Course Description
Varies
Student Learning Outcomes
Varies

PHYS 2110. Mechanics
Course Description
Newtonian mechanics.
Student Learning Outcomes
1. Describe matter as particles or extended objects, analyze forces or torques acting on it, and apply Newton's laws to determine if the object is in equilibrium or predict any change in the motion of such an object.
2. Apply vector algebra to predict motion or analyze interactions in one or two dimensions.
3. Apply techniques of conservation laws (linear momentum, energy, angular momentum) to determine the effect of interactions that are internal or external to the system studied.
4. Analyze systems in simple harmonic motion and explain qualitatively under what condition a driven oscillating system shows the phenomenon of resonance.
5. Use multiple representations to build, interpret and communicate a model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
6. Given two or more cases, perform a ranking task by evaluating the similarities (comparison) or differences (contrast) in the cases and applying physics principles.
7. Self-check reasonableness of assumptions and solutions, making use of limiting cases or symmetry arguments.
8. Analyze real-world phenomena by defining and formulating the question or problem, constructing simplified idealized models (and stating their limitations), and applying appropriate mathematical reasoning to make predictions or explain a phenomenon or function.
9. Communicate effectively with audiences of different scientific backgrounds by recognizing their needs and making the communication relevant and impactful.
10. Work collegially and collaboratively in diverse teams both as a leader and as a member in pursuing a common goal.

PHYS 2110L. Experimental Mechanics
Course Description
Laboratory experiments associated with the material presented in PHYS 2110. Science majors.
Student Learning Outcomes
Laboratory experiments associated with the material presented in PHYS 2110. Science majors.
1. Test scientific questions or ideas using appropriate laboratory equipment.
2. Collect experimental data and evaluate the outcomes of an experiment qualitatively and quantitatively.

3. Estimate measurement uncertainty.
4. Apply appropriate methods of analysis to raw data, including graphical or statistical methods, and computer-based tools.
5. Draw appropriate conclusions from quantitative scientific data.
6. Communicate the process and the outcomes of an experiment and reflect on possible revisions in the procedure.
7. Work effectively as part of a team.
8. Demonstrate professional responsibility.

PHYS 2111. Supplemental Instruction for PHYS 2110

Course Description

This optional workshop as a supplement to PHYS 2110. The tutorial sessions focus on reasoning and hands-on problem solving.

Student Learning Outcomes

1. Analyze real world phenomena by constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain a phenomena or function.
2. Use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. In the contexts of concepts and physical laws discussed in PHYS 2110, apply quantitative analysis to solve problems, including the use of scientific notation, unit conversion and vector algebra.
4. Self-check reasonableness of assumptions and solutions, making use of limiting cases or symmetry arguments.
5. Develop learning strategies and use metacognition to promote thinking in the discipline.

PHYS 2115. General Physics

Course Description

You will study optics and modern physics.

Student Learning Outcomes

Students will learn the following concepts during the course.

1. Relativity (time dilation and length contraction).
2. Blackbody radiation.
3. Atomic spectra.
4. Photoelectric effect.
5. Particle physics and wave particle duality.
6. Uncertainty principle.
7. Nuclear physics.
8. Cosmology (time permitting).
9. Lenses.
10. Refraction and reflection.
11. Interference.

PHYS 2115L. General Physics Lab

Course Description

You will engage in laboratory experiences supportive of PHYS 2115, for which this course is a Co-requisite.

Student Learning Outcomes

Labs will be designed to supplement the following lecture concepts.

1. Relativistic simulations.
2. Lenses and focusing.
3. Refraction and reflection.

4. Interference.

PHYS 2120. Heat, Light, and Sound

Course Description

Calculus-level treatment of thermodynamics, geometrical and physical optics, and sound.

Student Learning Outcomes

1. Analyze real world phenomena that meet specific needs and use scientific judgement to draw conclusions.
2. Use multiple representations to build, interpret and communicate scientific models, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. Analyze oscillations and wave phenomena.
4. Analyze properties of sound waves.
5. Analyze properties of light using interference and diffraction.
6. Analyze light propagation through media using index of refraction and optical apparatus.
7. Analyze optical systems using light propagation.
8. Analyze the laws of thermodynamics and use them to describe processes in gases and other states of matter.

PHYS 2120L. Heat, Light, and Sound Laboratory

Course Description

Laboratory experiments associated with the material presented in PHYS 2120. Science majors.

Student Learning Outcomes

1. Develop a reasonable hypothesis.
2. Work effectively as part of a team.
3. Take measurements and record measured quantities to the appropriate precision.
4. Estimate error sources in experimental techniques.
5. Apply appropriate methods of analysis to raw data, including using graphical and statistical methods via computer-based tools.
6. Determine whether results and conclusions are reasonable.
7. Present experimental results in written form in appropriate style and depth.
8. Understand the relationship between theory and experiment.

PHYS 2121. Supplemental Instruction to PHYS 2120

Course Description

This optional workshop supplements PHYS 2120 "Heat, Light, and Sound". Students actively apply concepts and methods introduced in PHYS 2120 to problem solving and quantitative analysis..

Student Learning Outcomes

1. analyze real world phenomena by constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain a phenomena or function.
2. use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. in the contexts of concepts and physical laws discussed in PHYS 2120, apply quantitative analysis to solve problems involving wave propagation and interference, geometric optics, heat transfer and thermodynamics.
4. self-check reasonableness of assumptions and solutions, making use of limiting cases or symmetry arguments.
5. develop learning strategies and use metacognition to promote thinking in the discipline.

PHYS 2140. Electricity and Magnetism

Course Description

Charges and matter, the electric field, Gauss law, the electric potential, the magnetic field, Ampere's law, Faraday's law, electric circuits, alternating currents, Maxwell's equations, and electromagnetic waves.

Student Learning Outcomes

1. Analyze real-world phenomena by deciding what information is relevant and constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain a phenomenon or function.
2. Use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. Use a physics problem-solving strategy: i. Identify relevant concepts. ii. Introduce and study simplified models. iii. Use symmetry arguments. iv. Establish the relation between known and unknown quantities. v. Calculate a quantitative result using appropriate mathematical methods. vi. Self-check reasonableness of assumptions and solutions.
4. Analyze/predict the interaction of charged particles, dipoles, or conductors with electric or magnetic fields. Apply concepts of force, work, or energy.
5. Describe sources of electric fields or magnetic fields and calculate field vectors for a point in space.
6. Apply Gauss's law to calculate electric fields for symmetric charge distributions or to determine surface charges on conductors in electrostatic equilibrium.
7. Apply Ampere's law and the Law of Biot-Savart to calculate magnetic fields.
8. Evaluate if magnetic flux changes and if an electric field or electric current is induced. Determine the direction of the induced current or the non-Coulomb electric field by applying Lenz's law. Apply Faraday's law to relate the rate of change of magnetic flux with the magnitude of emf induced.
9. Calculate and discuss properties of electric circuits (dc) with resistors, capacitors, and inductors applying Kirchhoff's rules or Ohm's law.
10. Discuss how the presence of a capacitor or an inductor modifies the behavior of a (dc) circuit and determine the time dependence of the current.
11. For a series RLC-circuit (or RC, LC, RL) with an ac-voltage source apply the concept of impedance or reactance to calculate the current through or voltages across each of the circuit elements, especially in the low-frequency limit, high-frequency limit, or at the resonant frequency.

PHYS 2140L. Electricity and Magnetism Laboratory

Course Description

Laboratory experiments associated with the material presented in PHYS 2140.

Student Learning Outcomes

1. Develop a reasonable hypothesis.
2. Work effectively as part of a team.
3. Take measurements and record measured quantities to the appropriate precision.
4. Estimate error sources in experimental techniques.
5. Apply appropriate methods of analysis to raw data, including using graphical and statistical methods via computer-based tools.
6. Determine whether results and conclusions are reasonable.
7. Present experimental results in written form in appropriate style and depth.
8. Understand the relationship between theory and experiment.

PHYS 2141. Supplemental Instruction to PHYS 2140

Course Description

Optional workshop as a supplement to PHYS 2140. The tutorial sessions focus on reasoning and hands-on problem solving.

Student Learning Outcomes

1. Analyze real-world phenomena by constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain a phenomenon or function.
2. Use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. In the contexts of concepts and physical laws discussed in PHYS 2140, apply quantitative analysis to solve problems, including the use of symmetry to study electric and magnetic fields. Practice concepts of calculus applied to charge and current distributions.
4. Self-check reasonableness of assumptions and solutions, making use of limiting cases or symmetry arguments.
5. Develop learning strategies and use metacognition to promote thinking in the discipline.

PHYS 2230. General Physics for Life Sciences I

Course Description

This algebra-based introduction to general physics covers mechanics, waves, sound, and heat. Special emphasis is given to applications in the life sciences. This course is recommended for students in the life sciences and those preparing for the physics part of the MCAT.

Student Learning Outcomes

Students will:

1. Modeling:
    a. Analyze real-world phenomena by deciding what information is relevant and constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain phenomena or function.
    b. Use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
    c. Critique assumptions and determine how to test the validity of a model and use the comparison of experimental data and prediction to refine the model.
2. Conceptual understanding:
    a. Describes the motion of any object in terms of displacement, velocity, and acceleration.
    b. Analyze external forces acting on an object and determine if a system is in equilibrium or relate the net force to changes in motion.
    c. Predict or analyze motion using conservation laws for energy and momentum.
    d. Analyze forces and torques for a rigid object in static equilibrium.
    e. For a static fluid determines pressure and the buoyant force.
    f. Apply idealized models of fluid flow to the circulatory system.
    g. Describe the properties of pressure waves known as “sound”, apply the model of standing waves to musical instruments and discuss how sound is used to sense the environment.
    h. Predict qualitative changes in the internal energy of a thermodynamic system when energy has been transferred due to work or heat and justify those predictions using conservation of energy (First law of thermodynamics).
    i. Identify which heat transfer processes occur in a described situation.
3. Quantitative reasoning:
    a. Use a physics problem-solving strategy:
        i. Identify relevant concepts.
        ii. Introduce and study simplified models.
        iii. Use symmetry arguments.
        v. Establish the relation between known and unknown quantities.
        vi. Calculate quantitative results using appropriate mathematical methods.
        vi. Self-check reasonableness of assumptions and solutions.
    b. Use scientific notation accurately and convert units if necessary.
4. Communicating scientific information:

a. Interpret or generate graphs or other visual representations and be able to switch between various representations including text, mathematical description, or diagrams.

PHYS 2230L. Laboratory to General Physics for Life Sciences I
Course Description
Laboratory experiments in topics associated with material presented in PHYS 2230G.
Student Learning Outcomes
Not Available

PHYS 2231. Supplemental Instruction to General Physics for Life Sciences I
Course Description
This optional workshop supplements Physics for Life Sciences I. The tutorial sessions focus on reasoning and hands-on problem solving.
Student Learning Outcomes

1. Analyze real world phenomena by constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain a phenomena or function.
2. Use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. In the contexts of concepts and physical laws discussed in PHYS 2230, apply quantitative analysis to solve problems, including the use of scientific notation, unit conversion and vector algebra.
4. Self-check reasonableness of assumptions and solutions, making use of limiting cases or symmetry arguments.
5. Develop learning strategies and use metacognition to promote thinking in the discipline.

PHYS 2240. General Physics for Life Sciences II
Course Description
This algebra-based course covers electricity, magnetism, light, atomic physics, and radioactivity. Special emphasis is given to applications in life sciences. This course is recommended for students in the life sciences and those preparing for the physics part of the MCAT.
Student Learning Outcomes

1. Modeling:
    a. analyze real world phenomena by constructing simplified idealized models (an abstract description) that allow making predictions or explaining a phenomena or function.
    b. use multiple representations to build and communicate the model, including sketches, mathematical expressions, diagrams or graphs.
    c. decide what information is relevant and critique assumptions and models of others.
    d. determine how to test the validity of a model and use comparison of experimental data and prediction to refine the model.
2. Conceptual understanding:
    a. electric or magnetic fields can be used to describe interactions of objects that contain charges with their surroundings.
    b. changes that occur as a result of interactions are constrained by conservation laws (such as conservation of energy, conservation of charge or conservation of nucleon number).
    c. many macroscopic properties of materials can be described using microscopic models or related to their geometry.
    d. electromagnetic radiation can be modeled as a wave or as fundamental particles (photons).
    e. the direction of propagation of a wave may change when it encounters a boundary surface between two media of different properties (reflection or refraction).

f. the spontaneous radioactive decay of nuclei is described by probability.

3. Quantitative reasoning:
   a. apply quantitative analysis and appropriate mathematical reasoning to describe or explain phenomena.
   b. use scientific notation accurately and convert units if necessary.
4. Communicating scientific information:
   a. interpret or generate graphs or other visual representations (e.g. field lines, equipotential lines) and be able to switch between various representations including text, mathematical description, or diagrams.

PHYS 2240L. Laboratory to General Physics for Life Sciences II

Course Description

Laboratory experiments in topics associated with material presented in PHYS 222G.

Student Learning Outcomes

Not Available

PHYS 2241. Supplemental Instruction to General Physics for Life Sciences II

Course Description

This optional workshop is a supplement to Physics for Life Science II. The tutorial sessions focus on reasoning and hands-on problem solving.

Student Learning Outcomes

1. Analyze real world phenomena by constructing simplified idealized models and appropriate mathematical reasoning to make predictions or explain a phenomena or function.
2. Use multiple representations to build, interpret and communicate the model, including visual representations such as sketches or diagrams, mathematical expressions, graphs, or text.
3. In the contexts of concepts and physical laws discussed in PHYS 2240, apply quantitative analysis to solve problems, including the use of scientific notation, unit conversion and vector algebra.
4. Self-check reasonableness of assumptions and solutions, making use of limiting cases or symmetry arguments.
5. Develop learning strategies and use metacognition to promote thinking in the discipline.

PHYS 2250. Comprehensive Physics I

Course Description

A treatment of physics for science and engineering students from a modern point of view. The subject is logically developed starting with optics and the theory of relativity. Quantum and classical mechanics are then introduced. This course is required for physics majors.

Student Learning Outcomes

1. Demonstrate understanding of wave motion, interference and diffraction as well as its geometric optics limit.
2. Understand of the geometric spacetime approach to special relativity.
3. Be able to explain how the analogous wave nature of matter leads to the understanding of the quantum world.
4. Apply mathematical reasoning, particularly vector analysis and calculus, to solve real world physics problems and from that develop spatial reasoning and visualization.
5. Show the ability to read the textbook with comprehension and communicate about it clearly.

PHYS 2250L. Comprehensive Physics Laboratory I

Course Description

Laboratory experiments from the subject matter of Comprehensive Physics I.

Student Learning Outcomes

1. Demonstrate good record-keeping skills.
2. Ability to make decisions based on their own data.
3. Competency to report findings using guidelines from relevant physics journals.

PHYS 2251. Comprehensive Physics II

Course Description

Continuation of Comprehensive Physics I. Attempts to probe successively smaller scales are explored. The four forces of nature; practical applications of gravity and electromagnetism. Dynamics of large numbers of particles are introduced, resulting in applications to the everyday world. This course is required for physics majors

Student Learning Outcomes

1. Understand the properties of the specific particles found in Nature.
2. Identify and describe the four fundamental forces and the particles they operate upon (the "Standard Model of particle physics").
3. Describe and compare the different ways of explaining the concept of a force in physics.
4. Apply mathematical reasoning, particularly vector analysis and calculus, to solve real world physics problems and from that develop spatial reasoning and visualization.
5. Show the ability to read the textbook and peer-reviewed literature with comprehension and communicate about it clearly.

PHYS 2251L. Comprehensive Physics Laboratory II

Course Description

Laboratory experiments from the subject matter of Comprehensive Physics II**.**

Student Learning Outcomes

1. Demonstrate good record-keeping skills.
2. Ability to make decisions based on their own data.
3. Competency to report findings using guidelines from relevant physics journals.

PHYS 2310. Calculus-based Physics III

Course Description

This course, the third in the calculus-based sequence for science and engineering students, is a study of optics and topics in modern physics.

Student Learning Outcomes

The overall objective is that the students can describe physical phenomena using a variety of models and develop certain analytical skills associated with problem solving. By the end of the course, the student should be able to:

1. Recognize Maxwell's equations.
2. Describe the nature of electromagnetic radiation in terms of electric and magnetic fields.
3. Solve new and different problems dealing with the propagation, polarization and energy transport of electromagnetic radiation.
4. Sketch ray diagrams showing the geometrical behavior of light in reflection and refraction.
5. Use the wave nature of light to solve new and different interference and diffraction problems.
6. State the postulates of special relativity and solve related problems.
7. Analyze experimental evidence for the quantum nature of matter and energy.
8. Appreciate and predict the consequences of the wave nature of matter.
9. Identify the Schrödinger equation and interpret its solutions.
10. Describe the basic principles of nuclear physics (time permitting).

PHYS 2310L. Calculus-based Physics III Laboratory

Course Description

Physics 2310L is a companion course to Physics 2310 covering topics in geometrical optics, wave optics and modern physics at the calculus level. Lab activities mirror and enhance lecture topics. Hands on experiments involving data collection and analysis give students a better conceptual framework for understanding physics. Geometrical and wave optical phenomena are deeply probed.

Student Learning Outcomes

This course serves to reinforce concepts presented in lecture and to familiarize you with various experimental techniques. Lab students will:

1. Communicate and cooperate as a team to accomplish technical goals.
2. Read and interpret procedural instructions.
3. Gather and analyze data using electronic and optical devices.
4. Observe optical, wave and particle phenomena.
5. Relate observed phenomena to mathematical and physical models.
6. Use basic laboratory equipment (e.g., timer, balance, rods, clamps, etc.).

PHYS 2311. Problems in Calculus-based Physics III

Course Description

Problem solving and demonstrations related to General Physics.

Student Learning Outcomes

Not Available

PHYS 2415. Computational Physics

Course Description

This class is designed as an introduction to programming for the undergraduate physics major. The class begins with no assumption of prior programming experience. An emphasis will be on building strong programming skills using the MATLAB programming environment. Applications and examples will include data analysis (curve fitting and optimization), simulating physical systems, solving systems of linear equations and Monte Carlo techniques.

Student Learning Outcomes

Not Available

PHYS 2420. Computational Physics I

Course Description

This course will introduce a programming language and basic algorithms that can be used to solve introductory physics problems (e.g. statics, relative motion, projectile motion) with a computer. Most of the problems will be deterministic in nature and will have analytical solutions that the students will be able to use to verify their numerical solutions. The course will also cover topics related to data analysis and visualization.

Student Learning Outcomes

1. Reinforce knowledge of concepts from classical mechanics, including force, conservation of momentum, and conversation of energy.
2. Identify fundamental physics principles applicable to different physical problems.
3. Understand the difference between analytical and numerical approaches to problem solving.
4. Create computational models of physics problems based on fundamental principles.
5. Use appropriate programming methods to solve physics problems that can't be solved analytically.
6. Analyze and interpret computational model results critically evaluating advantages and limitations.
7. Communicate results of computations effectively through code output and scientific writing.

PHYS 2425. Computational Physics II

Course Description

This course will go more in depth into numerical methods to solve problems involving the numerical solution of differential equations (oscillations, orbital motion, waves and vibrations.) different algorithms will be compared to determine their level of accuracy and applicability. The course will explore other aspects of physics that cannot be solved using deterministic algorithms (e.g. random walks).

Student Learning Outcomes

1. Reinforce knowledge of concepts from electricity and magnetism, including the electric field, Gauss's Law, electric potential, Ampere's law, Faraday's Law, Maxwell's equations, and electromagnetic waves.
2. Identify fundamental physics principles applicable to different physical problems.
3. Create computational models of physics problems based on fundamental principles.
4. Use and understand the differences between numerical algorithms for solving differential equations.
5. Use nondeterministic methods (e.g. random walks) to solve physics problems.
6. Analyze and interpret computational model results critically evaluating advantages and limitations.
7. Communicate results of computations effectively through code output and scientific writing.

PHYS 2991. Physics Directed Research

Course Description

Varies

Student Learning Outcomes

Varies

PHYS 2992. Physics Directed Study

Course Description

Varies

Student Learning Outcomes

Varies

PHYS 2993. Physics Workshop

Course Description

Varies

Student Learning Outcomes

Varies

PHYS 2996. Physics Topics

Course Description

Topics to be announced in the Schedule of Classes.

Student Learning Outcomes

Varies

PHYS 2997. Physics Independent Study

Course Description

Individual analytical or laboratory studies directed by a faculty member.

Student Learning Outcomes

Varies

Physical Therapist Assistant (PTAP)

PTAP 1110. Orientation to Physical Therapist Assistant

Course Description

Provides PTA students with fundamental information related to the profession of physical therapist assistant.

Student Learning Outcomes

1. Differentiate between the roles and responsibilities of the PTA, PT, and other members of the interdisciplinary health care team.
2. Recognize ethical and legal issues that affect the physical therapy profession.
3. Demonstrate an understanding for effective use of health literature.
4. Identify quality assurance activities used in physical therapy settings.
5. Recognize various models of disability.
6. Demonstrate appropriate communication strategies to foster relationships with patients, families, the supervising physical therapist, other healthcare providers, and members of the community.
7. Demonstrate the ability to effectively perform written physical therapy documentation.
8. Critical Thinking.
9. Identify career development and lifelong learning activities for the PTA.
10. Identify administrative components of the operation of a physical therapy service.
11. Recognize professional/community organizations that provide opportunities for volunteerism, advocacy, and leadership.
12. Demonstrate appropriate professional behaviors, shown by obtaining Beginner level for all Professional Behaviors on the Professional Behaviors Assessment Tool.

PTAP 1111. Functional Anatomy and Kinesiology

Course Description

The structure and function of the musculoskeletal system will be covered with an emphasis on the mechanical aspect of human motion. Basic physical principles and the existing relationship with biomechanical principles will also be covered. Students will be introduced to normal posture as well as the normal gait cycle and common gait deviations seen in the rehabilitation setting.

Student Learning Outcomes

1. Explain musculoskeletal structure and function as they relate to human movement.
2. Analyze osteokinematics, arthrokinematics, and biomechanical principles associated with joint and functional movement.
3. Perform basic anatomical palpation and identify relevant surface anatomy using appropriate patient interaction and draping techniques.
4. Analyze normal and abnormal posture and gait.
5. Relate musculoskeletal structure, muscle function, biomechanics, and movement principles to functional activity.

PTAP 1115. Orientation to Physical Therapy Practice

Course Description

This course will provide an orientation to physical therapy as a profession, legal aspects of physical therapy practice, the interdisciplinary healthcare team, cultural diversity, communication skills, medical terminology and documentation, introductory aseptic techniques, body mechanics, and safety procedures.

Student Learning Outcomes

1. Describe the role, scope of practice, direction, and supervision requirements of the physical therapist assistant.

2. Apply legal, ethical, regulatory, and professional standards to physical therapist assistant practice.
3. Demonstrate effective written, verbal, nonverbal, intraprofessional, and interprofessional communication.
4. Demonstrate professional behaviors and cultural humility that support inclusive and equitable patient care.
5. Apply principles of patient safety, infection prevention and control, and emergency preparedness.
6. Apply basic documentation, billing, and reimbursement principles relevant to physical therapy practice.

PTAP 1120. Exercise and Mobility

Course Description

This course will integrate didactic instruction with skill performance to introduce students to therapeutic interventions aimed at improving functional mobility including patient preparation, wheelchair management, bed mobility, and transfers. The exercise module will introduce students to exercise physiology and the performance of various exercises commonly seen in the rehabilitation setting.

Student Learning Outcomes

1. Collect, document, and communicate basic patient data accurately and safely within the established physical therapy plan of care.
2. Demonstrate safe patient positioning, handling, transfer, bed mobility, wheelchair, and mobility techniques.
3. Implement functional training interventions within the established physical therapy plan of care.
4. Implement, modify, and progress therapeutic exercise within the established physical therapy plan of care based on patient response and clinical data.
5. Apply principles of anatomy, physiology, exercise science, motor learning, and patient education to safe and effective intervention.
6. Demonstrate professional, ethical, and safety behaviors consistent with physical therapist assistant practice.

PTAP 1121. Patient Care Skills

Course Description

This course provides a foundation in essential patient care skills. The focus is on implementing components of interventions, performing data collection, monitoring patient health and responses to treatment, interpreting data for quality assurance, and completing documentation in accordance with legal and ethical standards. Core skills include measuring vital signs, motor function training (mobility, transfers, and gait), wound management, and patient education.

Student Learning Outcomes

1. Apply current knowledge, theory, and clinical judgment to ensure patient and provider safety, incorporating the patient/client perspective and environmental factors, in alignment with the plan of care established by the physical therapist.
2 Demonstrate competence in performing components of data collection skills essential for carrying out the plan of care by administering appropriate tests and measures related to the principles and techniques of patient care.
3. Identify when an intervention should not be performed due to clinical indications or when the direction to perform the intervention is beyond that which is appropriate for the physical therapist assistant.
4. Demonstrate competence in implementing selected components of interventions related to the principles and techniques of patient care identified in the plan of care established by the physical therapist.
5. Implement the American Physical Therapy Association (APTA) standards, policies, and documents that provide guidance regarding PT and PTA scope of practice, communication, documentation, and interaction with the patient and members of the healthcare team.

PTAP 1130. PTA Concept:Musculoskeletal

Course Description

This course will introduce the etiology and pathology of various musculoskeletal conditions. Data collection introduced in this course will cover MMT and goniometry. A variety of thermal, mechanical and electromagnetic modalities will be presented as well as performed. Students will complete a variety of case studies to integrate the data collection and intervention skills appropriate for the diagnoses studied.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

.

1. Explain the pathology and functional implications of common musculoskeletal conditions.
2. Select, perform, interpret, document, and communicate musculoskeletal data collection within the established physical therapy plan of care.
3. Safely administer physical agents, electrotherapeutic agents, mechanical modalities, and other appropriate interventions within the established physical therapy plan of care.
4. Locate, interpret, and apply evidence-informed literature, including basic statistical evidence, to support interventions for musculoskeletal conditions.
5. Integrate therapeutic exercise, gait, balance, and functional training for individuals with musculoskeletal dysfunction.
6. Apply professional, ethical, legal, safety, and scope-of-practice principles to musculoskeletal patient management

PTAP 1140. Integrated Clinical Experience

Course Description

Clinical observation and practice of physical therapy interventions and data collection are included. Knowledge from previous general education coursework and previous/concurrent PTA courses is applied.

Student Learning Outcomes

1. Perform basic physical therapy data collection and interventions under appropriate supervision and within the established physical therapy plan of care.
2. Communicate effectively with patients, caregivers, physical therapists, and members of the healthcare team.
3. Demonstrate safe patient handling, data collection, intervention, and clinical decision-making behaviors.
4. Participate in patient and caregiver education and preparation for discharge.
5. Apply physical therapist assistant knowledge and skills across a variety of patient populations and clinical practice settings.
6. Demonstrate professional responsibility, service, advocacy, and social accountability through participation in healthcare and community-based activities.

PTAP 1150. PTA Concepts: Neuromuscular

Course Description

This course will introduce the etiology and pathology of various neurological conditions. Data collection introduced in this course will cover such neurological topics as sensory testing, balance assessment, perceptual functioning. A variety of neurorehablitation treatment interventions will be presented as well as performed. Modules related to orthotic and prosthetic use will also be included. Students will complete a variety of case studies to integrate the data collection and intervention skills appropriate for the diagnoses studied.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Explain neurological pathology and its effects on movement, function, and participation.
2. Select, perform, interpret, document, and communicate neurological data collection within the established physical therapy plan of care.
3. Implement and appropriately modify neuromuscular interventions within the established physical therapy plan of care and physical therapist assistant scope of practice.
4. Apply principles of growth, development, motor control, and motor learning to pediatric and neurological patient management.
5. Safely apply, manage, and provide patient or caregiver education regarding orthotic, prosthetic, and assistive devices.
6. Locate, interpret, and apply evidence-informed literature to neurological patient management.
7. Apply professional, ethical, legal, safety, and scope-of-practice principles to neurological patient management.

PTAP 1530L. Physical Angents Labortory

Course Description

This lab course will study the biophysical principles, assessment, and application of therapeutic physical agents with specific emphasis on indications, contraindications, medical efficacy, and physiological effects. Additionally this course will introduce proper documentation of physical agents and corresponding patient responses.

Apply the principles of a variety of physical agents utilized in a physical therapy treatment as well as educate mock patients and explain outcome assessments to supervising physical therapists.

The student will be able to properly document the physical agents utilized and the corresponding mock patient responses.

Student Learning Outcomes

1. Critical Thinking
    a. Recognize when modifications for a physical agent are required due to clinical indications and when communication should occur with the supervising physical therapist.
    b. Modify physical agent parameters from within the physical therapist's plan of care based on mock patient response.
    c. Utilize knowledge of PTA scope of practice by knowing when to report changes in patient status to supervising physical therapist.
    d. Assess pain utilizing appropriate pain scales
    e. Modify physical agent treatment within the physical therapist's plan of care based on mock patient response to mock patients complaints of pain.
2. Professional Behaviors
    a. Demonstrate effective interview and communication skills in collecting mock patient information.
    b. Maintain treatment area (lab) through inspection of equipment, linens, and other necessary supplies.
    c. Demonstrate at least 50% of the Professional Behaviors at an intermediate level or higher.

PTAP 1151. The Profession of Physical Therapy

Course Description

This course introduces prospective Physical Therapist Assistant students to the profession and allows for career exploration related to physical therapist assistant.

Student Learning Outcomes

1. Differentiate between the role of PTA, PT, and other health care providers.
2. Explore the different career opportunites in PT/PTA.
3. Organize, write and present a topic related to physical therapy.

PTAP 1155.Pre-PTA Anatomy Fundamentals

Course Description

This course introduces the prospective PTA student to in-depth anatomy and physiology of systems particularly important to the profession of physical therapy. Systems include muscular, skeletal, neuromuscular, cardiovascular and respiratory.

Student Learning Outcomes

1. Demonstrate understanding of the musculoskeletal system.
2. Demonstrate understanding of human body ostekinematics orthokinematics.
3. Identify and palpate common anatomical surface landmarks.

PTAP 1160. Plan of Care Implementation

Course Description

Students will complete multiple case studies aimed at integrating and advancing previously learned data collection and intervention skills to prepare the student for implementation of the PT plan of care.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Interpret relevant information from the physical therapist evaluation, health record, and established plan of care to guide physical therapist assistant intervention.
2. Select and implement safe and effective interventions within the established physical therapy plan of care.
3. Use patient data and response to intervention to appropriately progress, modify, withhold, or discontinue interventions within the established physical therapy plan of care and communicate changes to the supervising physical therapist.
4. Recognize and respond appropriately to changes in patient status and emergency situations.
5. Participate in discharge and follow-up planning as directed by the supervising physical therapist.
6. Demonstrate effective patient, caregiver, intraprofessional, and interprofessional communication, documentation, and billing practices.

PTAP 1220. Clinical Kinesiology

Course Description

Covers physiological and kinesiological fundamentals as they relate to physical therapy.

Student Learning Outcomes

1.DATA COLLECTION AND INTERVENTIONS

a. Describe how force, torque, and levers affect human movement.
b. Identify the origin, insertion,action,and innervation for the muscles of the human body.
c. Describe the alignment of the trunk and extremities at rest and during activities.
d. Identify the components of normal gait mechanics and the gait cycle.
e. Identify typical gait abnormalities forselected conditions.
f. Citenormal and minimal functional range of motion values for the major joints of the human body.
g. Perform functional range of motion and goniometric measurements on a lab partner for peripheral and spinal joint motions.
h. Apply knowledge of musculoskeletal anatomy and kinesiology to basic principles of movement, stretching, and activation of the muscles of the upper extremity, lower extremity and trunk.
i. Identify the musculoskeletal mechanisms responsible for respiration.
j. Utilize correct spelling and pronunciation of medical terminology related to the body as a whole in order to communicate with accuracy and precision.

k. Apply medical terminology associated with clinical kinesiology.
l. Accurately identify and palpate anatomical surface landmarks.
m. Describe the location and primary function of supporting structures for joints.
n. Compare the three types of ROM: Active, Passive and Active-assisted.

2.COMMUNICATION

a. Verbally articulate the bonylimitations and muscular functions of selected movements.
b. Accurately document data collected on joints and muscles of the trunk,upper extremities,and lower extremities,including rangeof motion.
c. Translate the medical terminology of the body as a whole into everyday language in order to communicate clearly with patients and families/caregivers.

3.CRITICAL THINKING

a. Distinguish between prime moversa nd secondary movers for identified movements.
b. Differentiate reliability and validity as they relate to goniometry.

4.PROFESSIONAL BEHAVIORS

1. Demonstrates professional behavior evident by the following:

a. Timeliness.
b. Contributing ideas and asking questions proactively without being disruptive.
c. Uses active listening skills and engaging in all class and lab activities.
d. Participating equally and respectfully in group work, building on others' ideas.
e. Showing initiative with program and professional content.
f. Respectful verbal and nonverbal communication with peers and faculty.
g. Accept and learn from constructive criticism received during peer and faculty skill checks.
h. Contributing to a positive learning environment.

PTAP 1230. PTA Pathosphysiology

Course Description

This course covers the disease processes most commonly seen in physical therapy patients. Etiology, pathology, pathophysiology, signs and symptoms, diagnosis, treatment and prognosis are covered for each disease process.

Student Learning Outcomes

1. Recognize the terminology associated with the study of pathophysiology
2. Identify the signs, symptoms, etiology, methods of diagnosis, and treatment of disorders and diseases related to:
   a. the immune system
   b. the endocrine and metabolic systems
   c. the integumentary system
   d. the musculoskeletal system
   e. the digestive system
   f. the cardiopulmonary system
   g. the urinary system
   h. the reproductive system
   i. the nervous system
   j. the circulatory and lymphatic system
   k. genetic disorders
   l. hepatic and biliary system
3. Identify the signs, symptoms, etiology, methods of diagnosis, and treatment for common types of cancer.

4. Describe the associations certain pathologies have regarding age, gender, race, and Ethnicity.
5. Identify common Laboratory values, including blood analysis data.
6. Describe the impact certain pathologies may have on physical therapy treatment.
7. Describe the importance of health screening and disease prevention.
8. Outline the physiological changes that occur to the human body with aging.
9. Demonstrate the ability to educate a mock patient in exercise or activity precautions related to a specific disease or disorder.
10. Describe the disorders and conditions resulting from trauma.
11. Identify the impact mental disorders may have on physical therapy treatment.

PTAP 1290. PTA Procedures I

Course Description

This course is the first of two courses that introduces students to procedures performed by physical therapists and physical therapist assistants. This course combines the theory behind the procedures with development of the skills for providing therapeutic modalities that will be performed in the clinical setting later in the program.

Student Learning Outcomes

1. Accurately assess vital signs, pain and Anthropometrical measurements.
2. Recognize and demonstrate appropriate infection control techniques.
3. Demonstrate proper preparation and body mechanics for physical therapy treatment.
4. Demonstrate the ability to correctly perform safe gait training and associated activities.
5. Demonstrate the ability to perform a variety of bed mobility techniques and patient transfers in a safe manner.
6. Demonstrate appropriate uses of wheelchairs in physical therapy.
7. Demonstrate the ability to safely perform range of motion (ROM) for the major joints of the upper and lower extremities.
8. Describe various Activities of Daily Living (ADL).
9. Demonstrate the ability to safely perform cryotherapy and superficial thermal physical agents.
10. Demonstrate the ability to safely perform therapeutic massage techniques.
11. Identify correct spelling and pronunciation of medical terms related to the body as a whole in order to communicate with accuracy and precision.

PTAP 1292. PTA Supplemental Laboratory I

Course Description

For PTA first term students to gain skills practice in PTA Laboratory rooms with an instructor. Provides Physical Therapy Assistant students participation in supervised learning and review of basic and specialized practices in the field of Physical Therapy such as: Anatomy and Physiology, Clinical Kinesiology, Gait and Transfer procedures. Allows PTA students opportunity to review in preparation for PTA exit competencies.

Student Learning Outcomes

1. Communication
   A. Exhibit appropriate communication techniques during classroom assignments and assessments.
2. Critical thinking
   A. Discuss ways of improving effectiveness of care through self and peer assessments.
   B. Utilize problem solving models to assess clinical case studies.
3. Professional behavior
   A. Demonstrate intermediate level Professional Behaviors in all interactions with patients, family members/caregivers, physical therapy personnel, classmates, and instructors.

PTAP 1321. Functional Anatomy

This course provides an essential foundation for muscle anatomy and function. The focus will provide knowledge of the musculoskeletal and nervous systems and applicable skills to interact with patients effectively, collect data by administering appropriate tests and measures (e.g., measuring joint movement, testing muscle strength), interpret data for quality assurance, and complete accurate documentation following legal and ethical guidelines.

Student Learning Outcomes

1. Apply knowledge of musculoskeletal anatomy and kinesiology to describe normal and abnormal human movement.
2 Demonstrate competence in performing musculoskeletal data collection skills, including goniometry, manual muscle testing, and posture analysis, and describe findings using appropriate professional terminology.
3. Analyze relationships between structure and function to identify clinical significance of joint motions, force couples, and companion motions.
4. Differentiate common musculoskeletal pathologies and associated functional deficits relevant to PTA practice.
5. Analyze relationships between musculoskeletal structure and function to explain human movement patterns.

PTAP 1350. PTA Pathophysiology

Course Description:

This course provides an essential foundation for understanding pathologies associated with the various body systems commonly treated within the scope of work of a physical therapist assistant. Recognition of pathologies and their impact on the clients/patients presented in this course will improve clinical judgment and decision-making skills for treatment considerations.

Student Learning Outcomes

1. Explain the basic mechanisms of disease, including etiology, pathophysiology, epidemiology, and clinical manifestations, as they relate to physical therapy practice.
2. Classify major pathologies across body systems and recognize their clinical presentations relevant to patient care.
3. Integrate knowledge of pharmacological agents, including prescription and non-prescription medications, with their implications for therapy interventions.
4. Demonstrate understanding of the PTA's role in prevention, health promotion, and disease management across the lifespan

PTAP 1411. Therapeutic Exercise

Course Description

This course will build upon the knowledge of muscle anatomy, function, and orthopedic conditions and introduce foundational concepts of therapeutic exercise to aid clients/patients in preventing and recovering from injury. Students will learn to follow clinical practice guidelines and use clinical judgement to effectively apply therapeutic exercises to improve client/patient functional status. Students will continue to perform data collection, monitor patient health, illness, and/or response to treatment, interpret data for quality assurance, and complete accurate documentation following legal and ethical guidelines.

Student Learing Outcomes

1. Apply foundational principles of therapeutic exercise to improve orthopedic function, prevent injury, and support recovery within the PT plan of care.
2. Interpret data such as MMT grades, ROM values, and postural or gait findings to select and implement appropriate therapeutic exercise interventions.

3. Analyze patient response to therapeutic exercise to determine when modification, progression, or discontinuation of an intervention is required, and when to defer to the supervising PT.
4. Implement evidence-based therapeutic exercise interventions for common orthopedic pathologies, including flexibility, strengthening, balance, gait, and functional training.
5. Practice professional standards in documentation, communication, and patient/caregiver instruction specific to therapeutic exercise interventions.

PTAP 1511. Appliced Modalities

Course Description:

This course will build upon knowledge of phases of inflammation and healing and cover the theory and practice of applying physical agents/modalities in rehabilitation. This course will provide practical details for using clinical judgment and reasoning to select and apply specific physical agents within intervention parameters to optimize patient outcomes safely and effectively. Students will also perform data collection, monitor patient health, illness, and response to treatment, interpret data for quality assurance, and complete accurate documentation following legal and ethical guidelines. Applicable skills include manual therapy, cryotherapy, thermotherapy, ultrasound, electrotherapy, other modalities, and patient education.

Student Learning Outcomes

1 .Explain the principles, mechanisms of action, and physiological effects of common physical agents, including electrotherapy, thermal agents, ultrasound, diathermy, compression, massage, and biofeedback.
2. Differentiate indications, contraindications, and precautions of therapeutic modalities to ensure safe and effective patient care within the PTA scope of practice.
3. Select and justify appropriate modality interventions and parameters based on patient diagnoses, presentation, and established PT plan of care.
4 Demonstrate safe and accurate setup and application of therapeutic modalities, adhering to evidence-based guidelines and professional standards.

Document and communicate modality use, patient responses, and education provided, using appropriate professional language and format.

PTAP 1520. Therapuetic Exercise

Course Description

This course covers the fundamentals of exercises used in physical therapy to help patients improve their health, especially with respect to recovery from injury or disease. Students will study the theory behind these exercises as well as practice them in the Laboratory setting.

Student Learning Outcomes

1. Apply therapeutic exercise techniques related to: joint and muscle flexibility, strength and endurance training, body mechanics and postural stabilization, balance, coordination, agility training, and aerobic conditioning.
2. Determine the applicability of therapeutic exercise procedures including safety, indications and contraindications.
3. Determine response/success of the treatment.
4. Design and implement appropriate therapeutic exercise progressions.
5. Effectively document treatment plans and progress.
6. Communicate patient outcomes clearly and professionally**.**

PTAP 1530. Orthopedics for PTA

Course Description

This course covers the theory aspect of orthopedics as it relates to physical therapy. Students will study pathologies associated with orthopedics as well as assessment and treatment of patients with orthopedic problems.

Student Learning Outcomes

1. Describe common disorders and disease of orthopedics.
2. Describe disorders and diseases of the spine and extremities.
3. Discuss orthopedic surgeries as they relate to the spine and extremities.
4. Explain physical therapy management related to orthopedic problems.
5. Address physical therapy interventions related to orthopedic abnormal gait patterns.

PTAP 1540. Clinical Neurology and Management

Course Description

This course covers the theory specific to neurological diseases as they relate to physical therapy along with assessment and treatment of patients with a history of neurological deficit.

Student Learning Outcomes

1. Explain development and function of the nervous system.
2. Apply techniques related to neurological developmental theories.
3. Review and demonstrate appropriate treatment programs associated with neurological conditions.

PTAP 1550. Physical Agents

Course Description

This course prepares students for safe and effective application of physical agents in the treatment of patients.

Student Learning Outcomes

1. Describe the mechanisms of actions, indications, contraindications, precautions and treatment procedures for applied physical agents.
   Application of modalities such as:
   cryotherapy
   heat therapy
   ultrasound
   traction
2. Identify common conditions and disorders that require treatment with physical agents.

PTAP 1611. Clinical Neuroanatomy

Course Description

This course provides an essential foundation for neuroanatomy to treat neurologically impaired patients and recognize the impact of health and fitness sustained over the lifespan on motor skill performance. Students will learn about the structures and functions of the central and peripheral nervous systems; sensory and motor development, motor learning, motor control, and motor behaviors that occur across the lifespan; and recognize the role of a PTA in neurological assessment and care.

Student Learning Outcomes

1. Associate the structures and functions within the nervous system with its relevance to sensory awareness, processing, and motor function.
2. Examine the impact of health and fitness (physical activity) sustained over the lifespan on motor skill performance.
3. Identify the interactions among sensory input, sensory processing, and motor learning that can be used to retrain the motor system.

4. Discuss the role of a PTA in primary, secondary, and tertiary neurological care throughout the client's/patient's lifespan.

PTAP 2010. PTA Procedures II

Course Description

This course is the secondof two courses that introduces students to procedures performed by physical therapist assistants. This course combines the theory behind the procedures with development of the skills for providing therapy that will be performed in the clinical setting as part of the program.

Student Learning Outcomes

1. Perform clinical procedures related to:
   wound care
   massage
   cardic rehabilitation
   pediatrics safely and competently
2. Gives examples of the physical therapist assistant's role in falls prevention, health, wellness and community education.
3. Describes the processes related to medical billing and coding as they relate to physical therapy.

PTAP 2090. Clinical Practicum I

Course Description

This course applies skills and knowledge learned in the PTA theory and laboratory courses to direct patient care in clinical settings. This course is integrated with PTA 2010. Students will be under the direct supervision of a clinical professional.

Student Learning Outcomes

1. Demonstrates proficiency in applying therapeutic techniques, therapeutic exercise and functional training related to physical therapy.
2. Communicates effectively with patients, healthcare professionals and staff in the clinical setting.
3. Operates in a safe and competent manner in the clinical setting.
4. Demonstrates professional behavior consistent with the expectations of a physical therapist assistant.
5. Demonstrates ability to do effective problem solving related to clinical issues.
6. Demonstrates competent resource management.

PTAP 2192L. PTA Supplemental Laboratory II

Course Description

For PTA second term students to gain skills practice in PTA Laboratory rooms with an instructor. Provides Physical Therapy Assistant students with the opportunity for additional learning and practice of PTA skills in the areas of: Therapeutic Exercise/Orthopedics and Neuro-developmental techniques within the campus Laboratory. Encourages preparation for required clinical practicums.

Student Learning Outcomes

1. COMMUNICATION
   A. Exhibit appropriate communication techniques during classroom assignments and assessments.
2. CRITICAL THINKING
   A. Discuss ways of improving effectiveness of care through self and peer assessments.
   B. Utilize problem solving models to assess clinical case studies.
3. PROFESSIONAL BEHAVIOR

A. Demonstrate intermediate level Professional Behaviors in all interactions with patients, family members/caregivers, physical therapy personnel, classmates, and instructors.

PTAP 2209. Concepts: Other Systems

Course Description

This course will introduce the etiology and pathology of various conditions of the cardiopulmonary, integumentary, endocrine, gastrointestinal, and urogynecological systems. Data collection and intervention instruction in this course is aimed at addressing the various body systems encountered in the rehabilitation setting. Examples include wound care, cardiovascular rehabilitation, pulmonary hygiene, and pelvic floor strengthening. Students will complete a variety of case studies to integrate the data collection and intervention skills appropriate for the diagnoses studied.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Select, perform, interpret, document, and communicate physical therapy data collection across cardiovascular, pulmonary, integumentary, lymphatic, metabolic, and other body systems within the established physical therapy plan of care.
2. Implement and appropriately modify interventions for patients with single- and multi-system dysfunction within the established physical therapy plan of care.
3. Integrate evidence-informed practice, including interpretation of professional literature and basic statistical evidence, into clinical decision-making for patients with multi-system conditions.
4. Apply professional, ethical, legal, safety, and scope-of-practice principles to the management of patients with complex medical conditions.
5. Integrate information from patient interviews, physical therapy documentation, health records, laboratory values, and patient response to make appropriate clinical decisions within physical therapist assistant scope of practice.
6. Provide patient and caregiver education and collaborate effectively with the physical therapist and interprofessional healthcare team across acute, critical care, and community settings.
7. Promote health, wellness, prevention, and functional independence across the lifespan using culturally responsive strategies that consider health disparities and social determinants of health.

PTAP 2210. Advanced Plan of Care Implementation

Course Description

This course is the culmination of the student's didactic preparation for clinical internship. Students will complete multiple case studies aimed at advancing to entry-level implementation of the PT plan of care related to both data collection and intervention from initial treatment to recommendation for discharge re-evaluation.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Interpret and apply information from the physical therapist evaluation, health record, and established plan of care to guide safe and effective intervention for patients with single- and multi-system dysfunction.
2. Develop and implement intervention strategies within the established physical therapy plan of care to address patient goals, functional limitations, activities of daily living, therapeutic exercise, and system-specific needs.
3. Integrate clinical data and patient response to appropriately progress, modify, withhold, or discontinue interventions and communicate changes to the supervising physical therapist.
4. Demonstrate effective verbal and written communication with the supervising physical therapist regarding patient status, intervention modification, need for further assessment, and discharge or follow-up planning.

5. Educate and communicate effectively with patients and caregivers using strategies appropriate to individual needs, health literacy, culture, age, language, learning needs, and social determinants of health.
6. Collaborate effectively with the healthcare team to support patient-centered interprofessional care, patient safety, quality improvement, and efficient delivery of physical therapy services.
7. Demonstrate professional, ethical, legal, culturally responsive, and values-based behaviors while addressing psychosocial and mental health factors affecting patients and caregivers.

PTAP 2211. Neurological Rehabilitation

Course Description:

This course will build upon the knowledge of neuroanatomy and patient care skills and focus on evidence-based neurological rehabilitation approaches to assist the client/patient across the lifespan to gain functional movement and, in turn, improve their quality of life. Students will learn to analyze and treat clients/patients with movement dysfunction caused by neurological insult and follow the plan of care; perform data collection, monitorpatient health, illness, and response to treatment; interpret data for quality assurance; and complete accurate documentation following legal and ethical guidelines. Students will also learn to empower the client/patient to be actively engaged in their functional recovery.

Student Learning Outcomes

1. Interpret and differentiate neurological assessment findings (e.g., cranial nerves, sensory/motor exams, reflexes, coordination, balance) to support clinical decision-making within the PTA scope.
2. Analyze clinical presentations of common neurological pathologies (CVA, TBI, SCI, MS, ALS, PD) and relate impairments to functional limitations and participation restrictions.
3. Implement and adapt evidence-based interventions for neurological rehabilitation, including exercise, functional training, and motor learning strategies, across rehabilitation phases and patient conditions.
4. Promote patient and caregiver safety, independence, and participation by applying appropriate precautions, compensatory strategies, and education in neurological care.
5. Demonstrate professional communication and documentation specific to neurological rehabilitation, in accordance with APTA standards and interprofessional collaboration.

PTAP 2215. Professional Issues

Course Description

This course explores a variety of professional aspects that are related to physical therapy. Topics include ethical and legal considerations, team dynamics, preparing for board exams and licensure, etc.

Student Learning Outcomes

1. Demonstrate prepardness for national PTA board examinations.
2. Discusses career opportunities and pathways related to physical therapist assistants.
3. Recites the process for obtaining and maintaining professional licensure.

PTAP 2220. Clinical Practicum **I**

Course Description

This course is the first of two that offers clinical practice of physical therapy interventions and data collection under the supervision of a clinical instructor. Knowledge from previous general education coursework and previous/concurrent PTA courses is applied. Clinical Practicum I will entail seven consecutive weeks of full-time clinical experience.

Student Learning Outcomes

1. Demonstrate Advanced Intermediate performance in ethical and legal physical therapist assistant practice.

2. Demonstrate Advanced Intermediate performance in professional responsibility, accountability, self-assessment, and professional growth.
3. Demonstrate Advanced Intermediate performance in communication and culturally responsive interaction with patients, caregivers, the supervising physical therapist, and the interprofessional healthcare team.
4. Demonstrate Advanced Intermediate clinical reasoning and decision-making while implementing the physical therapist-established plan of care.
5. Demonstrate Advanced Intermediate performance in patient data collection, therapeutic intervention, functional training, patient education, and safety.
6. Demonstrate Advanced Intermediate performance in documentation, billing, and communication of patient status and response to intervention.
7. Demonstrate Advanced Intermediate participation in resource management, quality improvement, and efficient delivery of physical therapy services.
8. Demonstrate progressive independence while practicing within physical therapist assistant scope, direction, and supervision requirements.

PTAP 2221. Career Readiness

Course Description

This course will discuss career development, lifelong learning opportunities, and the professional expectations in the role of a Physical Therapist Assistant. This course will focus on career planning; legal practice standards; federal and state regulations related to client/patient care and fiscal management; and providing services to meet the expectations of clients/patients, members of the physical therapy profession, and other providers as necessary in a manner that is consistent with the Guide for Conduct of the Physical Therapist Assistant and Standards of Ethical Conduct as outlined by the American Physical Therapy Association (APTA).

Student Learning Outcomes

1. Examine individual learning styles and personality types and assess how these relate to success in careers.
2. Create a plan that identifies strengths and weaknesses, career development and lifelong learning opportunities.
3. Describe aspects of organizational planning and operation of the physical therapy service.
4. Determine a course of action in response to legal and ethical situations presented by case scenarios within the scope of practice of a Physical Therapist Assistant.
5. Participate in professional and community organizations that provide opportunities for volunteerism, advocacy, and leadership.

PTAP 2231. Clinical I

Course Description:

This course is a 6-week, full-time clinical externship that provides hands-on experience in direct patient care. Students follow the schedule of the clinical instructor(s) and are expected to demonstrate intermediate-level skills as outlined in the Clinical Performance Instrument (CPI).

Student Learning Outcomes

1. Apply knowledge, skills, and clinical decision-making during patient/client care, incorporating evidence-based strategies.
2. Evaluate personal performance using the Clinical Performance Instrument (CPI), incorporating feedback with a growth mindset.
3. Achieve at least Intermediate-level performance on all applicable criteria of the Clinical Performance Instrument.

4. Adhere to legal practice standards, including federal, state, and institutional regulations related to patient care and documentation.
5. Demonstrate ethical and professional behaviors consistent with the APTA Guide for Conduct of the PTA and the Standards of Ethical Conduct.

PTAP 2240. Seminar in Physical Therapy

Course Description

This course is intended to assist the student with transitioning from student to practicing PTA. A review of current trends in therapy (as seen in the clinical practicum courses) and preparation for employment will be the main focus of the course. Students will also participate in a review course for the National Physical Therapy Examination (NPTE) for the PTA.

Student Learning Outcomes

1. Develop and implement a personal plan for professional growth, continuing competence, and lifelong learning.
2. Explain the physical therapist assistant's role in clinical education, professional service, leadership, and advocacy.
3. Demonstrate professional readiness for employment as a physical therapist assistant.
4. Develop and implement an individualized study strategy for the National Physical Therapy Examination for Physical Therapist Assistants.
5. Demonstrate readiness for the National Physical Therapy Examination for Physical Therapist Assistants through comprehensive review and assessment of entry-level knowledge.

PTAP 2241. Advanced Practice

Course Description:

This is a comprehensive course that requires a higher level of practice. This course will focus on applying advanced-level skills and knowledge to medically complex client/patient cases safely and competently while managing risk to achieve improved patient experiences and outcomes, as well as improve clinical leadership skills. This will require a combination of advanced and distinctly increased clinical and analytical skills, knowledge, clinical reasoning, attitude, and experience.

Student Learning Outcomes

1. Apply evidence-based resources to clinical decision-making for safe and effective patient progression within the PT plan of care.
2. Manage increasingly complex patients and tasks within the PTA scope of practice.
3. Demonstrate professional leadership through time management, productivity, skilled care, and defensible documentation that supports reimbursement.
4. Recognize and appropriately respond to emergent patient conditions and report illegal, unethical, or unsafe acts to the appropriate authority.
5. Perform duties consistent with the APTA Guide for Conduct of the PTA and the Standards of Ethical Conduct to meet professional and patient expectations.

PTAP 2250. Clinical Practicum II

Course Description

This course is the second of two that offers clinical practice of physical therapy interventions and data collection under the supervision of a clinical instructor. Knowledge from previous general education coursework and previous/concurrent PTA courses is applied. Clinical Practicum II will entail seven consecutive weeks of full-time experience.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Demonstrate Entry-Level performance in ethical and legal physical therapist assistant practice.
2. Demonstrate Entry-Level performance in professional responsibility, accountability, self-assessment, and professional growth.
3. Demonstrate Entry-Level performance in communication and culturally responsive interaction with patients, caregivers, the supervising physical therapist, and the interprofessional healthcare team.
4. Demonstrate Entry-Level clinical reasoning and decision-making while implementing the physical therapist-established plan of care.
5. Demonstrate Entry-Level performance in patient data collection, therapeutic intervention, functional training, patient education, and safety.
6. Demonstrate Entry-Level performance in documentation, billing, and communication of patient status and response to intervention.
7. Demonstrate Entry-Level participation in resource management, quality improvement, and efficient delivery of physical therapy services.
8. Demonstrate safe, effective, and consistent entry-level physical therapist assistant practice within applicable scope, direction, and supervision requirements.

PTAP 2251. Licensure Preparation

Course Description

This is a comprehensive course that will assist in preparing students for the National Physical Therapy Exam (NPTE) for the Physical Therapist Assistant. This course will provide a review of concepts introduced and reinforced throughout the curriculum. Students will complete practice exams, review responses, and provide an explanation/rationale for the answer options selected. Students will receive ongoing feedback and support throughout the course to prepare for the NPTE.

Student Learning Outcomes

1. Develop effective standardized test-taking strategies including critical reasoning skills and anxiety management techniques.
2. Integrate and apply accumulated knowledge gained from previous academic courses and clinical experience to licensure examination practice tests.
3. Analyze personal practice exam outcomes and formulate a detailed plan of study to prepare for the licensure examination based on individual strengths and weaknesses.
4. Exhibit readiness for the National Physical Therapy Examination (NPTE) for PTAs by achieving the minimum required score on a Practice Exam & Assessment Tool (PEAT) exam or by completing a remediation plan.

PTAP 2261. Clinical II

Course Description:

This course is an 8-week, full-time clinical externship that provides advanced experience in direct patient care. Students follow the schedule of the clinical instructor(s) and are expected to demonstrate entry-level skills as outlined in the Clinical Performance Instrument (CPI).

Student Learning Outcomes

1. Apply knowledge, skills, and clinical reasoning to patient/client care with increasing independence, integrating evidence-based strategies across a variety of conditions.
2. Evaluate performance using the Clinical Performance Instrument (CPI), incorporating supervisor and peer feedback to refine skills with a growth mindset.
3. Achieve a minimum rating of Advanced Intermediate on all applicable CPI performance criteria.
4. Adhere to legal, ethical, and professional standards while demonstrating initiative and accountability in patient care.

5. Demonstrate effective communication and collaboration with patients, caregivers, and interprofessional team members to support safe and inclusive care.

PTAP 2290. Clinical Practicum II

Course Description

This course applies skills and knowledge learned in the PTA theory and Laboratory courses to direct patient care in clinical settings. Students will be under the direct supervision of a clinical professional.

Student Learning Outcomes

1. Demonstrates proficiency in applying therapeutic techniques, therapeutic exercise and functional training related to physical therapy.
2. Communicates effectively with patients, healthcare professionals and staff in the clinical setting.
3. Operates in a safe and competent manner in the clinical setting.
4. Demonstrates professional behavior consistent with the expectations of a physical therapist assistant.
5. Demonstrates ability to do effective problem solving related to clinical issues.
6. Demonstrates competent resource management.

PTAP 2390. Clinical Practicum III

Course Description

This course applies skills and knowledge learned in the PTA theory and Laboratory courses to direct patient care in clinical settings. Students will be under the direct supervision of a clinical professional.

Student Learning Outcomes

1. Demonstrates proficiency in applying therapeutic techniques, therapeutic exercise and functional training related to physical therapy.
2. Communicates effectively with patients, healthcare professionals and staff in the clinical setting.
3. Operates in a safe and competent manner in the clinical setting.
4. Demonstrates professional behavior consistent with the expectations of a physical therapist assistant.
5. Demonstrates ability to do effective problem solving related to clinical issues.
6. Demonstrates competent resource management.

Plumbing (PLMB)

PLMB 1105. Basic Plumbing, Safety and Pipe Fitting

Course Description

An introduction to basic plumbing, safety and pipe fitting. This course will introduce students to today's complex and sophisticated plumbing systems and the career opportunities available. Major topics include safety, tools, materials, equipment, and procedures. The course will introduce students to installation and repair techniques as well as development in materials , fixtures and appliances. The program will cover both hands, the proper use of plumbing tools and customer service for employment skills.

Student Learning Outcomes

1. Develop the students skills in general safety rules and plumbing procedures, including the proper care and use of all tools. The student will learn how to develop good safety skills.
2. Use the appropriate name and select the correct plumbing item to match and perform the proper plumbing tasks.
3. Be able to describe different plumbing tasks and plumbing systems in order to perform installation or perform repairs.

4. Be able to properly determine piping material for the plumbing installation tasks.
5. Accurately install specific piping in relation to horizontal and vertical positions, by selecting and using trade tools and mathematics.
6. Use efficient methods to acquire and apply new knowledge and skills.
7. Be able to organize ideas and communicate orally and in writing.

PLMB 1111. Plan Reading/Drawing

Course Description

This course will emphasize the skills needed to properly interpret building prints and the ability to draw isometric sketches in the field to be pre-fabricated in a shop environment. Areas covered include basic drawing tools, measuring tools and lettering; graphic symbols for pipes, fittings and valves; interpretations of technical diagrams; interpretation of isometric drawings; and drawing three view, plan view and elevation view representations.

Student Learning Outcomes

1. Demonstrate proper use of an architect's scale.
2. Identify graphic symbols for various pipes, valves and fittings.
3. Interpret technical diagrams correctly of various piping schemes for installation.
4. Prepare isometric drawings based on assigned schemes.
5. Drawing Interpretation and Plan Read

PLMB 1112. Plumbing I

Course Description

Covers orientation to the trade. Students will learn about materials used in the plumbing industry and the different types of plumbing fixtures. It includes task-oriented projects in which the students apply many of the skills and knowledge that are presented through the National Center for Construction and Education Research (NCCER) Plumbing Program.

Student Learning Outcomes

1. Students will have the knowledge about the plumbing history, safety, and tools of the trade.
2. Introduction to math for the plumbing field and plumbing blueprints.
3. Ability to with copper tubing, cast iron, steel pipe, plumbing fixtures, drain waste vent systems and water distribution systems.
4. Students will master installation of plumbing fixtures.

PLMB 1113. Plumbing II

Course Description

Provides students the opportunity to gain more practice in the skills and knowledge learned in Plumbing I. Students will install fixtures and run the various plumbing supply lines from Plumbing Level I. The course included hands on projects in which the students apply many of the competencies that have been presented through the National Center for Construction and Education Research (NCCER) Plumbing Program.

Student Learning Outcomes

1. Students will have the knowledge about the plumbing history, safety, and tools of the trade.
2. Introduction to math for the plumbing field and plumbing blueprints.
3. Ability to with copper tubing, cast iron, steel pipe, plumbing fixtures, drain waste vent systems and water distribution systems.
4. Students will master installation of plumbing fixtures.

PLMB 1114. Use and Care of Tools

Course Description

Areas to be covered include, but are not limited to: Proper tool use; Tool care and maintenance; Safety; Ladders and scaffolds; Measurement and layout tools; Hand and power tools; Pipe Joining Tools; and Specialty tools. apprentices need to know the type and assembly methods of pipe, valves, and fittings, as well as obtain the skills to install various joint connections.

Student Learning Outcomes

1. Identify key tools used in the piping industry.
2. Perform appropriate maintenance on tools.
3. Demonstrate safe usage of hand and power tools.
4. Demonstrate proper inspection of ladders and scaffolds for safe usage.
5. Demonstrate the proper use of pipe joining tools.

PLMB 1115. Introduction to Gas Fitting and Combustion Venting

Course Description

An introduction to the installation of piping and venting for natural gas and liquid petroleum systems. Topics include piping design, fuel combustion piping systems and domestic hot water systems. The course will also cover the proper installation of gas piping system; clockwise and orifice sizing. Be able to install venting valves, regualtors, and eletrical systems controls.

Student Learning Outcomes

1. Select and safely use the proper tools needed to install gas burning equipment.
2. Identify and describe potential hazards faced when installing gas distribution systems designed to transport natural gas and liquid petroleum.
3. Perform code searches using required codebooks.
4. Use shop drawings to size supply lines and select, thread and install approved piping, tubing, and vent connectors.
5. Properly identify and match appliance gas requirements for supply piping and combustion venting.
6. Locate, understand written documents such as manufacturer's manuals, graphs and piping schedule.
7. Recognize problems and evaluate to perform proper repair.

PLMB 1117. Soldering and Brazing

Course Description

This course focuses on the joining methods of soldering & brazing which include, Safety and safe work practices; Theory of soldering and brazing; Types and uses of copper tube; Solders, brazing rod, and fluxes; Joint preparation and assembly; Heating equipment and tools; Soldered and brazed joints; and Performance tests for soldering and brazing.

Student Learning Outcomes

1. Identify the proper soldiers, fluxes and brazing rod for assigned joining procedures.
2. Select proper heat source, tools and preparation material for assigned joining procedures.
3. Measure, cut, and assemble connections according to industry standards.
4. Demonstrate proper soldering process to pass visual inspection by the CWI.
5. Demonstrate proper brazing process to pass visual inspection by the CWI.
6. Obtain the UA Soft Solder (UA-SS1) and UA Brazing (UA-51) certifications.

PLMB 1125. Drain/Waste/Vent and Gray Water

Course Description

Covers the layout and design of drain and vent systems in residential and commercial buildings including those using gray water systems. Topics include safety requirements, tools and materials, proper installation, maintenance and principles of

gravity, air pressure, DWV sizing, storm drainage, sewers and sewage treatment, private sewage disposal systems, and alternate water source drainage systems.

Student Learning Outcomes

1. Select and properly use tools to assemble and cut cast iron, plastic, and steel pipes.
2. Design and assemble an actual drain, waste and vent system that meets code.
3. Explain trap installation and uses in different applications.
4. Apply accepted code practices to different piping systems used in gray water, drain, waste and vent configurations.

PLMB 1130. Water Piping Systems

Course Description

Introduces layout and design of water piping systems as well as the installation of plumbing fixtures.

Student Learning Outcomes

1. Describe safety requirements when using certain tools and equipment commonly found on water piping installation site and when installing fixtures.
2. Distinguish between potable and non-potable water systems, concerning the degree of health hazard when handling and installing a distribution system, or repairing one.
3. Identify and select different approved type pipe, fittings, and connectors, which correspond to Code installation procedures.
4. Follow detailed manufacturer fitting/fixture measurements for correct installation.
5. Install pipe/fitting assemblies corresponding to acceptable regulations, requirements and testing methods.
6. Use efficient methods to acquire and apply new knowledge and skills.
7. Perform basic computations and approaches practical problems by appropriately choosing from a variety of mathematical techniques.
8. Organize ideas and communicates orally and in writing.
9. Locate, understand and interpret written information in prose and in documents such as manuals, graphs, and schedules.
10. Recognize problems, evaluates and implements a plan of action.

PLMB 1140. Pumps and Motors

Course Description

An introduction to various pump and motor operations, starting with proper hydraulic sizing and electrical demand requirements. Topics include electrical power and hydraulic components of pumping water. This course presents the fundamentals commonly related to the study of the mechanical properties of water, including liquid pressure, liquid flow, pumping dynamics, and hydrostatics or fluid mechanics.

Student Learning Outcomes

1. Describe the advantages and the limitations of different pumps.
2. Calculate the flow of liquid through piping systems.
3. Calculate the pressure drop in pipes, valves, and fittings.
4. Safely operate various pumps and motors and maintain a safe working environment.
5. Troubleshoot pumps.
6. Prepare daily operations reports of on pump performance.

PLMB 1150. Trades Math

Course Description

Includes basic arithmetic, whole numbers, fractions and decimals. Covers volumes, weight measurements and basic algebra as it applies to plumbing.

Student Learning Outcomes

After successful completion of this course, 71% passing based on multi-diverse evaluations, upon completion of this course students will be able to perform the following tasks:

1. Identify formulas/terms that are related to plumbing calculations.
2. Compute common plumbing problems dealing with but not limited to areas, volumes and capacities.
3. Design and properly size (D.W.V., water and gas) plumbing systems, using UPC numerical tables and graphs.
4. Calculate gallons, flow and velocities of water systems.
5. Provide accurate answers to problems involving grade/slope/fall.
6. Demonstrate fitting allowance measurements for simple and complex piping offsets.

PLMB 1205. Water Supply Systems and Backflow Prevention

Course Description

Covers the design and application of water delivery systems used for domestic and commercial potable drinking water. The course will concentrate on water pipe sizing as well as types of materials and fittings. Water supply sources and treatment. Cross connection prevention will be covered as well as the hands-on use of backflow prevention and test gauges.

Student Learning Outcomes

1. Design water systems and piping requirements using proper fittings and line sizing techniques that satisfy plumbing code requirements.
2. Describe and use different types of pipe and tubing, fittings, and designs and demonstrate proper applications of fitting locations in water systems.
3. Identify potential cross connection locations and correct problems.
4. Identify the proper backflow device needed to protect various types of water systems.
5. Ability to pass certification in backflow prevention.

PLMB 1212. Rigging and Signaling

Course Description

This course delves deeper into heavy commercial and industrial rigging and culminate in an Industrial Rigging Certification. Areas to be covered are Inspections of various wire and synthetic slings; Safe working load limits; Sling lifting angles; Inspection of all rigging hardware; Eyebolts; Spreader beams; Man baskets; Mechanical advantage; Critical lift design; Lift calculation form; Rigging hook-up; Crane set-up; Site preparation; Boom truck operations; Ariel platforms; Tower cranes; and crane signaling.

Student Learning Outcomes

1. Demonstrate correct preparation of a heavy lift plan.
2. Demonstrate correct inspection of slings for use in a lift.
3. Demonstrate correct inspection of lifting hardware.
4. Demonstrate correct use of slings, chain hoists and come-a-longs on an assigned lift.

PLMB 1215. Service Plumbing, Repair, and Maintenance

Course Description

This course will provide the student with a basic understanding of the theory and practices of fixture installation and the use of various types of fixtures. Fixtures in both residential and commercial applications will be explored. Topics covered include

plumbing fixtures; installation practices; institutional fixture and equipment; fixture controls; and appliances and accessories.

Student Learning Outcomes

1. Demonstrate correct practices and safety requirements when repairing plumbing fixtures/appliances.
2. Use appropriate name and select appropriate items to match and perform specific plumbing tasks.
3. Measure and calculate plumbing layouts.
4. Organize ideas and communicates orally and in writing.
5. Specify piping in relation to horizontal and vertical installation positions and to above and below ground placement of fitting.
6. Use applied math to determine pipe placement in offset setting.
7. Identify ADA installation specification for fixtures.
8. Demonstrate residential and commercial lavatory installation.
9. Recognizes problems, evaluates and implements a plan of action.

PLMB 1230. Boilers and Hydronic Systems

Course Description

An introduction to boilers and hydronic systems. Students will study fundamental hydronic heating concepts, heat load design, estimating, heating sources, the properties of water as it relates to hydronics, system components, heating control panels, and distribution piping systems. Included ai air management and piping materials.

Student Learning Outcomes

1. Demonstrate a working knowledge of hydronic radietnt heating systems including heating load design and estimating system annual space heating energy usage and annual space heating costs for different fuels including solar thermal.
2. Evaluate various heating sources, boilers, and boiler systems and explain their relationship to the properties of water used as the medium to transfer heat.
3. Select the proper fittings, tubing, materials, circulators/pumps, and distribution piping configurations needed to install and service a hydronic heating system.
4. Identify and discuss various types of hydronic heating exchangers, wiring, control components, hydronic radiant panel heating, expansion tanks and air removal.

PLMB 1235. Pipes, Valves, Fitting

Course Description

In this course students will explore various pipe materials and wall thicknesses as they apply to specific field applications, as well as the numerous valves and fitting used to joint these materials. Areas covered include pipe, pipe fittings, flanges and gaskets; methods of joining pipe; understanding the functions of valves; internal components of valves; pipe hangers, supports, anchors, guides and fasteners.

Student Learning Outcomes

1. Identify pipes of different materials and their key usages and limitations.
2. Perform proper joining methods to industry standards.
3. Identify pipes of different materials based on color coding and specifications.

PLMB 1240. Plastic Piping Installer

Course Description

In this course students will learn about the many types of plastic piping, uses and limitations as well as the numerous glues and primers used to join them. Plastic piping advantages and disadvantages will be covered as well as the characteristics of them.

Student Learning Outcomes

1. Identify pipes of different materials based on color coding and specifications.
2. Demonstrate knowledge of plastic pipe advantages and disadvantages.
3. Identify fittings and proper orientation.
4. Identify proper glues and primers based on given material and conditions.
5. Identify differences in supports and hangers for plastic piping as opposed to other materials.
6. Obtain UA Solvent Welding Certification.

PLMB 1310. Metallurgy

Course Description

This course first Introduces Metallurgy, a study of the effect of welding on metallurgical structure and properties of weld joints. The study of the influence of crystal and grain structure of metals on the mechanical, physical, and chemical properties of metals.

Student Learning Outcomes

1. The student will show knowledge of metallurgical structure and weld regions.
2. The student can identify problems in welding with visual, qualitative and quantitative identification techniques.
3. The student can demonstrate knowledge of the effects of welding on both physical and mechanical properties.
4. The student can identify welding stress and corrosive resistance on welds.

PLMB 1320. Layout and Design

Course Description

This course begins examining the principles and practices of metal fabrication including layout, design, and support techniques. Students are exposed to basic weld pipe, weld fittings, weld symbols, offsets, supports, and screwed pipe. Related math calculations and cutting techniques are utilized to prepare students for entry into pipe fitting related fields.

Student Learning Outcomes

1. Show competency in following safety protocol.
2. Properly read and identify various weld symbols and layout drawing types.
3. Can properly measure and layout basic projects following blueprints.
4. Can identify weld fittings and types of pipe.
5. Can identify supports.

PLMB 1321. Solar Thermal Systems

Course Description

Introduces thermal solar systems including accessing, installing, and evaluating fully operational solar water heating systems.

Student Learning Outcomes

1. Assess, install, and evaluate fully operational solar water heating systems.

PLMB 1330. Cuting and Beveling

Course Description

Students will be introduced to Cutting, Beveling & Safety Protocols by exploring protocols and procedures for safety of cutting with various methods, including oxy fuel gas cutting, plasma cutting, chop saws, and portable band saws. The course will also address jobsite safety and hazardous substances. Methods of grinding, beveling, cutting, gouging will be explored. Weld joints, types & designs will be studied.

Student Learning Outcomes

1. Show competency when using various cutting techniques.
2. Identify weld joints, types and designs in various applications.
3. Demonstrate jobsite safety with regard to cutting, arc welding, and hazardous substances.

PLMB 1331. Energy and Water Conservation Systems

Course Description

Introduces the newest energy-saving techniques for homes and commercial applications as they relate to the plumbing field. Including gray water, geo- thermal, energy design and application (LEED). Emphasis on energy-saving appliances and low water consumption fixtures.

Student Learning Outcomes

Describe alternative energy technologies, energy efficiency methods, energy efficiency investment analysis, geothermal systems, water management and water efficiency methods.

PLMB 1340. Shielded Metal Arc Welding (SMAW)

Course Description

This course explores fundamental theory and application of Shielded Metal Arc Welding (SMAW) process and proper welding equipment setup. Introductory skills for pipe and plate welding are covered leading to skillfulness in equipment setup, pre-weld fit up, filler metal alloys, and welding in various positions.

Student Learning Outcomes

1. Show knowledge and competency in the SMAW process.
2. Can complete plate welding in horizontal, vertical and overhead positions to competency as measured by visual pass by CWI.
3. Demonstrate knowledge of pipe welding and positions.
4. Demonstrate knowledge of filler alloys.

PLMB 1350. Basic Electricity

Course Description

This course provides apprentices with information on electrical devices, circuits, and electric measuring instruments as they relate to the installation of mechanical equipment and piping systems. In the coming weeks, students will learn more about theory and practice in Electrical safety; Fundamentals of electricity and electric circuits; Magnetism and electromagnetism; Direct and alternating currents; Circuits and transformers; Inductance and capacitance. The course will also include the topic of Electrical controls which are a critical part in the efficient operation of mechanical systems. Understanding how flow rates and velocities can be affected by the proper electrical control helps the apprentice better recognize characteristics of an inefficient system. Topics covered include Essentials of control systems; Fundamentals of measurement; Types of automatic controls; Auxiliary control equipment; Electrical diagrams; Capacitors and single-phase motors; Application of thermostats and actuators; Float, temperature and pressure controls; and Overview of controls of refrigerant systems.

Student Learning Outcomes

1. Identify basic electrical devices and materials.

2. Identify the relationship of volts, amps and ohms.
3. Demonstrate low voltage wiring of sensors from transformers to fixtures.
4. Demonstrate proficiency in calculating the conversion of watts to horsepower.
5. Demonstrate troubleshooting procedures for low voltage systems.
6. Identify the various needs of controls based on a particular system.
7. Determine flow rates and make adjustments to obtain peak performance.
8. Demonstrate successful interpretations of wiring diagrams for electrical controls.
9. Demonstrate troubleshooting procedures for electrical controls.

PLMB 2182. Plumbing Apprenticeship I

Course Desciption

This course provides basic safety, health and education training for construction workers. Training is provided in the recognition, avoidance, abatement and prevention of safety and health hazards in workplaces in the construction industry. It also provides information on the employer's responsibilities, workers' rights and how to file a complaint. It also trains Apprentices in the proper use and care of hand and power tools. Areas to be covered include, but are not limited to, Proper tool use; Tool care and maintenance; Safety; Ladders and scaffolds; Measurement and layout tools; Hand and power tools; Pipe Joining Tools; and Specialty tools. apprentices need to know the type and assembly methods of pipe, valves, and fittings, as well as obtain the skills to install various joint connections. Finally, the course also focuses on the joining methods of soldering & brazing which include, Safety and safe work practices; Theory of soldering and brazing; Types and uses of copper tube; Solders, brazing rod, and fluxes; Joint preparation and assembly; Heating equipment and tools; Soldered and brazed joints; and Performance tests for soldering and brazing.

Student Learning Outcomes

1. Describe six different types of violations used by OSHA and give a brief description of each.
2 .Describe the concept of the General Duty clause.
3. List the general safety and health training provisions of Subpart C.
4. Identify the safety procedures used to prevent trenching and shoring fatalities and injuries.
5. Determine whether hearing protection is needed in situational examples, using the formula to calculate exposure.
6. Identify the OSHA Fatal Four categories.
7. Describe three general requirements for safe rigging.
8. Identify the safety procedures used prevent crane fatalities and injuries.
9. Identify key tools used in the piping industry.
10. Perform appropriate maintenance on tools.
11. Demonstrate safe usage of hand and power tools.
12. Demonstrate proper inspection of ladders and scaffolds for safe usage.
13. Demonstrate the proper use of pipe joining tools.
14. Identify the proper soldiers, fluxes and brazing rod for assigned joining procedures.
15. Select proper heat source, tools and preparation material for assigned joining procedures.
16 .Measure, cut, and assemble connections according to industry standards.
17. Demonstrate proper soldering process to pass visual inspection by the CWI.
18. Demonstrate proper brazing process to pass visual inspection by the CWI.
19. Obtain the UA Soft Solder (UA-SS1) and UA Brazing (UA-51) certifications.

PLMB 2210. Mechanical Code

Course Description

This course students will gain insight into the 2015 Uniform Mechanical Code and the 2015 New Mexico Mechanical Code. Regulations and guidelines for proper installation will be explored in preparation for the New Mexico State Gasfitters License for Journeyman Certification which is a requirement within this program. Topics covered include Administration; Definitions; General Regulations; Combustion air; Chimneys and vents; Installation of Specific appliances; Boilers and pressure vessels; Hydronics; and Fuel gas piping.

Student Learning Outcomes

1. Correctly calculate and identify a confined space.
2. Correctly calculate vent connector sizing on boilers.
3. Correctly calculate for combustion air.
4. Correctly calculate for a fuel gas piping system.
5. Ability to obtain a state issued Journeyman Gasfitter License.

PLMB 2211. Plumbing Code

Course Description

In this course students will gain insight into the 2015 Uniform Plumbing Code and the 2015 New Mexico Plumbing Code. Regulations and guidelines for proper installation will be explored in preparation for the New Mexico State Plumbing License for Journeyman Certification which is a requirement within this program. Topics covered include Administration; Definitions; General Regulations; Plumbing Fixtures; Water heaters; Water Supply, Sanitary Drainage; Indirect Wastes; Vents; Traps and interceptors; Storm Drainage; and Fuel gas piping.

Student Learning Outcomes

1. Correctly calculate a water supply and distribution system.
2. Correctly calculate a drainage and vent system.
3. Correctly calculate vent connector sizing on a water heater.
4. Correctly calculate for confined space.

PLMB 2212. Pipefitter Installer Code

Course Description

The Pipefitting Installer course will coach the apprentice on how to properly locate required rules and regulations in the Uniform Mechanical Code book in effect as it pertains to the State Pipefitting Installers License testing. Topics covered include administrative rules, definitions, general regulations and the rules of installing piping for combustion air, vents, boilers/steam vessels, hydronics and process piping. Proper pipe/tubing data, valves, fittings and joints as well as their limitations in various systems will be discusses. Pipe offsets & welding take off calculations will also be covered .

Student Learning Outcomes

1. Show competency in location information in the code book and NMAC quickly & accurately.
2. Can quickly locate clearance, installation and safety device requirements for boilers, steam vessels and hydronic systems.
3. Can properly locate rules and regulations on Hazardous Process Piping and safety standards associated with it.
4. Can site proper pipe/tubing data, valves, fitting and joints associated with various installations presented by the instructor.
5. Can correctly perform offset and fitting take-off calculations.
6. Has the capability of taking and passing the State Examination for Journeyman Pipefitter Installer License.

PLMB 2282. Plumbing Apprenticeship II

Course Description

This course delves deeper into heavy commercial and industrial rigging and culminate in an Industrial Rigging Certification. Areas to be covered are Inspections of various wire and synthetic slings; Safe working load limits; Sling lifting angles; Inspection of all rigging hardware; Eyebolts; Spreader beams; Man baskets; Mechanical advantage; Critical lift design; Lift calculation form; Rigging hook-up; Crane set-up; Site preparation; Boom truck operations; Ariel platforms; Tower cranes; and crane signaling.

Student Learning Outcomes

1. Demonstrate correct preparation of a heavy lift plan.
2. Demonstrate correct inspection of slings for use in a lift.
3. Demonstrate correct inspection of lifting hardware.
4. Demonstrate correct use of slings, chain hoists and come-a-longs on an assigned lift.
5. Demonstrate correct crane signals to crane operator.
6. Pass written and hands-on exam for certification.

PLMB 2300. Pneumatic Controls

Course Description

This course will introduce students to pneumatic controls. Although they are slowly being phased out, there are many legacy systems still in operation today that work fine. This course deals mainly with troubleshooting existing systems. Areas to be explored are Control loops and air supply; Control valves and dampers; Axillary devices; Receiver controllers and transmitters; Ventilation, heating, cooling and humidity control; and Year-round control.

Student Learning Outcomes

1. Identify air compressor and air dryer components.
2. Determine proper air-line adjustments to obtain peak performance.
3. Demonstrate successful interpretations of air piping diagrams for pneumatic controls.
4. Demonstrate troubleshooting procedures for pneumatic controls.

PLMB 2382. Plumbing Apprenticeship III

Course Description

This course will emphasize the skills needed to properly interpret building prints and the ability to draw isometric sketches in the field to be prefabricated in a shop environment. Areas covered include basic drawing tools, measuring tools and lettering; graphic symbols for pipes, fittings and valves; interpretations of technical diagrams; interpretation of isometric drawings; and drawing three view, plan view and elevation view representations. Students will also explore various pipe materials and wall thicknesses as they apply to specific field applications, as well as the numerous valves and fitting used to joint these materials. Areas covered include pipe, pipe fittings, flanges and gaskets; methods of joining pipe; understanding the functions of valves; internal components of valves; pipe hangers, supports, anchors, guides and fasteners. Finally, students will also learn about the many types of plastic piping, uses and limitations as well as the numerous glues and primers used to join them. Plastic piping advantages and disadvantages will be covered as well as the characteristics of them.

Student Learning Outcomes

1. Demonstrate proper use of an architect's scale.
2. Identify graphic symbols for various pipes, valves and fittings.
3. Interpret technical diagrams correctly of various piping schemes for installation.
4. Prepare isometric drawings based on assigned schemes.
5. Drawing Interpretation and Plan Reading.
6. Identify pipes of different materials and their key usages and limitations.
7. Perform proper joining methods to industry standards.
8. Identify pipes of different materials based on color coding and specifications.

9. Demonstrate knowledge of plastic pipe advantages and disadvantages.
10. Identify fittings and proper orientation.
11. Identify proper glues and primers based on given material and conditions.
12. Identify differences in supports and hangers for plastic piping as opposed to other materials.
13. Obtain UA Solvent Welding Certification.
14. Identify various valves and describe their intended purposes.
15. Describe major components of the most commonly used valves.
16. Identify common supports, hangers and anchors.
17 .Identify proper tables used to find industry minimum standards for spacing of horizontal and vertical supports.

PLMB 2482. Plumbing Apprenticeship IV

Course Description

This course will provide the student with a basic understanding of the theory and practices of fixture installation and the use of various types of fixtures. Fixtures in both residential and commercial applications will be explored. Topics covered include plumbing fixtures; installation practices; institutional fixture and equipment; fixture controls; and appliances and accessories. This course will explore the history of water supply systems and the importance of clean potable water sources for human civilization as it has developed into modern day systems. Topics covered include introduction to water supply systems; pipe materials; water supply sources and treatment; distribution systems; building supply systems; water heating; and water conservation.

Student Learning Outcomes

1. Identify ADA installation specification for fixtures.
2. Demonstrate proper installation of floor mounted and wall hung water closets.
3. Demonstrate residential and commercial lavatory installation.
4. Demonstrate bathtub and shower installations.
5. Demonstrate drinking fountain and water cooler installations.
6. Demonstrate proper electric and gas water heater installations.
7. Identify major events that cause the evolution of water supply systems.
8. Install a basic water piping system.
9. Identify water fixture appurtenances needing in various water supply systems.
10. Demonstrate proficiency in calculating water fixture units.
11. Identify the proper backflow device needed to protect municipal water systems.
12. Identify water properties in different states and how that affects piping systems.

PLMB 2582. Plumbing Apprenticeship V

Course Description

This course will cover historical perspectives and drainage system improvement; piping materials and fittings; traps and fixtures connections; sanitary drainage installation; vent systems; DWV sizing; storm drainage; sewers and sewage treatment; private sewage disposal systems; and alternate water source drainage systems. The course will also emphasize the importance of proper installations of gas. Properties of gas and the combustion process will be covered as well as gas piping systems; clocking and orifice sizing; air supply and venting; valves and regulators; and electrical systems and controls.

Student Learning Outcomes

1. Identify advantages of a healthy drainage system.
2. Identify the differences in drainage and venting fittings.
3. Describe the importance of traps as they apply to drainage.
4. Demonstrate the ability to properly size a drainage system.
5. Describe how a healthy private sewage system work.
6. Identify local regulations and codes pertaining to alternate water source drainage systems.

7. Identify the various properties of gas.
8. Install a basic gas piping system.
9. Demonstrate de-rating calculations for proper orifice sizing.
10. Identify proper vent material and sizing based on the fuel type and output Btu's.
11. Demonstrate the proper placement and positioning of gas regulators both in and outside of the building.
12. Demonstrate proper troubleshooting procedures for gas systems.
13. Demonstrate proficiency in testing and finding leaks in a gas piping system.

PLMB 2682. Plumbing Apprenticeship VI

Course Description

The Introduction to Service Plumbing course will stress safety on the service call for the installer, occupant and property. The class will concentrate on important soft skills needed for the service technician dealing directly with the customer. Comprehensive service tickets protect all parties involved and will be stressed in this course. The apprentice will become familiar with service tools, safeguards and their proper use that are not normally used in new construction projects.

Student Learning Outcomes

1. Demonstrate competency when conducting a safety pre-inspection on the job site.
2. Use new skills to deal face-to-face with customers and demonstrate skill to defuse confrontational customers.
3. Demonstrate properly how to complete a comprehensive service ticket to protect the customer, the technician, and the company.
4. Identify and demonstrate use service-related tools properly and safely.

PLMB 2782. Plumbing Apprenticeship VII

Course Description

The Gas Appliances course delves into gas appliances in more depth with the student testing recall from previous courses. Areas to be covered are conventional, high efficiency, direct vent and tankless water heater troubleshooting, repair and replacement. Sizing gas lines will be revisited, fusion joints and expansion tank sizing & installation will be covered. Troubleshooting furnace issues and repair, along with orifice sizing and sediment trap requirements by code will be examined. Natural gas safety will be discussed at length.

Student Learning Outcomes

1. Show competency when conducting a safety pre-inspection on the job site
2. Can quickly isolate common water heater & furnace problems
3. Properly install, replace, and retrofit common water heaters and furnaces
4. Perform necessary calculations for correct gas supply lines and expansion tanks to current code standards
5. Correctly perform HDPE fusion joints to industry specification and tolerances
6. Perform derating/orifice sizing calculations and sediment trap installation to code standards

PLMB 2882. Plumbing Apprenticeship VIII

Course Description

In this course students will gain insight into the 2015 Uniform Mechanical Code and the 2015 New Mexico Mechanical Code. Regulations and guidelines for proper installation will be explored in preparation for the New Mexico State Gasfitters License for Journeyman Certification which is a requirement within this program. In addition, students will also gain insight into Pipefitting Installation which will coach the apprentice on how to properly locate required rules and regulations in the Uniform Mechanical Code book in effect as it pertains to the State Pipefitting Installers License testing. Topics covered include administrative rules, definitions, general regulations and the rules of installing piping for combustion air, vents, boilers/steam vessels, hydronics and process piping. Proper pipe/tubing data, valves, fittings and joints as well as their limitations in various systems will be discussed. Pipe offsets & welding take off calculations will also be covered

Student Learning Outcomes

1. Correctly calculate and identify a confined space.
2. Correctly calculate vent connector sizing on boilers.
3. Correctly calculate for combustion air.
4. Correctly calculate for a fuel gas piping system.
5. Obtain a state issued Journeyman Gasfitter License.
6. Correctly calculate a water supply and distribution system.
7. Correctly calculate a drainage and vent system.
8. Correctly calculate vent connector sizing on a water heater.
9. Correctly calculate for confined space.
10. Obtain a state issued Journeyman Pipefitter License.
11. Identify air compressor and air dryer components.
12. Determine proper air-line adjustments to obtain peak performance.
13. Demonstrate successful interpretations of air piping diagrams for pneumatic controls.
14. Demonstrate troubleshooting procedures for pneumatic controls.

PLMB 2883. Plumbing Apprenticeship IX

Course Description

This course begins examining the principles and practices of metal fabrication including layout, design, and support techniques. Students are exposed to basic weld pipe, weld fittings, weld symbols, offsets, supports, and screwed pipe. Related math calculations and cutting techniques are utilized to prepare students for entry into pipe fitting related field

Students will then be introduced to Cutting, Beveling & Safety Protocols by exploring protocols and procedures for safety of cutting with various methods, including oxy fuel gas cutting, plasma cutting, chop saws, and portable band saws. The course will also address jobsite safety and hazardous substances. Methods of grinding, beveling, cutting, gouging will be explored. Weld joints, types & designs will be studied.

Student Learning Outcomes

1. Show competence in following safety protocol.
2. Will properly read and identify various weld symbols and layout drawing types.
3. Can properly measure and layout basic projects following blueprints.
4. Can identify weld fittings and types of pipe.
5. Can identify supports.
6. Show competency when using various cutting techniques.
7. Identify weld joints, types and designs in various applications.
8. Demonstrate jobsite safety with regard to cutting, arc welding, and hazardous substances.

PLMB 2884. Plumbing Apprenticeship X

Course Description

This course first Introduces Metallurgy, a study of the effect of welding on metallurgical structure and properties of weld joints. The study of the influence of crystal and grain structure of metals on the mechanical, physical, and chemical properties of metals.

Student Learning Outcomes

1. Show knowledge of metallurgical structure and weld regions.
2. Identify problems in welding with visual, qualitative and quantitative identification techniques.
3. Demonstrate knowledge of the effects of welding on both physical and mechanical properties.
4. Identify welding stress and corrosive resistance on welds.

PLMB 2885. Plumbing Apprenticeship XI

Course Description
This course explores fundamental theory and application of Shielded Metal Arc Welding (SMAW) process and proper welding equipment setup. Introductory skills for pipe and plate welding are covered leading to skillfulness in equipment setup, pre-weld fit up, filler metal alloys, and welding in various positions.
Student Learning Outcomes
1. Show knowledge and competency in the SMAW process.
2. Can complete plate welding in horizontal, vertical and overhead positions to competency as measured by visual pass by CWI.
3. Demonstrate knowledge of pipe welding and positions.
4. Demonstrate knowledge of filler alloys.

PLMB 2886. Plumbing Apprenticeship XII
Course Description
In this course students will study the gas installer code as identified in the Uniform Mechanical Code that is being enforced by the State as it pertains to Natural Gas Installers License testing. The class will build on previous instruction and delve into administrative rules, definitions, general regulations and the rules of installing various systems, safety devices required including water-heaters, boilers, pressure vessels, piping and introduction to thermal energy systems. The Uniform Mechanical Code book will be used as well for Pipefitting installation as it pertains to Pipefitting Installer License testing. The topics covered are administrative rules, definitions, general regulations and the rules of installing piping for combustion air, vents, boilers/steam vessels, hydronics and process piping. Proper piping/tubing data, valves, fittings and joints as well as their limitations in various systems will be covered. Pipe offsets and welding take off calculations will also be covered.
Student Learning Outcomes
1. Show competency in locating information in the mechanical code book and State Administrative Code regulations quickly and accurately.
2, Identify confined spaces for appliance and accurately determine the proper method for bringing combustion air to those appliances.
3. Properly identify chimney and venting requirements and clearances that must be adhered to by code.
4. Identify in the codes, proper installation safety devices and clearances associated with boilers, hydronic systems and solar thermal energy requirements.
5. Can pass their state examination for Journeyman Gas Installer.
6. Can quickly locate clearance, installation and safety device requirements for boilers, steam vessels and hydronic systems.
7. Properly locate rules and regulations on Hazardous Process piping and associated safety standards.
8. Able to site proper pipe/tubing data, valves, fitting and joints associated with various installations.
9. Correctly perform offset and fitting take-off calculations.
10. Can pass their state examination for Journeyman Pipefitter Installer License.

PLMB 2996. Plumbing Topics
Course Description
Specific topics to be announced in Schedule of Classes.
Student Learning Outcomes
Varies

PLMB 2997. Plumbing Independent Study
Course Description
Specific topics to be announced in Schedule of Classes.
Student Learning Outcomes

Varies

Political Science (POLS)

POLS 1110. Introduction to Political Science

Course Description

This course covers fundamental concepts in political science, such as political theories, ideologies, and government systems.

Student Learning Outcomes

1. Construct reasoned civic discourse to advocate a stance or examine alternate positions.
2. Identify fundamental concepts and theories in political science.
3. Analyze data and information to gain a deeper understanding of the material.
4. Articulate how the public influence and are influenced by politics.
5. Identify and compare government systems from democracy to authoritarian, as well as models of analysis of contemporary international relations.

POLS 1111. Introductory Seminar in Political Science

Course Description

Introduction to the major in Political Science. Designed to assist students in planning their college experience and preparing for upper-division course work and research.

Student Learning Outcomes

1. Demonstrate knowledge of our program requirements and opportunities, services, and student clubs that can enhance the college experience.
2. Demonstrate knowledge of critical reading and writing skills necessary for success in the Political Science major.
3. Demonstrate knowledge of how to conduct academic research using library resources and online databases.
4. Know the faculty members who teach courses in the Political Science program and their areas of expertise.
5. Demonstrate familiarity with future career options, including how to apply to law school or graduate programs, participation in non-profit organizations, public administration, and elected office.

POLS 1120. American National Government

Course Description

This course explains the role of American national government, its formation and principles of the Constitution; relation of state to the national government; political parties and their relationship to interest groups. This course also explains the structure of the legislative, executive, and judicial branches.

Student Learning Outcomes

Students should be able to:

1. Explain the historical and political foundations of the government of the United States.
2. Explain the precursors to, and the development and adoption of the United States Constitution.
3. Explain the United States federal system, the basics of federalism, and the changing relationship of state and federal power.
4. Describe the power, structure and operation of the main institutions of government, namely the legislative, executive, judicial, and the federal bureaucracy.
5. Explain the development and role of political parties and interest groups.
6. Identify the constitutional basis of civil rights and civil liberties and their changing interpretation; and
7. Describe the role of demographics, public opinion and the media in American politics.

POLS 1130. Issues in American Politics

Course Description

This course is designed to introduce the students to the contemporary study of American political issues. The course analysis of government policies, examining various approaches to the economy, democracy and the structure and the function of American political institutions.

Student Learning Outcomes

1. Explain the basic themes and concepts of political science and their application to contemporary issues.
2. Explain the major forces, interests, and institutions of American democratic politics.
3. Describe and define how beliefs, assumptions, and values are influences by factors such as politics, geography, economics, culture, biology, history, and social institutions.

POLS 1140. The Political World

Course Description

This course introduces politics with emphasis on the ways people can understand their own political systems and those of others in a greater depth. This course will help in becoming more responsible and effective in the political world.

Student Learning Outcomes

1. Compare different viewpoints on major political issues.
2. Demonstrate critical thinking skills and abilities in regard to political problems, trends, and developments.
3. Grasp the significance of government actions.
4. Identify bias in news reporting.
5. Demonstrate a better understanding of the world and show appreciation for the richness of political cultures in the world and be able to apply political science theories and concepts to real world cases.
6. Be able to communicate, written and orally, in an informed and effective way about the political world
7. Demonstrate knowledge and understanding of their own rights and obligations as citizens.
8. Obtain an understanding of foundational aspects of both political theory and practice among countries throughout the world, which includes current political issues and their relevance to politics in general.

POLS 1150. Navajo Government

Course Description

This course will provide a survey of Navajo politics ranging from the underlying tribal organizations and the colonial concept of democracy to the political behavior of the Navajo electorate. The structure and function of historical Navajo leadership, the impact of American political structures imposed on the Navajo people, and contemporary political issues within the context of decolonization will all be discussed. This course will also explore how Navajo tribal members interact with governmental institutions to form public policy, the political principles upon which the Navajo Nation rests, and the dynamics of tribal institutions such as: the tribal-federal relationship, the Navajo Nation Code, the Navajo Nation Council, the Navajo Executive, the Navajo Nation Judiciary, the Tribal bureaucracy, the Chapter system, and tribal interest groups. The role of the media in shaping public opinion, as well as the value of political knowledge and civic engagement, will also be investigated.

Student Learning Outcomes

1. Demonstrate the ability to think critically regarding political trends and developments, with particular focus on the Navajo Nation and government
2. Demonstrate the ability to communicate effectively
3. Demonstrate strong analytical writing skills
4. Demonstrate knowledge and understanding of the fundamental concepts and theories used in Navajo government
5. Be able to apply the political theories and concepts of the Navajo Nation to real-world case studies
6. Be able to evaluate political theories and ideas, either in light of empirical evidence or on theoretical grounds
7. Demonstrate knowledge and understanding of the rights and obligations of both the Navajo government and Navajo citizens

POLS 1996. Topics in Political Science
Course Description
A course exploring a topic not covered by the standard curriculum but of interest to faculty and students in a particular semester.
Student Learning Outcomes
Varies

POLS 1997. Political Science Independent Study
Course Description
Varies
Student Learning Outcomes
Varies

POLS 1998. Political Science Internship
Course Description
Varies
Student Learning Outcomes
Varies

POLS 2110. Comparative Politics
Course Description
This course introduces comparative politics by examining the political history, social and economic structures, and contemporary political institutions and behavior, with focus on occurrences in countries representing diverse cultures, geographies, and levels of development.
Student Learning Outcomes
1. Identify different political and economic regimes in a range of representative countries
2. Assess tradeoffs among various political and economic regimes.
3. Compare and contrast the differences among cultures and subcultures, and the connections between politics and culture in different countries.
4. Describe the major issues facing a range of representative countries today.
5. Explain the connections between historical events and phenomena, on the one hand, and contemporary political and economic systems, on the other.

POLS 2120. International Relations
Course Description
This course covers the analysis of significant factors in world politics, including nationalism, national interest, political economy, ideology, international conflict and collaboration, balance of power, deterrence, international law, and international organization.
Student Learning Outcomes
1. Explain the interrelationships between countries and people in the world.
2. Demonstrate an awareness of current events in the world.
3. Describe several theories of International Relations.
4. Explain and identify theories of power and decision making among states in the world.
5. Describe and evaluate issues that relate to International Politics, and how individuals are affected by them.
6. Describe the role of Intergovernmental Organizations in International Politics.
7. Identify the role war plays in International Politics.

8. Explain how economics is intertwined with International Politics.
9. Demonstrate an understanding of role of international terrorism and its impacts on global diplomacy.
10. Articulate how beliefs, assumptions, and values are influenced by factors such as politics, geography, economics, culture, history, government, and social institutions.

POLS 2130. Political Ideas/Introduction to Political Theory

Course Description

This course offers an introductory survey of political theory. Emphasis is placed on (1) textual analysis of primary sources and on (2) scholarly analysis of the foundational questions and methods central to the academic study of political ideas. Studying political ideas involves thinking about a) the very definition of political theory itself, b) what one would need to know to make evidence- based claims about political theory texts and c) why and how the study of political theory leads political scientists into the exploration of "essentially contested concepts." More specifically, throughout the semester, we will explore questions relating to 1) what is the definition of political theory; 2) why/how are interpretative disputes at the core of political theory and 3) how have major political theories/ideas—democracy, liberalism, conservatism, socialism, liberation theory, and fascism—changed and developed over time? In sum, this is a survey course on the history of political ideas.

Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Effectively communicate critical analysis about the political ideologies which influence and inform politics, political institutions, and political systems
    a. describe and analyze how ideologies affect the exercise of power in the political world.
    b. explain how political ideologies relate to methods of political participation.
    c. explain the ideologies of various political systems.
2. demonstrate an understanding of the value of diversity of thought.
3. demonstrate academic preparedness for advanced study through scholarly analysis.

POLS 2140. Introduction to Political Analysis

Course Description

What makes the field of Political Science a science? What are the variety of research methods and tools for analysis employed by scholars? The goal of this course is to introduce students to the scientific process by political scientists. The interpretation and analysis of data is also essential for almost any career that a political science major might pursue. Lawyers and lobbyists, politicians and professors all need to be able to read and understand reports in which numerical summaries of data (i.e., statistics) are used as evidence to support an argument or point of view. These professionals need to ascertain whether these statistics are being used appropriately. In addition, many of these professionals need to do their own statistical analysis. This course introduces students to statistics and the scientific study of politics. Students will learn why statistics are useful, how to interpret a variety of statistics, how to analyze data to generate their own statistics, and how to tell whether their statistics support their own argument. Students will also learn how to apply the scientific research process to their own research questions by completing a research design project.

Student Learning Outcomes

Students will demonstrate

1. Ability to think critically regarding political problems, trends, and developments by evaluating the use of statistics as applied to research questions.
2. Ability to communicate effectively by presenting and writing a research design project.
3. Strong analytical writing skills by writing a research design project.
4. Knowledge and understanding of fundamental concepts in political science by using those concepts throughout the course.
5. Ability to apply political science theories to real-world cases by making general theoretical explanations and formulating hypotheses.

6. Ability to evaluate theories in light of empirical evidence by applying inferential statistics and hypothesis testing.
7. Knowledge and understanding of their rights and obligations as a citizen by evaluating the use (and misuse) of statistics in political debate and in daily life.

POLS 2150. Public Policy and Administration

Course Description

The objective of this introductory course in public policy and public administration is to provide students with a basic understanding of the ways that government deals with problems affecting society. We will explore the political tools used to address public policy problems, as well as the political environment in which public policies are formed. Additionally, several specific public policy problems will be discussed during the semester. For each topic, we will try to understand the goals that the government and society seem to be seeking, alternative means for achieving those goals, the costs and benefits of the various alternatives, and the impact of politics on those goals. We will primarily examine policymaking at the national level, but we will also look at some examples at the state and local level.

Student Learning Outcomes

1. Understand what we mean by "public policy".
2. Be able to apply your knowledge of the policy process to any issue or topic that may confront you in your professional or personal life.
3. Be able to critically analyze policies, and to find the strengths and weaknesses in partisan or news media depictions of policy issues.
4. Learn and enhance your critical and analytical thinking skills.
5. Be able to write a position paper about public policy.

POLS 2160. State and Local Government

Course Description

This class is an introductory course designed to familiarize students with the institutions, politics, and policies of state and local governments in the United States. An underlying assumption of this course is that states and localities are the center of a stable and viable democracy. As such, a major objective of the course is the empowerment of each student through knowledge; that is, to provide students with the understanding, analytical and political skills, and motivation to become an active and knowledgeable part of state and local government and politics. The problems addressed at the state and local levels are usually highly contentious and controversial because they hit people close to their homes. Through this class, students will learn how to become effective solvers of those problems.

Student Learning Outcomes

Not available

POLS 2170. State and Local Politics

Course Description

Analyze state and local politics, using New Mexico and other states as examples.

Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Explain the place of state and local governments in the federal system.
2. Explain and analyze political and governmental problems and issues confronting states and localities.
3. Express informed views and opinions regarding state and local governments and politics in America.
4. Participation in the state and local political process.
5. Use case studies as an analytical tool in order to think critically about American state and local political and governmental issues and problems.

POLS 2180. Ethnic Politics

Course Description
This course is designed to investigate the problems and political activities of various minority groups in the United States. The course first addresses the historical and political ways in which racial and ethnic minorities have been discriminated against. The course then addresses strategies used by minorities for change, including voter registration drives, running for public office, litigation, and protest. A very important component of this exploration is the role of class in minority group empowerment strategies and in official responses to minority demands. With Hispanos/Latinos as the primary group being analyzed, this investigation addresses minority issues such as the history and ongoing legacy of civil rights empowerment efforts. Next is an in-depth examination of issues related to Hispanos/Latinos, African Americans and Native Americans. The course concludes with an exploration of intergroup relations, the role of gay and lesbian issues in minority politics, as well as of the future of ethnicity in the U.S. While this course refers to several minority groups in the U.S., the focus is on the experiences of Hispanos/Latinos, African Americans, Native Americans and Asian and Pacific Island Americans.
Student Learning Outcomes
Not Available

POLS 2190. Introduction to Political & Economic Systems
Course Description
This course is designed to provide students with an understanding of some of the major issues and problems associated with different political and economic systems. It is to introduce the basic political and economic concepts to students and familiarize them with key definitions and problems of theoretical formulations as applied to the real world. However, the goal of this course is threefold: the first is to instill in students a mode of critical thinking and reasoning. The second is to teach students the values of a democratic political system. Indeed, the achievement of Democratic objectives, in an interdependent globalizing world without integration, shared responsibilities, benefits and values will be impossible. The third is to acquaint students with compatibility or incompatibility of globalization with democratization. Hence, this course, by adopting a critical frame of analysis, tends to promote quality thinking and reasoned judgment geared toward the realization of progressive change in a complex transitional world. However, the emphasis of this course will be on the prevailing contradictions between autocracy, democracy and globalization.
Student Learning Outcomes
Upon completion of this course, students are expected to accomplish the following goals:
1. Able to realize the meaning of democracy and the reasons for transitional problems to liberal democracy in the 3rd world countries including China and Russia.
2. Know the differences between the free market and command economies.
3. Realize demand and supply side economic theories.
4. Able to see if the U.S. political system can be used as a model of democracy for other countries.
5. Should know what the obstacles are for economic development in the third world countries.
6. Able to distinguish reform from revolutionary change.
7. Able to present arguments for and against cases studied.
8. Know whether or not there is a useful distinction between authoritarian, democratic and religious political systems.
9. Comprehend Global Islamic Politics.
10. Realize the Paradox's of Globalization.
11. Understand the underlying reasons for globalization and global polarization.
12. Think critically and analytically.

POLS 2210. New Mexico Government
Course Description
An exploration of New Mexico government including the historical roots of our political system, our relationship with the federal government, and an inside view of the working of politics in the state capital and in our communities.
Student Learning Outcomes

Not Available

POLS 2220. Native American Politics

Course Description

Examines Native American political issues and government dynamics in contemporary and historical times. Themes include history and structures of tribal government; cultural issues; intergovernmental dynamics; and the role of tribal politics in contemporary Native American life.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to…

1. Demonstrate understanding of the histories of tribes' first contact with white outsiders;
2. Compare and contrast different forms of tribal government as they exist today.
3. Describe the history of relations with federal, state and local governments and the effect of these relations on tribal governments.
4. Analyze the effects of colonization by differing forces, at different times, on tribal status and relations with federal, state and local governments today.
5. Demonstrate ability to coherently and intelligently discuss the following issues in Native American politics – sovereignty, law and justice, indigenous rights, economic development, repatriation, and activism.
6. Demonstrate ability to evaluate effect of past history on current tribal situations and issues.
7. Demonstrate appreciation of strengths of Native peoples in contemporary America.

POLS 2230. Political Ideas

Course Description

A critical examination of ideas such as justice, democracy, freedom, citizenship, and others, through an exploration of political thought from ancient to contemporary times.

Student Learning Outcomes

1. Demonstrate knowledge and understanding of political philosophies espoused by writers from various traditions.
2. Demonstrate ability to critique, analyze, and synthesize the various philosophical readings.
3. Demonstrate ability to theories presented in the writings, to political practices as experienced in everyday life.
4. Demonstrate ability to link the theory and practice taught in class to one's own life experiences.
5. Participate actively in class discussions.
6. Communicate understanding of one's own views and the views of others, in oral and written format.
7. Display ability to listen to, and respect, various points of view.
8. Demonstrate sensitivity to a variety of cultural backgrounds and viewpoints, in class discussions and in written work.

POLS 2240. Public Policy and Social Change

Course Description

This course will provide an overview of the structures and processes of public policy. This course will examine how social change is brought about through the actions of various agents including interest groups, advocacy coalitions, and executive, legislative and judicial policy processes. Also listed as HMSV 2360, Public Policy and Social Change.

Student Learning Outcomes

1. Be able to describe the governmental structures and processes by which policy is made.
2. Demonstrate understanding of the policy advocacy process.
3. Be able to describe the process of policy implementation.
4. Engage in analysis of policy issues and solutions from a number of different points of view.
5. Demonstrate ability to critique various theoretical frameworks that are used to analyze the policy process.
6. Think critically about policy issues and processes.
7. A copy of this approved syllabus in on file in the dean's office.

8. Demonstrate ability to find information relevant to policy issues and processes.
9. Demonstrate ability to formulate an action plan for policy advocacy, implementation, and evaluation.

POLS 2260. Politics Among Nations (Writing Intensive)
Course Description
A study of the major theories and issues in international politics. The course covers four primary issue areas: 1) Concepts and theories of international relations; 2) War and security; 3) The global economy; and 4) Emerging issues in international relations.
Student Learning Outcomes
1. The student will be able to articulate an understanding of the relationship between states and the function of international organizations in an anarchic international system.
2. The student will demonstrate knowledge of specific theories of international relations, specific historical events (World Wars, the Cold War), and issues that affect international relations (trade, development, alliances, civil wars).
3. The student will be able to identify, explain, and critically assess hypotheses which purport to explain outcomes in international relations.

POLS 2270. The Chicano Experience in the United States
Course Description
This course is designed as an introduction to the study of the culture, heritage, and socio-political experience of the Mexican American people in the United States with special emphasis on the Southwest. Students are expected to engage in a civic, political, artistic, or any social justice project that would reflect on contemporary or historical Chicano experience.
Student Learning Outcomes
Not Available

POLS 2280. Minorities and Politics
Course Description
This course will focus primarily upon the incorporation of minorities in mainstream politics and their role in the formation of governing coalitions in some of the largest urban regions of the country. Central to this approach will be the examination of the impact of these governing coalitions on the participation of minorities in the political process. Particular focus will be placed on African Americans, Latinos, Native Americans, and Asian Americans as they seek to incorporate into governing coalitions.
Student Learning Outcomes
Not Available

POLS 2290. Logic and Methods in the Social Sciences
Course Description
This course is an introduction to the logic and methods used in the social sciences with an emphasis on exposure to the components of research and scholarly literature.
Student Learning Outcomes
Not Available

POLS 2310. The American Presidency
Course Description
You will study the presidency as an institution of power and of leadership and its relation to other political institutions.
Student Learning Outcomes
By the end of the course, students will be able to:
1. Explain the historical and political foundations of the presidency of the United States.

2. Explain the precursors to, and the development and adoption of the United States Constitution and its establishment of the presidency.
3. Explain the United States federal system, the balance of powers, the electoral college, as it applies to the presidency.
4. Describe the power, structure and operation of the presidency as one of the main institutions of government
5. Explain the role of political parties and interest groups in the presidency.
6. Describe the role of demographics, public opinion and the media in American presidency.

POLS 2993. Workshop in Political Science
Course Description
Specific topics to be announced in Schedule of Classes.
Student Learning Outcomes
Varies

POLS 2996. Topics in Political Science
Course Description
Specific topics to be announced in Schedule of Classes.
Student Learning Outcomes
Varies

POLS 2998. Internship in Political Science
Course Description
Varies
Student Learning Outcomes
Varies

Population and Public Health (POPH)

POPH 1110. Introduction to Population and Public Health
Course Description
Introduction to Population Health provides a population perspective on the multi-level determinants of health, disease, and injury; the programs, policies and services that protect and promote health and prevent disease; the analytic tools used by population health professionals; and sources of information for evidence-based decision making. Students will develop a population health perspective through experiential learning activities.
Student Learning Outcomes
1. Curriculum Objective 1 (CO1):
    a. Describe historical systems, policies, and events impacting population health
    b. Describe historical systems that addressed population health
    c. Identify policies that impact population health both positively and negatively
    d. Identify events that have impacted population health at the local, national and global levels
2. Curriculum Objective 2 (CO2):
    a. Identify and describe factors affecting the health of a community
    b. Analyze determinants of health/disease
    c. Synthesize and communicate the responses to the determinants of health/disease
    d. Describe the role of policy as they apply to population health
3. Curriculum Objective 3 (CO3):
    a. Describe priorities for population health interventions, identify sources and the quality of existing health data

b. Use population data to assist in determining the needs of a population for the purposes of designing programs, formulating policy, and conducting research or training.

4. Curriculum Objective 4 (CO4):
   a. Describe the institutions, systems, and essential services of public health
   b. Identify governmental and nongovernmental organizations at the local, state, national and global levels.
   c. Describe the essential services of public health and how they integrate into our health systems
5. Curriculum Objective 5 (CO5):
   a. Define relevant population health terms like morbidity, mortality, prevalence, outcomes, health promotion, health determinant, health disparity, social justice and health equity.
   b. Synthesize the terms into communication on the status, programs and policy to address population health issues.
6. Curriculum Objective 6 (CO6):
   a. Develop and apply critical thinking and analytical skills to population health issues

   b. Demonstrate effective communication and information retrieval skills through a variety of essential media to advance population health

POPH 1120. Global Health Challenges and Responses

Course Description

This course will introduce students to the main concepts of global public health, and the critical links between public health and social and economic development. Students will get an over-view of the determinants of health, how health status is measured, and the influences of various factors, including social, economic, and political issues on the health of individuals and of communities. Students will also review the burden of disease, who is most affected by different disease burdens, risk factors, and key measures to address the burden of disease in cost-effective ways. Special attention will be paid to health system issues.

Student Learning Outcomes

1. Demonstrate an understanding of key public health concepts, including: the demographic and epidemiological transitions, the burden of disease, the impact of key health conditions on individuals and on communities, and critical issues in the organization and delivery of health services.
2. Demonstrate an understanding of the various determinants of health, with particular concern for communicable/infectious disease, nutrition, reproductive health, education, and environmental issues.
3. Demonstrate an understanding of the burden of disease in various regions of the world, how it varies both within and across countries, and how the disease burden can be addressed in cost-effective ways.
4. Demonstrate an understanding of the multi-directional links between health, social, political, and economic factors, and the operational linkages between health and equity.
5. Demonstrate an understanding of the critical health issues from the point of maternal and child health and armed/violence conflict.
6. Demonstrate an understanding of challenges and trends globally that relate to the challenges faced in New Mexico.

POPH 1130. Introduction to Community Health Worker

Course Description

This course provides an overview of the history and introduction to the CHW profession, including scope of practice, roles, competencies, attributes and qualities. It provides practice-based guidelines for professional conduct, ethics and boundaries, confidentiality and informed consent. It exposes students to professional organizations, encourages professional identify and development; and reviews the processes for CHW certification in New Mexico.

Community Health Workers are frontline public health workers who are trusted members of the communities they serve. They are also known as Community Health or Wellness Advisors, Tribal CHRs, health advocates, care navigators, promotores de salud, and many similar titles. CHWs facilitate access to services, improve quality, and reduce health inequities by serving as bridges between their communities and health/social service systems. CHWs build individual and community capacity by increasing health knowledge and through self-sufficiency activities such as outreach, community education, informal counseling, social support, and advocacy. They provide practical services to underserved populations, working with individuals, families, communities, and lawmakers. CHWs can be found working in health systems, human service organizations, schools, faith communities, behavioral health agencies, community health centers, and Tribal programs.

Student Learning Outcomes

1. Discuss the history and impact of CHWs in improving individual and community health
2. Describe the CHW scope of practice and competencies, and the role of CHWs on the multidisciplinary care team
3. Discuss and apply standards for ethical thinking and behavior, and for maintaining professional boundaries
4. Describe and apply professional guidelines pertaining to confidentiality, duty to report, and informed consent
5. Demonstrate self-awareness and self-care practices
6. Develop strategies for organization, prioritization, and time management of workload
7. Communicate professionally and effectively with other members of the care team, referral sources, and partners
8. Develop affiliations, professional identity, and leadership opportunities via public health networks and organizations
9. Appreciate and develop practices for staying current on important health issues and trends, engaging in continuing education, and life-long learning
10. Explain the standards, processes, and three pathways for voluntary CHW certification in New Mexico.

POPH 1140. Clinical Basics for Frontline Workers

Course Description

This course prepares students with basic skills for providers in clinical and home health settings, fire fighters, first responders, ski patrollers, bike patrollers, law enforcement and for anyone interested in volunteering with a fire department. This course includes BLS CPR certification, First Aid Certification, Blood Borne Pathogens, vital signs, and opioid overdose reversal.

Student Learning Outcomes

1. Accurately define and utilize basic medical terminology.
2. Describe and apply Universal Precautions when performing screenings and responding to emergencies.
3. Perform basic vital signs.
4. Perform single-rescuer and team basic life support competently upon assessment, with a focus on high-quality CPR and team dynamics.
5. Perform basic first aid including splinting, bleeding control, making a tourniquet, and use of an epi-pen.
6. Respond to opioid overdose emergencies utilizing opioid overdose protocols.

POPH 1150. Mental Health First Responder

Course Description

Mental Health First Aid introduces participants to the risk factors and warning signs of mental health problems, builds an understanding of the importance of early intervention, and reviews common supports. Includes evidence-based strategies for responding to suicide risk and thoughts of self-harm. Students will learn to offer initial help to someone in a mental health or substance use crisis through a 5-step action plan, with the ultimate goal to connect persons to appropriate professional, peer, social, and self-help care. The program also teaches the common risk factors and warning signs of specific types of illnesses like anxiety, depression, substance use, bipolar disorder, and schizophrenia. Participants are introduced to local mental health resources, national organizations, support groups, and online tools for mental health and addictions treatment and support. Participants will also be trained in identifying, responding to, and administering medication (NARCAN) to reverse opioid overdoses.

Student Learning Outcomes

1. Recognize the signs that someone may be dealing with a mental health problem or crisis.
2. Reach out to someone who may be dealing with a mental health problem or crisis.
3. Assess for risk of suicide or self-harm.
4. Actively and compassionately listen to someone in distress.
5. Offer a distressed person basic "first aid" level information and reassurance about mental health problems.
6. Assist a person who may be dealing with a mental health problem or crisis to seek professional help.
7. Assist a person who may be dealing with a mental health problem or crisis to connect with community, peer, and personal supports.
8. Gain insight into on one's own views and feelings about mental health problems and disorders.
9. Recognize and correct misconceptions about mental health and mental illness.
10. Identify and treat opioid overdose emergencies with NARCAN.

POPH 2010. Fundamentals of One Health

Course Description

This course will facilitate learning vocabulary, reinforce the principles of disease processes, and explore the relationship of diseases to public/population health domains such as population-based preventive medicine and screening, health policy and law, ethics, cultural competence, economics, and prevention. Lectures will facilitate inclass discussion of ecological, biomedical, public, and population health aspects of health and disease.

Student Learning Outcomes

1. Explain One Health, Environmental, and Zoonotic Diseases.
2. Recognize determinants of health, particularly concerning communicable/infectious disease and environmental issues.
3. Describe fundamental biologic concepts of the disease process as they relate to public health.
4. Describe the role of host and environmental factors in determining susceptibility and resistance to disease.
5. Build practical oral and written communication skills for communicating with lay and public health audiences.
6. Investigate population health challenges and trends related to the challenges faced in New Mexico, the Southwest Region, the nation, and the world.

POPH 2020. Community Health Work: Frameworks, Principles and Practices for Direct Service

Course Description

This course provides a broad introduction to public health as the framework for providing direct services to individuals, with focus on the ecological model, health equity, and healthcare systems. It provides in-depth skills practice for providing effective service within that framework, including interpersonal and communication skills, cultural humility, and client-centered, strength-based approaches. It applies those core skills to an array of scenarios including conducting client interviews, managing and resolving conflict, working on a care team, and delivering health literate, trauma-informed care.

Student Learning Outcomes

1. Define health and public health and apply the ecological model to understanding the social determinants of health in individuals, groups, and communities.
2. Discuss the concept of health as a human right; advocate and work for health equity and inclusion.
3. Discuss and demonstrate CHW roles and responsibilities in advocating for social justice, and the connection to health.
4. Plan a client interview demonstrating the client-centered approach (empathy, non-judgment, strengths-based).
5. Create safety for and work effectively with individuals and groups impacted by stigma, trauma and incarceration.
6. Describe and demonstrate cultural humility principles and practices for working with diverse clients & communities.
7. Define, negotiate, mediate, and resolve conflict; demonstrate insight into one's own conflict style.

POPH 2030. Health Coaching and Health Promotion

Course Description

This course provides a strong foundation in health coaching and health promotion, with a focus on working with individuals from a broader public health lens. It offers strategies and skills for supporting client-centered behavior change including action planning, motivational interviewing, and communication skills. It identifies barriers to change such as stigma and bias, gaps in health literacy, and offers strategies for addressing those barriers. Lessons learned will be applied to scenarios involving harm reduction, and the self-management of chronic conditions. Using the HEAL model, students will explore practical frameworks and guidelines for promoting health, delivering health education, and accessing and communicating reliable health information

Student Learning Outcomes

1. Conduct client-centered health coaching sessions utilizing communication skills (OARS), stages of change theory, motivational interviewing, goal setting, and action planning.
2. Describe and effectively work with common barriers to changing health behaviors, including bias, stigma, and trauma.
3. Describe risk/harm reduction; identify and utilize strategies to reduce health risk and harm.
4. Identify common chronic conditions and discuss related inequities in disease rates among populations.
5. Explain and analyze the concept of patient empowerment in the self-management of chronic conditions.
6. Define health literacy and utilize strategies for closing health literacy gaps to improve health outcomes.
7. Research and analyze sources of health and digital health information for authority, bias, and currency.
8. Explain general guidelines for healthier eating and drinking, as well as for regular activity or exercise.
9. Demonstrate a 5-step approach to providing health education to individuals about nutrition, physical activity, or other health topics.

POPH 2040. Health Navigation and Service Coordination

Course Description

This course provides an overview of models, skills, tools, resources, and considerations for providing strengths-based health navigation and service coordination with clients. Rooted in principles of client-centered practice developed in PHLS 2020, and motivational approaches to planning change in PHLS 2030, this course will explore best practices for planning, conducting and documenting case-finding and recruitment, establishing and maintain relationship via client interviewing, developing service plans, making and tracking meaningful referrals, and building client self-efficacy and self-reliance. Addresses the importance of building relationships with referral sources and agencies.

Student Learning Outcomes

1. Describe the scope, roles, and tasks of community health workers in health navigation and service coordination.
2. Describe and utilize common methods for case-finding, in-reach, and outreach for various population groups.
3. Assess client needs, resources, strengths, risks, and readiness, and create a navigation/service coordination plan that builds client capacity and self-reliance.
4. Conduct and document a client interview utilizing an array of interpersonal, communication, and planning skills.
5. Demonstrate client-centered principles and practices in working with individuals and families including empathy, sensitivity, kindness, non-judgment, advocacy, and respect for client autonomy.
6. Discuss and explain confidentiality and clients' rights in the context of service provision.
7. Identify and facilitate access to enrollment in healthcare programs, benefits, services, and community resources; make and track meaningful referrals.
8. Organize, document, and track components of service plans, including goals, referrals, and appointments.
9. Establish and maintain relationships with referral sources and agencies.
10. Advocate for clients to support timely, accessible, and culturally/linguistically competent care & services
11. Identify and address systems barriers to quality, accessible care and services.
12. Discuss and develop self-awareness, boundaries, and strategies for working with unique or challenging scenarios.

POPH 2050. Health Education and Facilitation

Course Description

This course provides an overview of the major approaches, models, skills, and knowledge needed to plan, facilitate, and evaluate basic health education presentations for groups in clinical and community settings. It provides a similar overview to planning and facilitating groups and group processes for a variety of health-related purposes. The course offers an experiential immersion into principles of adult learning and explores related media and instructional strategies. It addresses common challenges in group education and facilitation and promotes best practices for the professional development and self-care of educators and facilitators including cultural humility, boundaries, confidentiality, supervision, and managing power dynamics.

Student Learning Outcomes

1. Identify different types of training and training approaches that CHWs may facilitate, including popular education, participatory learning, and problem-based learning.
2. Discuss some of the ways that people learn new information and skills.
3. Identify and respond to common challenges faced by training facilitators.
4. Develop a training plan, including learning goals and outcomes; deliver and evaluate the training.
5. Identify and describe different types of groups, and the unique benefits of group work.
6. Explain four stages of group work; analyze the roles and task of facilitators at each stage.
7. Analyze how issues of power and authority, including the facilitator's, influence group dynamics and processes.
8. Discuss the importance of self-reflection and evaluation for facilitators and apply it to one's work.
9. Discuss & apply ethics to group work, including issues of cultural humility, boundaries, confidentiality, supervision.
10. Design and facilitate their own group; document group proceedings, agendas, and minutes.

POPH 2060. Community Health Outreach, Assessment and Advocacy

Course Description

This course provides an overview of various approaches, models, methods, and considerations for doing public health work in community spaces and settings: conducting home visits, health outreach, community organizing, and advocacy for improving community health. Students will learn to utilize a wide range of tools central to this work including environmental scans, community health assessments, surveys, focus groups, canvassing, and PhotoVoice. We will explore the unique role of the health worker in advocating for communities, surfacing community-identified priorities, and activating and building community-based leadership. Addresses a wide range of considerations related to this aspect of community health work including building relationships and trust, ethics, confidentiality, and safety.

Student Learning Outcomes

1. Describe the role of CHWs/CHRs in home visiting, health outreach, community assessment, community health advocacy.
2. Discuss and demonstrate the qualities of successful outreach workers and advocates that enable them to build relationships and trust in community.
3. Plan, conduct, and document home visits and environmental assessments utilizing guidelines for common courtesies and safety.
4. Discuss the different indications, types, and levels of health outreach; plan a health outreach campaign in a targeted community.
5. Discuss the CHW /CHR interface with formal and informal community leaders, and in building community capacity & leadership.
6. Conduct, document, and share results of a strengths-based community diagnosis utilizing tools such as mapping, surveys, scans, canvassing, and focus groups, applying health literacy principles.
7. Describe the five-step Community Action Model (CAM) and utilize it to develop a community organizing plan.
8. Train, support, and mobilize community members to self-advocate around health issues and priorities.

9. Develop and deliver a policy-advocacy presentation to community leaders/policymakers utilizing PhotoVoice.
10. Discuss ethical considerations related to conducting home visiting, community outreach, and advocacy including issues of cultural humility, boundaries, confidentiality, and supervision.

POPH 2210. Population Health: Introduction to Social, Cultural, Behavioral Theory

Course Description

This online asynchronous course exposes students to the purpose and application of social science and behavioral science theories used in population health. We will examine and apply theories that help us understand behavior and that inform and strengthen population health practices including theories of behavior change as applied to individuals and their social networks, theories of community change, and the influence of theory on organizational structures and programs. We will discuss how theories can be used to understand and interpret health and social problems. We will use readings, class discussions, and individual and group assignments to understand the individual, social, environmental, and cultural factors that influence behavior within and outside systems.

Student Learning Outcomes

1. Describe how the Socioecological Model (SEM) serves as a foundation for how theory is used in population health.
2. List and describe the key constructs of the Socioecological Model, the Health Belief Model, the Transtheoretical Model, the Social Cognitive Theory, the Theory of Planned Behavior, the Social Network Theory, the Diffusion of Innovation Theory, and other theories and explain how each might be applied to develop effective public health interventions.
3. Compare and contrast the strengths and weaknesses of population health theories at each socioecological level.
4. Defend the importance of using theory to design, test, and evaluate interventions to advance population health.
5. Summarize criticisms regarding each model of health behavior change and explain why these models may not be adequate to account for all observed health behaviors.
6. Describe the importance of health promotion, communication approaches and social marketing, coalitions, community organizations, advocacy, and culture in promoting behavior change at each level of the socioecological model.

POPH 2330. Introduction to Environmental and Occupational Health

Course Description

This course introduces basic concepts of environmental health and occupational health within a public health context. Environmental and occupational hazards will be explored in relation to government regulatory measures and prevention strategies taken to manage health risks within the general population and at the workplace.

Student Learning Outcomes

1. Recognize and assess real-life environmental and occupational health issues and events.
2. Describe and illustrate through case example how knowledge and understanding of exposure pathways informs risk management and provides opportunity for hazard control and risk reduction measures.
3. Describe the opportunities, challenges, and limitations of risk communication for effective risk management of environmental and occupational hazards.
4. Describe how regulatory frameworks at different levels of government are employed to control environmental and occupational hazards and exposures in the US.
5. Describe ways in which disadvantaged and vulnerable populations may be disproportionately burdened by environmental and occupational hazards.

POPH 2410. Fundamentals of Health Care Finance

Course Description

This course will introduce basic concepts of health care finance: access, affordability, quality, and portability.

Student Learning Outcomes

1. Discuss the advantages and disadvantages of various business models in healthcare.
2. Evaluate the impact of different reimbursement mechanisms (e.g., fee-for-service, capitation, value-based care) on the financial risk of healthcare organizations.
3. Develop and assess program budgets under diverse operational scenarios.
4. Explain and apply cost accounting methods, such as activity-based costing, and pricing strategies that utilize cost-accounting data.
5. Demonstrate financial analysis techniques, including breakeven analysis, capital investment analysis, and risk analysis, in healthcare decision-making.

POPH 2996. Population and Public Health Topics
Course Description
Varies
Student Learning Outcomes
Varies

Portuguese (PORT)

PORT 1110. Portuguese I
Course Description
Designed for students with no previous exposure to Portuguese, this course develops basic listening, speaking, reading, and writing skills. This is an introductory course aimed at teaching the student to communicate in Portuguese in everyday situations.
Student Learning Outcomes
1. Communicate and exchange information about familiar topics using phrases and simple sentences, sometimes supported by memorized language.
2. Can handle most short social interactions in everyday situations by asking and answering simple questions.
3. Can write short messages and notes on familiar topics related to everyday life.
4. Can often understand words, phrases, and simple sentences related to everyday life.
5. Can recognize pieces of information and sometimes understand the main topic of what is being said.
6. Can understand familiar words, phrases, and sentences within short and simple texts related to everyday life.
7. Can sometimes understand the main idea of what they have read.
8. Can make connections between beliefs, behaviors and cultural artifacts of the Portuguese-speaking world and make informed cross-cultural comparisons.

PORT 1120. Portuguese II
Course Description
A continuation of Portuguese I, students will develop a broader foundation in skills gained during the first semester, including understanding, speaking, reading and writing Portuguese. Students will also gain more in-depth knowledge of Portuguese-speaking cultures.
Student Learning Outcomes
1. Participate in conversations on a number of familiar topics using simple sentences.
2. Handle short social interactions in everyday situations by asking and answering simple questions.
3. Write about familiar topics and present information using a series of simple sentences.
4. Understand the main idea in short, simple messages and presentations on familiar topics.
5. Understand the main idea of simple conversations that they overhear.
6. Understand the main idea of short and simple texts when the topic is familiar.
7. Can begin to narrate and describe simple events in the past.

8. Can make broader connections between beliefs, behaviors and cultural artifacts of the Portuguese-speaking world, and make informed cross-cultural comparisons.

PORT 1130. Intensive Portuguese
Course Description
Not Available
Student Learning Outcomes
Not Available

PORT 1135L. Portuguese Language Lab
Course Description
A self-paced language lab designed to accelerate, reinforce and support all levels of Portuguese. The course provides an opportunity to practice and strengthen listening, speaking, reading and writing skills through the use of software, audio and video tapes, and other technologies.
Student Learning Outcomes
Student Learning Outcomes: At the conclusion of this course, the student should be able to demonstrate progress.in the following areas:
1. Pronunciation.
2. Vocabulary.
3. Grammatical structure.
4. Reading and listening comprehension skills.
5. Writing and speaking skills.
6. History and culture of the language-speaking world.

PORT 1140. Portuguese Abroad I
Course Description
Not Available
Student Learning Outcomes
Not Available

PORT 1145. Portuguese Abroad II
Course Description
Not Available
Student Learning Outcomes
Not Available

PORT 2110. Intensive Elementary Portuguese
Course Description
Not Available
Student Learning Outcomes
Not Available

PORT 2115. Intensive Intermediate Portuguese
Course Description
Not Available
Student Learning Outcomes
Not Available

PORT 2120. Intensive Portuguese for Spanish Speakers
Course Description
Not Available
Student Learning Outcomes
Not Available

PORT 2130. Intermediate Portuguese I
Course Description
Not Available
Student Learning Outcomes
Not Available

PORT 2140. Intermediate Portuguese and Brazilian Culture
Course Description
This is an intermediate Portuguese language course which assumes prior knowledge and some experience with Portuguese. The course uses a variety of language teaching approaches to help the students achieve the mastery of all four basic language skills: listening, speaking, reading and writing. At the same time students will become familiar with some of the most important cultural traits of Brazil.
Student Learning Outcomes

1. Engage fluently and confidently in Portuguese across diverse registers and contexts, demonstrating nuanced linguistic proficiency.
2. Navigate conversations across different timeframes, discussing events, experiences, individuals, locations, and objects while adeptly managing social interactions with cultural sensitivity in everyday scenarios.
3. Demonstrate writing proficiency across different temporal contexts and levels of formality, composing coherent paragraphs with logically structured sentences and pertinent details on familiar or personally significant topics, as well as current events, expressing experiences, reactions, viewpoints, and suggestions effectively.
4. Analyze oral, written, and multimedia texts across a broad spectrum of familiar subjects, identifying main ideas, grasping idiomatic expressions, and comprehending most details across various temporal contexts and levels of formality.
5. Demonstrate cultural competency by understanding and appropriately responding to cultural nuances, norms, and practices inherent in the Portuguese-speaking world, including awareness of regional variations and social customs, enhancing effective engagement and interaction in diverse cultural contexts.

PORT 2211. Brazilian Culture in English: Music, Art, Film and Literature
Course Description:
This course will look at Brazilian culture through music, film, art, and literature. In particular, the course will examine topics including environmental activism, race relations, gender, sexuality, class conflict, and migration through a wide variety of cultural representations from the diverse regions of Brazil.
Student Learning Outcomes:

1. Can engage in discussions about key Brazilian cultural production in culturally appropriate ways
2. Students can draw comparisons and parallels between Brazilian cultural production and culture from their countries

3. Students can identify major theoretical and analytical trends towards Brazilian cultural production, particularly in relations to ideas of racial democracy.
4. Students can work collaboratively to achieve project goals.
5. Students can locate sources by searching electronic and traditional databases
6. Students can describe the importance of considering diverse perspectives.

PORT 2996. Portuguese Topics
Course Description
Varies
Student Learning Outcomes
Varies

PORT 2998. Portuguese Internship
Course Description
Varies
Student Learning Outcomes
Varies

Professional Physical Education (PRPE)

PRPE 2110. Introduction to Athletic Training
Course Description
An introduction the field of athletic training and the basis for prevention and treatment of athletic injuries. In order to maintain accreditation requirements, this course is unique to UNM and may be not be replaced with a transferred course from another institution.
Student Learning Outcomes

1. PHP 8 Identify the necessary components to include in a preparticipation physical examination as recommended by contemporary guidelines (e.g., American Heart Association, American Academy of Pediatrics Council on Sports Medicine & Fitness).
2. PHP 9 Explain the role of the preparticipation physical exam in identifying conditions that might predispose the athlete to injury or illness.
3. PHP 10 Explain the principles of the body's thermoregulatory mechanisms as they relate to heat gain and heat loss.
4. PHP 11 Explain the principles of environmental illness prevention programs to include acclimation and conditioning, fluid and electrolyte replacement requirements, proper practice and competition attire, hydration status, and environmental assessment (e.g., sling psychrometer, wet bulb globe temperatures [WBGT], heat index guidelines).
5. PHP 12 Summarize current practice guidelines related to physical activity during extreme weather conditions (e.g., heat, cold, lightning, wind).
6. PHP 20 Summarize the basic principles associated with the design, construction, fit, maintenance, and reconditioning of protective equipment, including the rules and regulations established by the associations that govern its use.
7. PHP 24 Summarize the general principles of health maintenance and personal hygiene, including skin care, dental hygiene, sanitation, immunizations, avoidance of infectious and contagious diseases, diet, rest, exercise, and weight control.
8. PHP 25 Describe the role of exercise in maintaining a healthy lifestyle and preventing chronic disease.
9. PHP 29 Explain the basic concepts and practice of fitness and wellness screening.
10. PHP 32 Describe the role of nutrition in enhancing performance, preventing injury or illness, and maintaining a healthy lifestyle.

11. PHP 33 Educate clients/patients on the importance of healthy eating, regular exercise, and general preventative strategies for improving or maintaining health and quality of life.
12. PHP 34 Describe contemporary nutritional intake recommendations and explain how these recommendations can be used in performing a basic dietary analysis and providing appropriate general dietary recommendations.
13. PHP 35 Describe the proper intake, sources of, and effects of micro- and macronutrients on performance, health, and disease.
14. PHP 36 Describe current guidelines for proper hydration and explain the consequences of improper fluid/electrolyte replacement.
15. PHP 37 Identify, analyze, and utilize the essential components of food labels to determine the content, quality, and appropriateness of food products.
16. PHP 38 Describe nutritional principles that apply to tissue growth and repair.
17. PHP 39 Describe changes in dietary requirements that occur as a result of changes in an individual's health, age, and activity level.
18. PHP 40 Explain the physiologic principles and time factors associated with the design and planning of pre-activity and recovery meals/snacks and hydration practices.
19. PHP 41 Identify the foods and fluids that are most appropriate for pre-activity, activity, and recovery meals/snacks.
20. PHP 42 Explain how changes in the type and intensity of physical activity influence the energy and nutritional demands placed on the client/patient.
21. PHP 43 Describe the principles and methods of body composition assessment to assess a client's/patient's health status and to monitor changes related to weight management, strength training, injury, disordered eating, menstrual status, and/or bone density status.
22. AC 1 Explain the legal, moral, and ethical parameters that define the athletic trainer's scope of acute and emergency care.
23. AC 36 Identify the signs, symptoms, interventions and, when appropriate, the return-to-participation criteria for:
24. AC 36d heat illness including heat cramps, heat exhaustion, exertional heat stroke, and hyponatremia
25. AC 36e exertional sickling associated with sickle cell trait
26. AC 36f rhabdomyolysis
27. TI 21 Explain the federal, state, and local laws, regulations and procedures for the proper storage, disposal, transportation, dispensing (administering where appropriate), and documentation associated with commonly used prescription and nonprescription medications.
28. TI 24 Explain the major concepts of pharmacokinetics and the influence that exercise might have on these processes.
29. TI 25 Explain the concepts related to bioavailability, half-life, and bioequivalence (including the relationship between generic and brand name drugs) and their relevance to the patient, the choice of medication, and the dosing schedule.
30. PS 2 Explain the theoretical background of psychological and emotional responses to injury and forced inactivity (e.g., cognitive appraisal model, stress response model).
31. PS 11 Describe the role of various mental healthcare providers (e.g., psychiatrists, psychologists, counselors, social workers) that may comprise a mental health referral network.
32. PS 12 Identify and refer clients/patients in need of mental healthcare.
33. PS 14 Describe the psychological and sociocultural factors associated with common eating disorders.
34. PS 15 Identify the symptoms and clinical signs of substance misuse/abuse, the psychological and sociocultural factors associated with such misuse/abuse, its impact on an individual's health and physical performance, and the need for proper referral to a healthcare professional.
35. HA 1 Describe the role of the athletic trainer and the delivery of athletic training services within the context of the broader healthcare system.
36. HA 2 Describe the impact of organizational structure on the daily operations of a healthcare facility.
37. HA 3 Describe the role of strategic planning as a means to assess and promote organizational improvement.

38. HA 5 Describe basic healthcare facility design for a safe and efficient clinical practice setting.
39. HA 9 Identify the components that comprise a comprehensive medical record.
40. HA 18 Describe the basic legal principles that apply to an athletic trainer's responsibilities.
41. HA 23 Identify and explain the recommended or required components of a pre-participation examination based on appropriate authorities' rules, guidelines, and/or recommendations.
42. PD 1 Summarize the athletic training profession's history and development and how current athletic training practice has been influenced by its past.
43. PD 4 Explain the role and function of state athletic training practice acts and registration, licensure, and certification agencies including (1) basic legislative processes for the implementation of practice acts, (2) rationale for state regulations that govern the practice of athletic training, and (3) consequences of violating federal and state regulatory acts.
44. PD 6 Explain the process of obtaining and maintaining necessary local, state, and national credentials for the practice of athletic training.

PRPE 2120. Teaching Fundamental Motor Skills

Course Description

This course is designed to provide physical education majors an overview of traditional and non-traditional teaching methods that can be used to teach physical education, focusing on upper elementary and junior high age students. Strong emphasis will be put on progressions and tactical teaching methods and styles. Evaluation and assessment processes will be emphasized as well as incorporating a fitness component into each lesson with proper warm-up and cool down techniques. Each student will lead the class in a number of hands-on practical experiences with immediate feedback to begin learning the pros and cons of teaching physical education, improving each student's skill and knowledge in planning and teaching physical education.

Student Learning Outcomes

By the end of the semester students will be able to:

1. Demonstrate knowledge of skill themes and movement concepts that are developmentally appropriate for junior high and high school age students, during PE lessons. (COE: Understandings 1,3,4, Practices 1,2,3)
   - NM Comp for Entry PE Teachers: (**NMAC 6.64) 1 a,b,c,h, 2 b,c, 6 a,c,f**
   - Assessment: Activity Leader, Exam, Student Notebook
2. Demonstrate how PE meet National and State Standards in Physical Education (COE: Understanding 4,6, Practices 3)
   - NM Comp for Entry PE Teachers: (**NMAC 6.64) 1 d, 6 a**
   - Assessment: PE major lesson plans
3. Demonstrate knowledge of appropriate teaching progressions of skill themes and movement concepts for PE. (COE: Understanding 1,3,4, Practices 1,2,3,4)
   - NM Comp for Entry PE Teachers: Competencies 1, 6
   - Assessment: Block plans, Lesson plans, Student Notebook
4. Demonstrate strategies for diversity and modification with learning styles, developmental levels, culture, gender, age through implementation of different teaching styles and methods. (COE: Understanding 3,4, Practices 2)
   NM Comp for Entry PE Teachers: Competencies 2,3,4,6,7
   - Assessment: Peer Teaching, Lesson plans, Exam, Student Notebook
5. Demonstrate the ability to accurately self and peer evaluate teaching performances. (COE: Understandings 1, Practices 1,2,3)
   - NM Comp for Entry PE Teachers: Competencies 1,3,4,5,6,7,9
   - Assessment: Peer Teaching, Rubrics Assignment
6. Construct an organized activity notebook to assist instruction (COE: Understanding 1,2,3,4, Practices 1,3)
   - NM Comp for Entry PE Teachers: Competencies 1,2,3,4,5,6,7,8.
   - Assessment: Student Notebook

7. Demonstrate effective instructional and management behaviors during peer teaching experiences. (COE: Understanding 1,2,4, Practices 1,2,3,4)
    - NM Comp for Entry PE Teachers: Competencies 4,5,6,7
    - Assessment: Peer Teaching, Notebooks

PRPE 2125. Teaching Sport and Physical Activity

Course Description

This course is designed to provide physical education majors an overview of traditional and non-traditional teaching methods that can be used to teach physical education, focusing on upper elementary and junior high age students. Strong emphasis will be put on progressions and tactical teaching methods and styles. Evaluation and assessment processes will be emphasized as well as incorporating a fitness component into each lesson with proper warm-up and cool down techniques. Each student will lead the class in a number of hands-on practical experiences with immediate feedback to begin learning the pros and cons of teaching physical education, improving each student's skill and knowledge in planning and teaching physical education.

Student Learning Outcomes

By the end of the semester students will be able to:

1. Demonstrate knowledge of skill themes and movement concepts that are developmentally appropriate for junior high and high school age students, during PE lessons. (COE: Understandings 1,3,4, Practices 1,2,3)
    - NM Comp for Entry PE Teachers: (**NMAC 6.64) 1 a,b,c,h, 2 b,c, 6 a,c,f**
    - Assessment: Activity Leader, Exam, Student Notebook
2. Demonstrate how PE meet National and State Standards in Physical Education (COE: Understanding 4,6, Practices 3)
    - NM Comp for Entry PE Teachers: (**NMAC 6.64) 1 d, 6 a**
    - Assessment: PE major lesson plans
3. Demonstrate knowledge of appropriate teaching progressions of skill themes and movement concepts for PE. (COE: Understanding 1,3,4, Practices 1,2,3,4)
    - NM Comp for Entry PE Teachers: Competencies 1, 6
    - Assessment: Block plans, Lesson plans, Student Notebook
6. Demonstrate strategies for diversity and modification with learning styles, developmental levels, culture, gender, age through implementation of different teaching styles and methods. (COE: Understanding 3,4, Practices 2)
    - NM Comp for Entry PE Teachers: Competencies 2,3,4,6,7
    - Assessment: Peer Teaching, Lesson plans, Exam, Student Notebook
7. Demonstrate the ability to accurately self and peer evaluate teaching performances. (COE: Understandings 1, Practices 1,2,3)
    - NM Comp for Entry PE Teachers: Competencies 1,3,4,5,6,7,9
    - Assessment: Peer Teaching, Rubrics Assignment
8. Construct an organized activity notebook to assist instruction (COE: Understanding 1,2,3,4, Practices 1,3)
    - NM Comp for Entry PE Teachers: Competencies 1,2,3,4,5,6,7,8.
    - Assessment: Student Notebook
9. Demonstrate effective instructional and management behaviors during peer teaching experiences. (COE: Understanding 1,2,4, Practices 1,2,3,4)
    - NM Comp for Entry PE Teachers: Competencies 4,5,6,7
    - Assessment: Peer Teaching, Notebooks

PRPE 2130. Athletic Training Observation Lab

Course Description

This course will focus on the professional development and responsibilities in the profession of athletic training. Materials addressed will include, but not limited to blood-borne pathogens training; pre-participation examinations; basic wrapping

skills; protective equipment; environmental considerations; and basic human anatomy. Students in this course will be introduced to the clinical aspects of athletic training and UNM-ATEP policies. In order to maintain accreditation requirements, this course is unique to UNM and may be not be replaced with a transferred course from another institution.

Student Learning Outcomes

- PHP 7 Implement disinfectant procedures to prevent the spread of infectious diseases and to comply with Occupational Safety and Health Administration (OSHA) and other federal regulations.
- PHP 8 Identify the necessary components to include in a preparticipation physical examination as recommended by contemporary guidelines (e.g., American Heart Association, American Academy of Pediatrics Council on Sports Medicine & Fitness).
- PHP 9 Explain the role of the preparticipation physical exam in identifying conditions that might predispose the athlete to injury or illness.
- PHP 10 Explain the principles of the body's thermoregulatory mechanisms as they relate to heat gain and heat loss.
- PHP 11 Explain the principles of environmental illness prevention programs to include acclimation and conditioning, fluid and electrolyte replacement requirements, proper practice and competition attire, hydration status, and environmental assessment (e.g., sling psychrometer, wet bulb globe temperatures [WBGT], heat index guidelines).
- PHP 12 Summarize current practice guidelines related to physical activity during extreme weather conditions (e.g., heat, cold, lightning, wind).
- PHP 13 Obtain and interpret environmental data (web bulb globe temperature [WBGT], sling psychrometer, lightning detection devices) to make clinical decisions regarding the scheduling, type, and duration of physical activity.
- PHP 14 Assess weight loss and hydration status using weight charts, urine color charts, or specific gravity measurements to determine an individual's ability to participate in physical activity in a hot, humid environment.
- PHP 18 Explain strategies for communicating with coaches, athletes, parents, administrators, and other relevant personnel regarding potentially dangerous conditions related to the environment, field, or playing surfaces.
- PHP 20 Summarize the basic principles associated with the design, construction, fit, maintenance, and reconditioning of protective equipment, including the rules and regulations established by the associations that govern its use.
- PHP 25 Describe the role of exercise in maintaining a healthy lifestyle and preventing chronic disease.
- PHP 43 Describe the principles and methods of body composition assessment to assess a client's/patient's health status and to monitor changes related to weight management, strength training, injury, disordered eating, menstrual status, and/or bone density status.
- PHP 44 Assess body composition by validated techniques.
- PHP 45 Describe contemporary weight management methods and strategies needed to support activities of daily life and physical activity.
- AC 21 Explain aseptic or sterile techniques, approved sanitation methods, and universal precautions used in the cleaning, closure, and dressing of wounds.
- AC 22 Select and use appropriate procedures for the cleaning, closure, and dressing of wounds, identifying when referral is necessary.
- AC 27 Explain the role of core body temperature in differentiating between exertional heat stroke, hyponatremia, and head injury.
- AC 28 Differentiate the different methods for assessing core body temperature.
- AC 30 Explain the role of rapid full body cooling in the emergency management of exertional heat stroke.
- AC 36 Identify the signs, symptoms, interventions and, when appropriate, the return-to-participation criteria for:
    - AC 36d heat illness including heat cramps, heat exhaustion, exertional heat stroke, and hyponatremia
    - AC 36e exertional sickling associated with sickle cell trait
    - AC 36f rhabdomyolysis
    - AC 36i asthma attacks

    - AC 36j systemic allergic reaction, including anaphylactic shock
    - AC 36m hypothermia, frostbite
    - AC 36o local allergic reaction
- AC 39 Select and implement the appropriate ambulatory aid based on the patient's injury and activity and participation restrictions.
- HA 10 Identify and explain the statutes that regulate the privacy and security of medical records.
- HA 18 Describe the basic legal principles that apply to an athletic trainer's responsibilities.
- HA 23 Identify and explain the recommended or required components of a pre-participation examination based on appropriate authorities' rules, guidelines, and/or recommendations.

PRPE 2135. Athletic Training Clinical I

Course Description

The subject matter of this course is designed to study the principles of protective athletic equipment, splinting, taping and bandaging techniques, and emergency procedures. Material addressed will include but not limited to: minimal standards of protection, materials used to decrease forces, tissue characteristics, emergency action planning, prevention and treatment of environmental conditions, and basic injury record keeping.

Student Learning Outcomes

- PHP 19 Instruct clients/patients in the basic principles of ergo dynamics and their relationship to the prevention of illness and injury.
- PHP 21 Summarize the principles and concepts related to the fabrication, modification, and appropriate application or use of orthotics and other dynamic and static splints.
- PHP 22 Fit standard protective equipment following manufacturers' guidelines.
- PHP 23 Apply preventive taping and wrapping procedures, splints, braces, and other special protective devices.
- CE 1 Describe the normal structures and interrelated functions of the body systems.
- CE 13 Obtain a thorough medical history that includes the pertinent past medical history, underlying systemic disease, use of medications, the patient's perceived pain, and the history and course of the present condition.
- AC 2 Differentiate the roles and responsibilities of the athletic trainer from other pre-hospital care and hospital-based providers, including emergency medical technicians/ paramedics, nurses, physician assistants, and physicians.
- AC 3 Describe the hospital trauma level system and its role in the transportation decision-making process.
- AC 4 Demonstrate the ability to perform scene, primary, and secondary surveys.
- AC 5 Obtain a medical history appropriate for the patient's ability to respond.
- AC 6 When appropriate, obtain and monitor signs of basic body functions including pulse, blood pressure, respiration, pulse oximetry, pain, and core temperature. Relate changes in vital signs to the patient's status.
- AC 7 Differentiate between normal and abnormal physical findings (e.g., pulse, blood pressure, heart and lung sounds, oxygen saturation, pain, core temperature) and the associated pathophysiology.
- AC 37 Select and apply appropriate splinting material to stabilize an injured body area.
- TI 16 Fabricate and apply taping, wrapping, supportive, and protective devices to facilitate return to function.
- HA 21 Develop comprehensive, venue-specific emergency action plans for the care of acutely injured or ill individuals.
- HA 22 Develop specific plans of care for common potential emergent conditions (e.g., asthma attack, diabetic emergency).
- HA 30 Describe the role and functions of various healthcare providers and protocols that govern the referral of patients to these professionals.
- CIP 2 Select, apply, evaluate, and modify appropriate standard protective equipment, taping, wrapping, bracing, padding, and other custom devices for the client/patient in order to prevent and/or minimize the risk of injury to the head, torso, spine, and extremities for safe participation in sport or other physical

- activity.

PRPE 2140. Evaluation of Athletic Injuries - Extremities

Course Description

This course is designed to provide information relative to assessment techniques and procedures that are essential to properly evaluate orthopedic and athletic injuries. Information gained during this course will provide athletic training students with a systematic evaluation process that can be applied to all athletic related injuries to the extremities, neck, head, trunk and torso. In order to maintain accreditation requirements, this course is unique to UNM and may not be replaced with a transferred course from another institution.

Student Learning Outcomes

- EBP 1 Define evidence-based practice as it relates to athletic training clinical practice.
- EBP 2 Explain the role of evidence in the clinical decision-making process.
- CE 1 Describe the normal structures and interrelated functions of the body systems.
- CE 2 Describe the normal anatomical, systemic, and physiological changes associated with the lifespan.
- CE 3 Identify the common congenital and acquired risk factors and causes of musculoskeletal injuries and common illnesses that may influence physical activity in pediatric, adolescent, adult, and aging populations.
- CE 4 Describe the principles and concepts of body movement, including normal osteokinematics and arthrokinematics.
- CE 6 Describe the basic principles of diagnostic imaging and testing and their role in the diagnostic process.
- CE 7 Identify the patient's participation restrictions (disabilities) and activity limitations (functional limitations) to determine the impact of the condition on the patient's life.
- CE 11 Explain the creation of clinical prediction rules in the diagnosis and prognosis of various clinical conditions.
- CE 12 Apply clinical prediction rules (e.g., Ottawa Ankle Rules) during clinical examination procedures.
- CE 13 Obtain a thorough medical history that includes the pertinent past medical history, underlying systemic disease, use of medications, the patient's perceived pain, and the history and course of the present condition.
- CE 14 Differentiate between an initial injury evaluation and follow-up/reassessment as a means to evaluate the efficacy of the patient's treatment/rehabilitation program, and make modifications to the patient's program as needed.
- CE 15 Demonstrate the ability to modify the diagnostic examination process according to the demands of the situation and patient responses.
- CE 18 Incorporate the concept of differential diagnosis into the examination process.
- CE 20 Use standard techniques and procedures for the clinical examination of common injuries, conditions, illnesses, and diseases including, but not limited to:
- CE 20a history taking
    - CE 20b inspection/observation
    - CE 20c palpation
    - CE 20d functional assessment
    - CE 20e selective tissue testing techniques / special tests
    - CE 20f neurological assessments (sensory, motor, reflexes, balance, cognitive function)
- CE 21 Assess and interpret findings from a physical examination that is based on the patient's clinical presentation. This exam can include:
    - CE 21a Assessment of posture, gait, and movement patterns
    - CE 21b Palpation
    - CE 21d Assessment of quantity and quality of osteokinematic joint motion
    - CE 21e Capsular and ligamentous stress testing
    - CE 21f Joint play (arthrokinematics)
    - CE 21g Selective tissue examination techniques / special tests

    - CE 21h Neurologic function (sensory, motor, reflexes, balance, cognition)
- AC 5 Obtain a medical history appropriate for the patient's ability to respond.
- AC 39 Select and implement the appropriate ambulatory aid based on the patient's injury and activity and participation restrictions.
- CIP 4 Perform a comprehensive clinical examination of a patient with an upper extremity, lower extremity, head, neck, thorax, and/or spine injury or condition. This exam should incorporate clinical reasoning in the selection of assessment procedures and interpretation of findings in order to formulate a differential diagnosis and/or diagnosis, determine underlying impairments, and identify activity limitations and participation restrictions. Based on the assessment data and consideration of the patient's goals, provide the appropriate initial care and establish overall treatment goals. Create and implement a therapeutic intervention that targets these treatment goals to include, as appropriate, therapeutic modalities, medications (with physician involvement as necessary), and rehabilitative techniques and procedures. Integrate and interpret various forms of standardized documentation including both patient-oriented and clinician-oriented outcomes measures to recommend activity level, make return to play decisions, and maximize patient outcomes and progress in the treatment plan.
- CIP 6 Clinically evaluate and manage a patient with an emergency injury or condition to include the assessment of vital signs and level of consciousness, activation of emergency action plan, secondary assessment, diagnosis, and provision of the appropriate emergency care (e.g., CPR, AED, supplemental oxygen, airway adjunct, splinting, spinal stabilization, control of bleeding).

PRPE 2145. Evaluation of Athletic Injuries – Trunk & Torso

Course Description

This course is designed to provide information relative to assessment techniques and procedures that are essential to properly evaluate orthopedic and athletic injuries. Information gained during this course will provide athletic training students with a systematic evaluation process that can be applied to all athletic related injuries to the extremities, neck, head, trunk and torso. In order to maintain accreditation requirements, this course is unique to UNM and may be not be replaced with a transferred course from another institution.

Student Learning Outcomes

- EBP 1 Define evidence-based practice as it relates to athletic training clinical practice.
- EBP 2 Explain the role of evidence in the clinical decision-making process.
- CE 21 Assess and interpret findings from a physical examination that is based on the patient's clinical presentation. This exam can include:
    - CE 21i Cardiovascular function (including differentiation between normal and abnormal heart sounds, blood pressure, and heart rate)
    - CE 21j Pulmonary function (including differentiation between normal breath sounds, percussion sounds, number and characteristics of respirations, peak expiratory flow)
    - CE 21k Gastrointestinal function (including differentiation between normal and abnormal bowel sounds)
    - CE 21m Ocular function (vision, ophthalmoscope)
    - CE 21n Function of the ear, nose, and throat (including otoscopic evaluation)
- AC 5 Obtain a medical history appropriate for the patient's ability to respond.
- AC 23 Use cervical stabilization devices and techniques that are appropriate to the circumstances of an injury.
- AC 24 Demonstrate proper positioning and immobilization of a patient with a suspected spinal cord injury.
- AC 34 Explain the importance of monitoring a patient following a head injury, including the role of obtaining clearance from a physician before further patient participation.
- AC 36 Identify the signs, symptoms, interventions and, when appropriate, the return-to-participation criteria for:
    - AC 36a sudden cardiac arrest
    - AC 36b brain injury including concussion, subdural and epidural hematomas, second impact syndrome and skull fracture

    - AC 36c cervical, thoracic, and lumbar spine trauma
- HA 12 Use a comprehensive patient-file management system for appropriate chart documentation, risk management, outcomes, and billing.
- PD 9 Specify when referral of a client/patient to another healthcare provider is warranted and formulate and implement strategies to facilitate that referral.
- CIP 4 Perform a comprehensive clinical examination of a patient with an upper extremity, lower extremity, head, neck, thorax, and/or spine injury or condition. This exam should incorporate clinical reasoning in the selection of assessment procedures and interpretation of findings in order to formulate a differential diagnosis and/or diagnosis, determine underlying impairments, and identify activity limitations and participation restrictions. Based on the assessment data and consideration of the patient's goals, provide the appropriate initial care and establish overall treatment goals. Create and implement a therapeutic intervention that targets these treatment goals to include, as appropriate, therapeutic modalities, medications (with physician involvement as necessary), and rehabilitative techniques and procedures. Integrate and interpret various forms of standardized documentation including both patient oriented and clinician-oriented outcomes measures to recommend activity level, make return to play decisions, and maximize patient outcomes and progress in the treatment plan.
- Revised 1/2016 3
- CIP 6 Clinically evaluate and manage a patient with an emergency injury or condition to include the assessment of vital signs and level of consciousness, activation of emergency action plan, secondary assessment, diagnosis, and provision of the appropriate emergency care (e.g., CPR, AED, supplemental oxygen, airway adjunct, splinting, spinal stabilization, control of bleeding).

PRPE 2150. Motor Learning and Performance

Course Description

Psychological and neurophysiological factors related to the development of motor skills, emphasis on the teacher's role in facilitating learning.

Student Learning Outcomes

By the end of this course, the student will be able to:

1. Demonstrate knowledge of the learning and developmental process throughout the lifespan.
2. Discuss current trends and issues in motor learning and development research.
3. View theoretical positions of motor behavior from various conceptual viewpoints.
4. Discuss the interaction of cognitive and motor learning and development throughout the lifespan.
5. Describe the socialization process and its effect on motor learning and development.
6. Differentiate the components of basic fundamental movement patterns.

PRPE 2155. Tests & Measurements

Course Description

Designed to provide exercise science professionals, physical education professionals, athletic trainers, and future PT/OT students the knowledge of, and ability to select and administer fitness, skill, cognitive and affective measurement and evaluation techniques for various populations. Let’s prepare you for your future!

Student Learning Outcomes

At the conclusion of this course, you should be able to:

1. Differentiate between testing, measurement, and evaluation
2. Differentiate between reliability, validity, and objectivity
3. Assess physical fitness parameters, sport-related skills and motor ability
4. Correctly perform basic statistical analyses using Excel®
5. Create graphs and tables in accordance with APA guidelines
6. Develop basic skills in scientific style of writing

7. Critically evaluate scientific writing
8. Identify aspects of fitness assessment and research indicative of ethical treatment of clients and subjects.

PRPE 2160. Physical Education Skills and Content

Course Description

This course is designed to provide physical education majors an overview of traditional and nontraditional teaching methods that can be used to teach PE. Strong emphasis will be put on developmentally appropriate lessons focusing on progressions and tactical teaching methods and styles. Each student will lead the class in a number of hands-on practical experiences with immediate feedback to begin learning the pros and cons of teaching physical education, improving each student's skill and knowledge in planning and teaching PE.

Student Learning Outcomes

By the end of the semester students will be able to:

- Demonstrate knowledge of skill themes and movement concepts that are developmentally appropriate for junior high and high school age students, during PE lessons. (COE: Understandings 1,3,4, Practices 1,2,3)
    - NM Comp for Entry PE Teachers: (NMAC 6.64) 1 a,b,c,h, 2 b,c, 6 a,c,f
    - Assessment: Activity Leader, Exam, Student Notebook
- Demonstrate how PE meet National and State Standards in Physical Education (COE: Understanding 4,6, Practices 3)
    - NM Comp for Entry PE Teachers: (NMAC 6.64) 1 d, 6 a
    - Assessment: PE major lesson plans
- Demonstrate knowledge of appropriate teaching progressions of skill themes and movement concepts for PE. (COE: Understanding 1,3,4, Practices 1,2,3,4)
    - NM Comp for Entry PE Teachers: Competencies 1, 6
    - Assessment: Block plans, Lesson plans, Student Notebook
- Demonstrate strategies for diversity and modification with learning styles, developmental levels, culture, gender, age through implementation of different teaching styles and methods.
  (COE: Understanding 3,4, Practices 2)
    - NM Comp for Entry PE Teachers: Competencies 2,3,4,6,7
    - Assessment: Peer Teaching, Lesson plans, Exam, Student Notebook
- Demonstrate the ability to accurately self and peer evaluate teaching performances. (COE: Understandings 1, Practices 1,2,3)
    - NM Comp for Entry PE Teachers: Competencies 1,3,4,5,6,7,9
    - Assessment: Peer Teaching, Rubrics Assignment
- Construct an organized activity notebook to assist instruction (COE: Understanding 1,2,3,4, Practices 1,3)
    - NM Comp for Entry PE Teachers: Competencies 1,2,3,4,5,6,7,8.
    - Assessment: Student Notebook
- Demonstrate effective instructional and management behaviors during peer teaching experiences. (COE: Understanding 1,2,4, Practices 1,2,3,4)
    - NM Comp for Entry PE Teachers: Competencies 4,5,6,7
    - Assessment: Peer Teaching, Notebooks

PRPE 2165. Kinesiology

Course Description

A study of the musculoskeletal system as it relates to movement, physical activity and exercise performance. This course will introduce students to basic neuromuscular and biomechanical principles of human movement. Muscle origin, insertion and actions will also be covered.

Student Learning Outcomes

1. You will be able to recall the name, location, and function of anatomical structures

2. You will be able to recall the following during closed-book, multiple choice or short answer examinations:
   • Body movements and the plane they occur in.
   • Basic mechanisms and terminology of bone growth
   • Classification of specific structures (i.e.: type of joint, type of bone, type of muscle, part of the skeleton).
   • Direction of muscle fibers, general muscle attachment sites and actions
   • Basic concepts in Biomechanics (laws of motion, levers, mechanical advantage, etc.)
3. You will be able to demonstrate your knowledge and understanding of the functions of the musculoskeletal system in producing and controlling human movement through movement analysis exercises
4. You will be able to apply biomechanical principles to physical activity, exercise performance, and sport skills
5. You will also be able to analyze physical activity in terms of musculoskeletal components.

PRPE 2170. Teaching Fitness Concepts

Course Description

This course is designed to provide physical education preservice teacher candidates a basic background in exercise and health related fitness concepts. Planning, conducting and evaluating lessons in the area of fitness will be emphasized. The five health-related fitness components will be highlighted. Teacher candidates will participate in various fitness assessments; preparing, conducting, and evaluating each assessment area of fitness and learning how to develop goals and activities for behavior change. Teacher candidates will also complete a physical education teaching field experience with homeschool children the last six weeks of the course.

Student Learning Outcomes

Course outcomes align with the College of Education Conceptual Framework and the New Mexico competencies for Entry Level Physical Education Teachers. Upon completion of the course each student/pre-service teacher will have the ability to:

- Demonstrate knowledge concerning children's health topics. (COE "Understanding")
  - NM Comp for Entry PE Teachers: Content Knowledge
  - (Understanding 3, 4; Practices 2)
  - NM Comp for Entry PE Teachers (NMAC 6.64) 4 b, c, d, e, f, g, h
  - Assessment: Case Studies, Group Presentations, Lesson Plans, Notebook/Fitness Assessment Project, Exams
- Demonstrate knowledge of the different fitness concepts. (COE "Understanding")
  - NM Comp for Entry PE Teachers: Content Knowledge
  - (Understanding 1, 4; Practices 1, 2, 3)
  - NM Comp for Entry PE Teachers (NMAC 6.64) 1 a, b, h; 2 a, b, c; 3 a, b; 5 b, d; 6 b, c, f; 7 a, e
  - Assessment: Case Studies, Group Presentation, Lesson Plans, Notebook/Fitness Assessment Project, Exams
- Demonstrate effective planning, teaching, and assessment in a fitness concepts lesson. (COE "Understanding" & "Practice")
  - NM Comp for Entry PE Teachers: Content Knowledge, Planning and Instruction, Diverse Learners,
  - Learner Assessment
  - (Practice 2, 3)
  - NM Comp for Entry PE Teachers (NMAC 6.64) 1 a, b, c, d, h; 2 a, b, c, d; 3 a, b, c; 4 a, b, c, d, e, f, g, h; 5 a c; 6 a, b, c, d, e, f, g, h, I, j, k; 7 a, b, c, d, e; 8 a, b, c
  - Assessment: Group Presentation, Notebook/Fitness Assessment Project, Lesson Plans, Home-School Student Instruction
- Demonstrate effective planning, preparation, and implementation for fitness assessments in cardiovascular fitness, muscular strength, muscular endurance, flexibility, and body composition. (COE "Understanding")
  - NM Comp for Entry PE Teachers: Content Knowledge, Growth and Development, Diverse Learners,

Planning and Instruction, Learner Assessment
    - (Understanding 1, 2, 4; Practices 1, 2, 3, 4)
    - NM Comp for Entry PE Teachers (NMAC 6.64) 4 a, b, c, d, e, f, g, h; 5 a, c, e; 6 a, b, c, d, f, g, h. j, k; 7 a, b, c
  - Assessment: Case Studies, Notebook/Fitness Assessment Project, Exams
- Demonstrate effective presentation of a fitness concept lesson, peer teaching classmates, and teaching home-school teacher candidates. (COE "Practice")
  - NM Comp for Entry PE Teachers: Content Knowledge, Growth and Development, Diverse Learners, Management and Motivation, Communication, Planning and Instruction, Learner Assessment, Reflection and Professional Development
  - (Understanding 1, 2, 4; Practices 1, 2, 3, 4)
  - NM Comp for Entry PE Teachers (NMAC 6.64) 4 a, b, c, d, e, f, g, h; 5 a, c, e; 6 a, b, c, d, f, g, h. j, k; 7 a, b, c
  - Assessment: Case Studies, Group Presentation, Lesson Plans, Home-School Student Instruction, Notebook/Fitness Assessment Project, Exams
- Participate in the Fitness gram fitness tests and other assessments for the five health-related fitness components. (COE "Practice")
  - NM Comp for Entry PE Teachers: Learner Assessment
  - (Practices 1, 2, 3, 4)
  - NM Comp for Entry PE Teachers (NMAC 6.64) 1 a, b, c, d, h; 2 b, c; 3 a; 6 c, k
  - Assessment: Notebook/Fitness Assessment Project
- Demonstrate teaching skills by teaching physical education lessons to home-school teacher candidates. (COE "Practice")
  - NM Comp for Entry PE Teachers: Content Knowledge, Growth and Development, Diverse Learners, Management and Motivation, Communication, Planning and Instruction, Learner Assessment, Reflection and Professional Development, Collaboration
    (Understanding 1, 3; Practices 2,3,5)
  - NM Comp for Entry PE Teachers (NMAC 6.64) 1 a, b, d, h; 2 b, c; 3 a, b; 6 a, b, f
  - Assessment: Lesson Plans, Exams, Notebook

PRPE 2175. Introduction to Sport Pedagogy

Course Description

This course is designed to provide teacher candidates with an overview of effective and best practices for becoming a professional physical education teacher and to develop the beginning skill set of a high-quality educator. The teacher candidates will be given the opportunity to observe professional physical education teachers in their classrooms, from Albuquerque Public Schools. Teacher candidates will participate twice a week in a one-hour seminar and assist a physical education teacher in the classroom, two hours per week.

Student Learning Outcomes

Upon successful completion of this course, it is expected that teacher candidates will be able to:

1. demonstrate their knowledge concerning the duties and responsibilities of professional physical educators,
- Assessment of objective: reflection, exams
- (COE: Understandings 1, 3, 4)
- NM Comp for Entry PE Teachers NMAC 6.64: Content Knowledge 1 a, b, c, d, h

2. demonstrate their understanding of effective teaching practices,
- Assessment of objective: reflection, exams
- (COE: Understanding 1, 3, 4, 5, 7; Practices 1, 3, 4, 5)
- NM Comp for Entry PE Teachers NMAC 6.64: Planning and Instruction 6 a

3. demonstrate their ability to work effectively with children,

- Assessment of objective: cooperating teacher assessment
- (COE: Understanding 1, 3, 4, 5, 7; Practices 1, 3, 4, 5)
- NM Comp for Entry PE Teachers NMAC 6.64: Content Knowledge 1 a, b, c, d, h; Planning and Instruction 6 b, f

4. demonstrate their understanding of developmentally appropriate activities for elementary and secondary level students,

- Assessment of objective: exams, brochure, bulletin board
- (COE: Understanding 1, 3, 4, 5, 7; Practices 1, 3, 4, 5)
- NM Comp for Entry PE Teachers NMAC 6.64: Content Knowledge 1 a, b, c, d, h; Planning and Instruction 6 b, f

5. demonstrate professional behavior,

- Assessment of objective: cooperating teacher assessment
- (COE: Identities 4, 5)
- NM Comp for Entry PE Teachers NMAC 6.64: Reflection and Professional Development 8 c

6. critically reflect on situations that arise in the course of a teacher's day,

- Assessment of objective: reflections
- (COE: Understanding 1, 3, 4, 5, 7; Practices 1, 3, 4, 5)
- NM Comp for Entry PE Teachers NMAC 6.64: Growth and Development 2 a, b, c; Planning and Instruction 6 a, c, f, g

7. critically reflect on the professionalism of being a physical education teacher (i.e. taking advantage of participating in NMAAHPERD).

- Assessment of objective: reflections
- (COE: Identities 4, 5)
- NM Comp for Entry PE Teachers NMAC 6.64: Reflection and Professional Development 8 c

8. critically assess the role of physical education in the physical development of children,

- Assessment of objective: reflections
- (COE: Understanding 1, 3, 4, Practices 1, 3)
- NM Comp for Entry PE Teachers NMAC 6.64: Learner Assessment 7 a, c

9. create a developmentally appropriate bulletin board that is designed to motivate and educate a child about content commonly taught in physical education, and to advocate for quality physical education,

- Assessment of objective: bulletin board
- (COE: Understanding 1, 3, 4, 5, 7; Practices 1, 3, 4, 5)
- NM Comp for Entry PE Teachers NMAC 6.64: Growth and Development 2 a, b, c; Planning and Instruction 6 a, c, f, g

10. create an attractive brochure that is designed to inform parents, teachers, administrators, and other school community members about a quality physical education program and the outcome of a physically educated student,

- Assessment of objective: brochure/newsletter
- (COE: Understanding 1, 3, 4, 5, 7; Practices 1, 3, 4, 5)
- NM Comp for Entry PE Teachers NMAC 6.64: Growth and Development 2 a, b, c; Planning and Instruction 6 a, c, f, g

11. demonstrate beginning level skills of a pre-service professional physical educator in the following areas: (a) leading small group activities, (b) administer skills tests, (c) setting up equipment, (d) providing feedback and motivation to s students, and (e) leading discussions and explanations,

- Assessment of objectives: cooperating teacher assessment
- (COE: Identities 4, 5)
- NM Comp for Entry PE Teachers NMAC 6.64: Reflection and Professional Development 8 c

Psychology (PSYC)

PSYC 1110. Introduction to Psychology
Course Description

This course will introduce students to the concepts, theories, significant findings, methodologies, and terminology that apply to the field of psychology.

Student Learning Outcomes

Upon completion of the course students should be able to:

1. Explain how the scientific method and psychological research methodologies are used to study the mind and behavior.
2. Recall key terms, concepts, and theories in the areas of neuroscience, learning, memory, cognition, intelligence, motivation and emotion, development, personality, health, disorders and therapies, and social psychology.
3. Explain how information provided in this course can be applied to life in the real world.
4. Identify the major theoretical schools of thought that exist in psychology as they relate to the self, the culture, and the society.

PSYC 1115. Introduction to the Psychology Major

Course Description

This course is designed to give Psychology majors the knowledge and tools they need to get the most out of the major and assist them in making informed decisions about career choices in Psychology. There are two main goals for this course. The first is to provide students with helpful tools and resources to enhance their experience as a Psychology major. The second goal is to delineate the knowledge and skills that students are expected to acquire with a Psychology degree and to convey how these can be applied in their future academic, professional, and personal endeavors beyond graduation. During the semester, students will discuss the subdisciplines of Psychology and explore career options with varying levels of education. Students will learn about course requirements for the Psychology major and experiential learning opportunities available outside the classroom.

Student Learning Outcomes

1. Demonstrate knowledge and understanding of the subdisciplines of Psychology.
2. Demonstrate knowledge and understanding of the requirements of the Psychology major and experiential opportunities available to Psychology majors.
3. Identify career opportunities available to individuals with varying levels of education in Psychology and related fields (e.g., BA, MA, PhD, etc.).
4. Adopt strategies to prepare for future success in a job search or graduate school application.
5. Exhibit information literacy skills (e.g., literature searches, use of APA format) that will facilitate success in future Psychology courses.
6. Identify personal attributes as a student, areas of Psychology that are aligned with personal strengths, and strategies to make the most of personal strengths as a student.

PSYC 1120. Education & Career in Psychology

Course Description

Not Available

Student Learning Outcomes

Not Available

PSYC 1130. Introduction to Substance Abuse Studies

Course Description

This survey course offers an overview of the biological, psychological, and sociological aspects of drug and alcohol abuse and addiction and an overview of substance abuse problems in the family, school, and industry. Consideration will be given to

current research, attitudes toward drugs, theories of drug addiction and treatment, and Licensed Alcohol and Drug Abuse Counselor requirements in the state of New Mexico.

Student Learning Outcomes

1. Examine theories and principles related to substance abuse and addiction.
2. Analyze influences and views on substance abuse and addiction from different cultural and religious traditions.
3. Examine factors and consequences of substance abuse problems in the family, school, and industry.
4. Explore research contributions to understanding substance abuse and addiction.
5. Evaluate interventions used to avert and treat substance abuse and addiction.
6. Demonstrate critical thinking skills through the study of substance abuse and addiction.
7. Demonstrate knowledge of Licensed Alcohol and Drug Abuse Counselor requirements in the state of New Mexico.

PSYC 1140. Psychology of Drug and Alcohol Abuse

Course Description

The physiological and behavioral effects of alcohol and other drugs will be examined. Emphasis is placed on the psychopharmacology of commonly abused substances, the disease concept of chemical dependency, and on current research.

Student Learning Outcomes

1. Explore theories related to the physiological and behavioral effects of alcohol and other drugs.
2. Analyze current research and empirical evidence regarding physiological and behavioral effects of alcohol and other drugs.
3. Examine psychopharmacology of commonly abused substances.
4. Evaluate theories of substance use, abuse, and addiction.
5. Demonstrate critical thinking skills through thoughtful completion of assignments related to substance use, abuse, and addiction.
6. Demonstrate competence in effective interpersonal and academic communication skills.

PSYC 1150. Human Relations

Course Description

Students are introduced to psychology as a science that includes the study of human relations, using various theories of personality and group dynamics. Topics surveyed include psychology of self, personality theory, parenting, life span development, learning, therapies, and psychological disorders.

Student Learning Outcomes

With 70% accuracy, in a faculty-generated exam, students will:

1. Explain the Psychology of Self.
2. Define Personality Theory.
3. Define and explain Psychotherapies and Psychological disorders.
4. Explain theories related to the human experience at each stage of life.
5. Define and discuss Conscientiousness, hypnosis, Meditation and variations of sleep.
6. Compare and contrast function and dysfunction awareness.
7. Explain the steps involved in building a life path and career through educational opportunities.

PSYC 1160. Communication and Counseling Skills

Course Description

An introduction to basic communication skills and strategies for the helping professions, such as social work and mental-health counseling. The history, theory, and areas of practice in the helping professions will be explored through lecture and experiential activities. Special emphasis will be placed on the influence of personal and professional values of one's development as a service provider in a multicultural society.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Articulate different approaches and theories that provide the foundation for mental health counseling, social work and psychology.
2. Evaluate the different areas of practice and the career opportunities available in each profession.
3. Explain how values influence their perception of individual and societal problems and how counseling professionals respond to these problems.
4. Distinguish different strategies in assisting others and the making of appropriate referrals.

PSYC 1170. Psychology of Success

Course Description

The purpose of this course is to provide students the opportunity to explore the big ideas regarding what contributes to success in all areas of life.

Student Learning Outcomes

1. Demonstrate an understanding of key concepts in positive psychology and their real life impact.
2. Explore and apply the concept of fixed and growth mindsets to current and future stages of life.
3. Summarize the elements of PERMA and their contributions to success and happiness.
4. Appraise personal character strengths and virtues in order to develop a strategy for personal success.
5. Develop a zest of life-long learning.
6. Integrate the power of grit and gratitude into a quest for success.

PSYC 1175. Interpersonal and Career Development

Course Description

An introductory study of communication and interpersonal relationships in the service occupations.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to ...

1. Create an individual definition of success.
2. Define Psychology and cite its four major goals.
3. Describe the components of identity.
4. Cite the benefits of self-awareness.
5. Explain how personality, skills and interests relate to career choice.
6. Explain the characteristics and importance of well-set goals.
7. Describe several strategies for relieving stress.
8. Explain why self-acceptance is important for high self-esteem.
9. Explain the link between positive thinking and good health.
10. Connect critical thinking and the decision-making process.
11. Contrast intrinsic and extrinsic motivations.
12. Cite ways to overcome fear of failure or fear of success.
13. Explain the criteria for effective time management and money management.
14. Practice several skills necessary for effective speaking and active listening.
15. Explain the relationship between stereotypes, prejudice and empathy.
16. Explain how to handle conflict effectively.

PSYC 1180. Science & Pseudoscience

Course Description

This course examines methods for determining whether given claims are science or pseudoscience. Several controversial topics will be explored, with emphasis on coming to objective decisions about such claims. Topics

include logical fallacies, the scientific method, creationism, global warming and climate change, hidden codes in the Bible, relativity theory, 9/11 truth conspiracy claims, dark matter, UFO sightings, perpetual motion devices, quantum mechanics, quack medical claims, and more.

Student Learning Outcomes

By the end of this course, students will learn how

1. To tell the difference between science and pseudoscience;
2. To explain how science advances, and what makes science different from pseudoscience;
3. How psychological reasons can explain some acceptance of pseudoscience;
4. The methods pseudoscientists use to fool lots of people;
5. To understand examples of successful and revolutionary scientific findings, and be able to contrast these with pseudoscience; and finally, and
6. To improve communication, writing, investigative and debunking skills.

PSYC 1190. Human Factors in Science & Engineering

Course Description

This course explores how human capabilities and limitations influence decision making and performance and how scientists and engineers can use knowledge of these factors to design. We will focus on how cognitive processes and biases in perception, attention, memory and problem-solving influence performance. Examples of "human error" and ways in which error can be averted will be studied. Comparisons will be made between human and artificial intelligence.

Student Learning Outcomes

By the end of this course, students should:

1. Describe the importance of human factors in science and engineering.
2. Understand the limitations and biases in human information processing, and the relevance of those limitations to science, engineering, and your daily lives.
3. Explain the differences in expertise of scientists, engineers, designers, and typical system users.
4. Know how to apply human factors principles to design of systems and processes to reduce "human error."

PSYC 2110. Social Psychology

Course Description

This course is an introduction to the scientific study of human social influence and interaction, and explores how an individual's actions, emotions, attitudes and thought processes are influenced by society and other individuals.

Student Learning Outcomes

Upon completion of the course, students should be able to:

1. Identify concepts, theories, scientific methods, and research findings relevant to social psychology.
2. Explain how situational, social, and individual factors influence behavior.
3. Apply social psychological concepts to real-life events, current social issues and problems, and one's own life.

PSYC 2120. Developmental Psychology

Course Description

Study of human physical and psychological change and stability from a lifespan development perspective.

Student Learning Outcomes

Upon completion of the course, students should be able to:

1. Explain theories, methods and research findings of lifespan developmental psychology.
2. Describe the interaction between physical, cognitive, and psychosocial development across the lifespan.
3. Compare and contrast major developmental theories and discuss what each brings to or adds to the study of lifespan developmental psychology.

4. Identify factors that influence psychological development across the lifespan.
5. Apply basic principles of developmental psychology to one's own life experiences.
6. Analyze historical and cultural factors that influence development across the lifespan.

PSYC 2130. Adolescent Psychology
Course Description
Study of human physical and psychological change and stability from adolescence through the emerging adulthood years.
Student Learning Outcomes
Upon completion of the course, students should be able to:
1. Explain how scientific methodologies are applied to the study of adolescent psychology.
2. Describe major theories explaining adolescent behavior.
3. Identify the relationships between sociocultural factors and adolescent behavior.
4. Evaluate the impact of family structure, teachers, and peers on development during adolescence.
5. Describe the influence of cognitive development on adolescent behavior.

PSYC 2140. Child Psychology
Course Description
Study of human physical and psychological change and stability from conception through the late childhood years.
Student Learning Outcomes
Upon completion of the course, students should be able to:
1. Interpret infant and child behavior in terms of developmental norms.
2. Describe physical and psychological milestones and issues pertaining to infants and children.
3. Explain major theories of infant and child development.
4. Analyze sociocultural factors contributing to the development of infants and children.
5. Explain the impact of family structure, teachers, and peers on development of infants and children.
6. Connect theories, research, and practical applications of the study of humans from conception through the childhood years.

PSYC 2160. Basic Counseling Techniques
Course Description
In this course, you will become acquainted with basic counseling skills, including active listening techniques such as paraphrasing, summarization, attending behaviors, and focusing; emphasis is on rehearsal of skills.
Student Learning Outcomes
Upon successful completion of this course, each student will demonstrate the ability to:
1. The student will be able to distinguish between stages of treatment: exploration, insight, and action
2. The student will develop a visual journal filled with different journal prompts that can be used in psychoeducational groups and personal counseling.
3. The student will practice critical thinking and active, personal reflection (introspection) by exploring some important themes related to psychological health and personal growth.
4. The student will demonstrate their knowledge of counseling skills with applied practice in triads (with a mock therapist, a mock client, and an observer).
5. The student will gain first-hand experience with incorporating visual work with verbal, written work.
6. The student will be exposed to the development and history of visual journals by examining the work of Carl Jung and some current counselors and art therapists who advocate for the use of visual journals.

PSYC 2170. Psychology as a Profession
Course Description

This capstone course focuses on preparing students for future academic and career opportunities by cultivating critical thinking, problem-solving, and communication skills. Students will integrate and apply their psychological knowledge through hands-on fieldwork and research experiences, while reflecting on their academic growth and developing key professional competencies. The course includes practice in APA writing style, the creation of a literature review related to a potential internship or research project, and the initiation of a comprehensive e-portfolio highlighting students' projects, experiences, and skills, serving as a valuable resource for job applications and continued education.

Student Learning Outcomes

Upon completion of the course students should be able to:

1. Application of Psychological Knowledge: Students will integrate and apply key psychological concepts and theories through hands-on fieldwork and research experiences.
2. Critical Thinking and Problem-Solving: Students will demonstrate enhanced critical thinking and problem-solving skills by analyzing real-world psychological issues and developing evidence-based solutions.
3. Professional Writing and Research Skills: Students will develop proficiency in APA writing style and produce a literature review related to a potential internship or research project, demonstrating their ability to conduct and communicate research.
4. Reflective Practice and Professional Development: Students will reflect on their academic journey, identifying strengths, personal growth, and areas for further development in both academic and professional contexts.
5. Portfolio Development for Career and Academic Advancement: Students will begin building a comprehensive e-portfolio that showcases their projects, skills, and experiences, which will serve as a tool for job applications and further educational pursuits.

PSYC 2171. Writing and Careers in Psychology

Course Description:

Expectations for psychology majors and exploration of career options. Emphasis on APA writing and information literacy skills, success within the major, and career path planning.

Student Learning Outcomes:

Students who successfully complete this course should

1. Learn to use appropriate language, conventions, organization, supporting evidence, and content to effectively communicate in writing for the purpose and audience (written communication student learning outcome).
2. Learn to use appropriate language, conventions, elocution, poise, organization, supporting evidence, and content to effectively communicate through the spoken word for the purpose and audience (verbal communication student learning outcome).
3. Identify, locate, evaluate, and use information effectively and responsibly to increase understanding (information literacy student learning outcome).
4. Analyze, synthesize or deconstruct, interpret and evaluate information and concepts to solve problems (critical thinking student learning outcome).
5. Understand major areas of psychology and begin to plan for a future career (practical student learning outcome).

PSYC 2210. Abnormal Psychology

Course Description

This course provides students with an introduction to the field of abnormal psychology. Subject areas include history, methods, theories, etiologies, classification and treatment of disorders.

Student Learning Outcomes

Upon completion of the course, students should be able to:

1. Recognize terms used within the field of abnormal psychology.
2. Compare various methods for defining abnormal behavior.

3. Evaluate the development of classification systems that define “normal” and “abnormal” from historical, social, and cultural contexts.
4. Critically evaluate the symptoms and etiologies of mental health disorders in the current psychological diagnostic system.
5. Describe treatment modalities for mental health disorders.
6. Identify biological and psychological processes in mental health disorders.

PSYC 2220. Cognitive Psychology

Course Description

The course provides an overview of human cognitive processes such as attention, perception, memory, language, categorization, decision-making, reasoning, and problem solving. Includes methods, theories, and applications.

Student Learning Outcomes

Upon completion of the course, students should be able to:

1. Describe research findings in the major areas of human cognition.
2. Differentiate the research methods used to study the various topics in cognitive psychology.
3. Apply theories of cognition to the results of laboratory research.
4. Apply the research on cognitive psychology to topics in the real world.

PSYC 2221. Applied Psychology

Course Description

Explanation of the psychological principles of everyday living. Emphasizes motivation, learning of intelligent behavior, and applications of psychology to social issues.

Student Learning Outcomes

The objective of this course is to orient students to the personality characteristics, interpersonal competencies, ethical decision-making skills, and other professional traits associated with pursuing a career in a helping profession. By the end of the course you should be able to:

1. Identify the requirements for becoming a helping professional, characteristics of a skilled helper, and cultural factors that impact helping professionals
2. Explain your personal strengths and weaknesses as a potential helper.
3. Demonstrate appropriate helping strategies based upon the special characteristics of clients.
4. Compare the capabilities that individual, family, group, community, and online interventions offer you as a future helper.
5. Identify the ethical and legal issues that impact helping professionals
6. Analyze the potential impact of your future ethical and professional standards as a helping professional
7. Explain how your role as a helping professional is impacted by your professional affiliation and ethical principles
8. Analyze how worsening personal problems and increasing stress can impact the kinds and quality of our responses to life and the people around us.

PSYC 2230. Psychology of Adjustment

Course Description

This course focuses on the individual's adjustment to society, and the application of psychological principles to the understanding of adjustment.

Student Learning Outcomes

Upon completion of the course, students should be able to:

1. Explain the internal and external factors associated with the psychology of adjustment.
2. Evaluate contributions from psychology to adjustment concepts and processes.
3. Describe the different explanations of how individuals adjust to their environments.

4. Describe how self-identities develop and how they affect relations with others.
5. Identify resources available for assistance with adjustment-related concerns.

PSYC 2240. Psychology of Personality

Course Description

Theories of personality introduces students to the major theories in the development of personality. Students will analyze in detail the major theories of personality including psychoanalytic, behavioral, social learning, humanistic and trait theory. Students will have the opportunity to apply these theories in practical examples and applications whenever possible and appropriate.

Student Learning Outcomes

1. Demonstrate an understanding of the major theories in the development of personality.
2. Develop the ability to gather information from multiple resources and synthesize this information.
3. Develop skills to evaluate critically psychological concepts and the influence of contextual factors including social class, ethnicity, and family processes.
4. Apply important theoretical concepts to experiences encountered outside of the classroom.

PSYC 2250. Brain and Behavior

Course Description

A general survey of the biological foundations of behavior and mental processes. Students will gain an understanding of anatomy, physiology, and chemistry of the nervous system and their relationships to human behavior.

Student Learning Outcomes

Upon completion of the course, students should be able to:

1. Identify and describe basic neuroanatomical structures and functions.
2. Identify and describe chemical processes of the nervous system.
3. Apply course concepts to psychological processes, such as learning, memory, sensation, perception, drive states, sleep, and language.
4. Apply course concepts to psychological disorders, such as schizophrenia and mood and anxiety disorders.
5. Describe the techniques used to study the relationship between brain and behavior.

PSYC 2260. Positive Psychology

Course Description

This course provides students with an introduction to the scientific study of factors contributing to optimal human functioning and well-being.

Student Learning Outcomes

Upon completion of the course, students should be able to:

1. Explain the aim and scope of positive psychology.
2. Describe central research questions, theories, concepts, and methodologies used in the study of positive psychology.
3. Evaluate psychological factors that contribute to a sense of well-being.
4. Demonstrate applications of core concepts of Positive Psychology in their personal lives.

PSYC 2270. Psychology of Learning and Memory

Course Description

This course provides an overview of how information is acquired, stored, retrieved, and manifested in the behavior of human and non-human animals.

Student Learning Outcomes

Upon completion of the course, students should be able to:

1. Describe the theories, research methods, procedures, and findings pertaining to classical conditioning, operant/instrumental conditioning, and observational learning.
2. Describe the theories, research methods, procedures, and findings relevant to the study of memory.
3. Analyze everyday situations in terms of psychological explanations of learning and memory.

PSYC 2280. Introduction to Clinical Psychology

Course Description

Introduces the field of clinical psychology including a discussion of historical development, growth of the field, current training methods, ethics of practice, the nature of interviewing and assessment, various therapeutic techniques, and current areas of clinical practice.

Student Learning Outcomes

The student who successfully completes this course will be able to:

1. Identify the development of the field of clinical psychology as a separate field within psychology.
2. Describe the diverse professional activities of clinical psychologists.
3. Identify the major testing instruments and research methods available to clinical psychologists as well as demonstrate a basic understanding of interpretive strategies.
4. Identify various ethical concerns, preventative strategies, and therapeutic strategies utilized in the treatment of psychological disorders.

PSYC 2285. Experimental Psychology

Course Description

Basic concepts and research methodology in the study of behavior; emphasis on experimental design, control, and laboratory methods.

Student Learning Outcomes

The student who successfully completes this course will be able to:

1 Have a good understanding of the scientific method and how it can be applied to the study of Psychology.
2. Familiar with potential problems inherent in different research methods.
3. Able to recognize confounds in experiments and know how to try to control them.
4. Design your own well-controlled experiment and carry it out.
5. Report on the results of your experiment in an APA style research paper.

PSYC 2285L. Experimental Psychology Laboratory

Course Description

Laboratory methods and experiments investigating behavior, cognitive processes, and neuropsychology.

Student Learning Outcomes

By the end of this course, you will

1. Have a good understanding of the scientific method and
2. How it can be applied to the study of Psychology, as well as science, in general.
3. Know potential problems with different research methods.
4. Recognize confounds in experiments and know how to control them.
5. Design an experiment and carry it out.
6. Write research papers in APA format.

PSYC 2290. Principles of Treatment

Course Description

This course involves studies of the various treatment approaches used with alcohol and drug abusers with an emphasis on the principles that govern their effective application. There will be a focus on Intervention, Assessment, and Treatment Plan Development with the substance abuser resulting in meaningful change and a better quality of life.

Student Learning Outcomes

Successful completion of the course implies that the student, with 70% accuracy, should be able to:

1. Identify and explain the use of various treatment approaches employed with drug and alcohol abusers that will result in successful outcomes.
2. Demonstrate how to conduct an Intervention, Assessment, and Plan Development for and appropriate Treatment Plan for a drug/alcohol abuser.
3. Interview and then prepare a short-written report on a person in recovery identifying the salient factors that ensure a successful recovery for a drug/alcohol abuser.

PSYC 2310. Drugs and Behavior

Course Description

The course provides a general introduction to the effects of alcohol, opiates, and other major classes of psychoactive drugs on the central nervous system, emphasizing the relationship between physiological, psychological, and behavioral effects of drugs.

Student Learning Outcomes

1. Present a classification of drugs that includes the type, effect, legal status, and addiction potential.
2. Explain how drugs affect the brain and behaviors in humans.
3. Distinguish between licit and illicit drugs.
4. Explain which drugs have high potential for dependency.
5. Define dependency and understand the process of how individuals develop drug dependencies.
6. Explain principles of prevention and treatment of drug dependencies.
7. Explain how some people may have a predisposition to become or not become drug dependent.
8. Explain how the research methods in psychopharmacology inform current methods of treatment.

PSYC 2311. A Study of Substance Abuse through Learning

Course Description

Physiological and psychological impact of drug use on human behavior. Emphasizes practical applications of intervention and prevention in the community.

Student Learning Outcomes

1. Describe the role that gender, ethnicity, and age have in alcohol and drug use.
2. Learn past and current perspectives of addiction.
3. Distinguish between different types of abuse-able drugs and be able to classify them.
4. Describe the role of addiction and criminal behavior.
5. Discuss the Models and Theories of Drug Dependence and Addiction.
6. Discuss the definitions of Substance Abuse, Dependence Addiction.
7. Acquaint themselves with the effects of Addictive Behavior on Family Systems.
8. Discuss Disorders Co-Occurring with Substance Abuse.
9. Discuss how important the concepts of Prevention, Intervention and Treatment in drug addiction.
10. Discuss Alcohol/Drug Recovery Treatment Relapse Prevention
11. Discuss the role of AA/NA in Recovery Treatment.
12. Through attendance of a Drug Court Hearing students will be knowledgeable of the role of Drug Courts in prevention and treatment of drug addiction.

PSYC 2315. Drug and Alcohol Assessment, Referral, and Treatment Methods

Course Description
You will study the twelve core functions and global criteria of alcohol and other substance abuse, including: screening, intake, orientation, assessment, crisis intervention, treatment planning, counseling, case management, client education, referral, report and record keeping, and consultation with other professionals in regard to client treatment and services. Attention will be given to the ethical considerations involved in the therapeutic process. In this course, you will devote six clock hours to ethics of the substance abuse counselor.

Student Learning Outcomes

1. Examine the mandated principles of the twelve core functions and global criteria of alcohol and other substance abuse.
2. Analyze influences and views on substance abuse and addiction from various cultural and religious traditions.
3. Evaluate research contributions and empirical evidence related to interventions and effective practices used to avert and treat substance abuse and addiction.
4. Study and demonstrate knowledge of ethical principles, standards, and policies as related to provision of treatment for substance abuse.
5. Demonstrate competence in effective communication skills.
6. Demonstrate critical thinking skills through the thoughtful completion of reading assignments and through written discourse.
7. Demonstrate knowledge of Licensed Alcohol and Drug Abuse Counselor requirements in the state of New Mexico.

PSYC 2320. Health Psychology

Course Description
This course examines how biological, psychological, and social factors interact with and affect different areas within health. Course will cover the role of stress in illness, coping with illness, pain management, and the role of health behavior in health and disease.

Student Learning Outcomes
Upon completion of the course, students should be able to:

1. Describe psychological models and practices that can sustain health from holistic perspectives involving the body and mind.
2. Identify specific approaches students can employ in their own and others' lives to improve health.
3. Describe and analyze social, cultural, economic, and political influences on health and psychology.
4. Identify various models of intervention to explain and address health-related issues.
5. Analyze health- and psychology-related information presented in the media and through other methods.

PSYC 2325. Prevention of Drug and Alcohol Abuse

Course Description
This course, Prevention of Drug and Alcohol Abuse, examines effective programs and strategies used in the schools and in the community that prevent substance abuse and related problems. Emphasis is on how to design an appropriate, effective prevention program in either the schools or the community, which will prevent or reduce the incidence of drug or alcohol abuse in a particular high-risk population.

Student Learning Outcomes
Successful completion of the course implies that the student, with 70% accuracy, should be able to:

1. Overview - Students will:
    a. Understand the concept of prevention as it relates to drug education.
    b. Explain the terms and concepts of drug education.
    c. Learn how to identify high-risk population groups in drug education.
2. In Defining Drug Problems Students will:
    a. Learn the history of illegal drug use in America.

b. Understand the history of alcohol and tobacco use up to the present.
c. Learn to identify high-risk populations with drug and alcohol problems.

3. In Alcohol & Tobacco Use Students will:
    a. Understand the dynamics of alcohol and tobacco use and advertising.
    b. Explain the role of Government Regulations of alcohol & tobacco use.
    c. Describe the consequences of drug & alcohol use.
4. In Illegal Drug Use and Problems, Students will:
    a. Explain stimulant drugs & the problems they cause.
    b. Explain depressant drugs and the problems they cause.
    c. Explain narcotic drugs and the problems they cause.
    d. Explain hallucinogen drugs and the problems they cause.
    e. Explain marijuana and the problems it causes.
5. In Violence Associated with Drugs & Alcohol, Students will:
    a. Learn the nature & extent of violence in the schools and in the community.
    b. Understand the relationship between drugs & violence.
    c. Describe strategies for the prevention of violence.
6. Single Focus Students will:
    a. Understand the public-health approach to drug & alcohol abuse.
    b. Explain the dimensions of prevention including risk and protective factors.
    c. Describe the prevention programs of the past.
    d. Describe the characteristics of unsuccessful programs of the past.
7. In Current Prevention Programs that Work, Students will:
    a. Understand community program models for prevention of drug & alcohol abuse.
    b. Explain prevention programs that work.
8. In Planning and Implementing a Drug and Alcohol Curriculum, students will:
    a. Understand the process of selecting a drug and alcohol curriculum.
    b. Use proven strategies, practices, and programs that work with drug and alcohol curriculum.
9. In Early Intervention, Students will:
    a. Learn to observe and recognize drug/alcohol impairment.
    b. Learn to conduct an intervention with either youth or adults.
    c. Describe how to make suitable referral for treatment of a drug/ alcohol abuser.

PSYC 2330. Psychology of Human Sexuality

Course Description

Exploration of the psychological, physiological, cultural, social and individual factors that influence sexual behavior, sex roles, and sex identity.

Student Learning Outcomes

Upon completion of the course, students should be able to:

1. Describe central research questions, theories, concepts, and methodologies used in the study of human sexuality.
2. Distinguish between myths and realities related to sexuality.
3. Explain changes in sexuality across the lifespan.
4. Describe the interactions of biological, psychological, and sociocultural dimensions in human sexuality.
5. Identify issues related to sexual health.
6. Explain complex and diverse issues related to human sexuality.

PSYC 2335. Performance Psychology

Course Description

Mental Training for Peak Performance is designed as a vehicle to provide you with a working knowledge of applied sport/performance psychology in order to help you develop and implement an effective mental skills training (MST) program that will help you more fully reach your performance potential in your endeavors. This is a hands-on course oriented towards helping you develop the psychological skills necessary to "become the best performer you can be."

Student Learning Outcomes

1. Understand the role psychological factors play in sport performance,
2. Understand how various mental skills and tools could be used to improve performance, enhance enjoyment, and help students develop life skills,
3. Understand various implementation strategies necessary for the development of the key psychological skills,
4. To log goal-setting progress, evaluate its effectiveness, and fine-tune implementation strategies to enhance program effectiveness,
5. To be able to apply the knowledge of various mental tools and skills in real life situations.

PSYC 2340. Psychology of Personal Growth & Interpersonal Relations

Course Description

Students will apply psychological insights and principles to better understand themselves and their relationships with others and the world in order to live more effectively. Such topics as self-identity, role of emotions in behavior, love, relationships, health and stress, sexuality, death, meaning and values, forgiveness, and non-violent communication will be explored. This course is experiential in nature with an emphasis on dialogue and group activities.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate an understanding of the Dynamics and Theories of Adjustment and Interpersonal Relationships.
2. Show an ability to apply the theoretical approaches presented to their own lives through journal writing and other communication and introspective techniques.
3. Explore topics of their own interest through the study of the research in the field and a written report.

PSYC 2350. Psychology of Gender

Course Description

This course explores gentler as a psychological construct that influences our behavior in multiple contexts and will focus on a variety of psychological theories and research on gender. Topics include the learning of gender roles, ways of knowing, mental health, sexuality, family issues, and workplace issues.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Demonstrate knowledge of psychological theories and research on gender
2. Demonstrate knowledge of biological theories pertaining to sex and gender
3. Critique and apply psychological theories that attempt to explain gender differences
4. Critique psychological research on gender-related topics
5. Identify how gender influences social interactions in everyday life
6. Articulate some cultural and historical differences regarding accepted gender roles

PSYC 2360. Psychology and Film

Course Description

Changing perceptions of mental illness are investigated by screening popular films and documentaries. Readings and lectures on psychiatric disorders are linked to films that offer students a unique opportunity to see realistic manifestations of "madness." An appreciation for the cinema's ability not only to reflect but also to affect our perceptions of abnormal behavior and treatment is stressed.

Student Learning Outcomes

The student who successfully completes this course will be able to:

1. Describe the major psychological disorders and their impact on the individual and society.
2. Identify research methods and analyze issues concerning psychological disorders.
3. Apply concepts learned to popular films.

PSYC 2370. Cultural Psychology

Course Description

This course explores the field of cultural psychology: the scientific study of the ways in which cultural forces shape human thought, emotion, and behavior. As a sub-discipline of psychology; cultural psychology emphasizes the influence of culture on human behavior and examines topics in psychology from a multicultural, multi-ethnic perspective. While the course will cover a broad range of topics, emphasis will be placed on core issues in cultural psychology.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify, orally and in writing, key historical events and figures leading to the birth of cultural psychology in the 1960s.
2. Define and describe the major concepts and issues in cultural psychology as assessed via course examinations, class discussion, and writing assignments.
3. Recognize the strengths and limitations of qualitative and quantitative methods in cultural psychology.
4. Explain, in writing, why all psychology is cultural.
5. Recognize the relationships between culture, race, and ethnicity.
6. Demonstrate tolerance for human diversity.
7. Critically evaluate the field via written examinations, out-of-class papers and in-class oral and written responses.

PSYC 2380. Death and Dying

Course Description

Examines the psychological, emotional and sociological aspects of death in American Culture. This course is designed to provide the student with a greater understanding of death and the dying process, including exposure from the consumer's perspective of the death industry.

Student Learning Outcomes

The student who successfully completes this course will be able to:

1. Demonstrate knowledge of the logistics, costs, and consumer related implications of planning standard funeral services in the U.S.
2. Articulate personal thoughts and beliefs about death and dying, and if and/or how these thoughts have evolved from the beginning of the course to the end of the course.
3. Identify research methods associated with psychological research in death and dying.

PSYC 2390. Educational Psychology

Course Description

This course explores the practical application of psychological principles to teaching and learning. Contemporary issues in Education will also be discussed.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Describe theories of learning.
2. Discuss motivation and its impact on learning.
3. Describe what makes an effective classroom environment.
4. Discuss and develop methods for evaluating learning.

PSYC 2430. Human Relations

Course Description

This course is an introduction to the behavioral sciences as they apply to management. It includes a study of individual behavior as it relates to leadership traits, individual behavior in organizations, and related subjects of motivation and leadership. There is also a consideration of perceptions, attitudes, and values as they affect management decisions and actions.

Student Learning Outcomes

Upon successful completion of this course, the student should be able to:

1. describe the interpersonal communication process;
2. discuss the group problem solving and decision making process;
3. recognize cross-cultural relations and diversity;
4. describe conflict resolution skills;
5. demonstrate effective leadership skills including motivation and helping others develop and grow;
6. identify ethical business behavior;
7. define the correlation between stress management and personal productivity; and
8. utilize job search and career management tools.

PSYC 2440. Family Systems Theory

Course Description

This course examines different theoretical approaches including major systems theories, strategies, and techniques of family therapy. It emphasizes the application of counseling interventions with struggling or dysfunctional family structures.

Student Learning Outcomes

Upon successful completion of this course, each student will demonstrate the ability to:

1. Understand systems theory and the important concepts associated with the major theories in family therapy
2. Describe family problems (issues or dysfunction) from a behavioral, social, and psychological.
3. Demonstrate various skills (including genogram, etc.) associated with the practice of family therapy
4. Discuss the historical roots and development family therapy.
5. Describe the differences between individual and family therapy
6. Apply class material to explore the students own family dynamics
7. Evaluate and apply theories of family therapy in analysis of case material (written and in film) from a multifaceted perspective.

PSYC 2445. Parenting Skills

Course Description

This class is designed to look at strategies, skills, insights, and resources for students interested in improving the well-being of children

Student Learning Outcomes

Students will be able to:

1. Explain the course of child development
2. Identify and describe healthy early child development.
3. Analyze parenting theory to provide positive guidance and discipline for children in the home and in diverse group situations
4. Define the parenting role within one's culture and American society as well as apply strategies that promote healthy self-confidence in family and community relationships.
5. Define what family is and explain alternatives to biological parenting and the changing nature of the family unit.
6. Identify high-risk families while demonstrating through discussion how to mitigate risk through intervention.

PSYC 2510. Statistical Principles for Psychology

Course Description

This course covers introductory-level topics in statistics that are applicable to psychological research. Both descriptive and inferential statistics are covered. Topics include applying statistical formulas to psychological data and interpreting the results of statistical analyses.

Student Learning Outcomes

Upon completion of the course, students should be able to:

1. Identify statistical methods used in the analysis of psychological research.
2. Apply appropriate statistical methods to the analysis of data.
3. Interpret the results of statistical analyses of data.
4. Evaluate the use of statistics in psychological literature.

PSYC 2520. Research Methods and Statistics in Psychology

Course Description

Designed to develop students' APA writing, research, and statistics skills in psychology. Students will engage in information search and APA writing tasks and will learn to collect and analyze data within descriptive, inferential, and non-parametric research designs

Student Learning Outcomes

Students who successfully complete this course should:

1. Develop and improve fundamental APA scientific writing skills (written communication student learning outcome).
2. Develop an understanding of how to conduct basic scientific research in psychology.
3. Develop an understanding of how to select and use statistical tests and how to use statistical software to analyze data collected in research project.
4. Develop and improve scientific verbal presentation skills (verbal communication student learning outcome).

PSYC 2611. Introduction to Ecopsychology

Course Description

Introduces students/ learners to the theory of Ecopsychology, to its cultural and historical roots, and to a variety of nature-based counseling practices. The course will survey significant literature in this field and will invite discussion and experiential learning. The class will meet outdoors at various times and will include one weekend excursion.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify primary concepts outlined in Ecopsychological theory.
2. Understand current findings regarding the physical and emotional benefits of time spent in outdoor settings.
3. Identify the benefits and challenges regarding work with groups in outdoor settings.
4. Trace the evolution of healing practices which occur in natural settings beginning with models from various cultural backgrounds.
5. Describe current practices in nature-based counseling.
6. Apply important psychological concepts learned in the course to a variety of vocational opportunities in related fields.
7. Have an experiential understanding of the individual and group benefits derived from Ecopsychology.

PSYC 2621. Introduction to Adventure Therapy

Course Description

Introduces students/ learners to the practice of Adventure Therapy, the historical evolution of this methodology, its ties to experiential education, and the process of facilitating specific Adventure Therapy practices. Experiential learning, combined

with assigned readings, will be a hallmark of this class and students will spend a significant amount of time involved in interactive activities, many of which will be outdoors. The class will include one weekend of participatory activities.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Understand the foundational concepts of experiential education as they apply to Adventure Therapy.
2. Trace the history of Adventure Therapy as a therapeutic modality and its applications in various settings.
3. Explain the facilitated wave model and accompanying individual and group assessment, facilitation, and evaluation practices.
4. Understand and utilize "Leave no Trace" principles.
5. Describe current best practices in Adventure Therapy.
6. Apply important psychological concepts learned in the course to a variety of vocational opportunities in related fields.
7. Have an experiential understanding of the individual and group benefits derived from Adventure Therapy.

PSYC 2810. Study Abroad Images & Insights

Course Description

A study abroad class in which students visit ancient sites in Greece. The influence of the classical Greek archetypes and their mythic patterns on human experience and behavior will be studied. The powerful inner forces of the archetypes personified by Greek gods, goddesses, and heroes will be explored. The Archaic, Classical, and Hellenistic images of the gods, goddesses, heroes, and mythological stories as they are represented on architecture and in sculpture and painting will be examined from an art historical perspective. Art from the Byzantine period including Christian archetypal imagery in the form of icon painting will be introduced in both an historical and contemporary context.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify the concepts of archetypal psychology and symbolism found in mythology and ancient Greek art history.
2. Apply the concepts of archetypal psychology as they are relevant to one's personal experience and consciousness.
3. Demonstrate the ability to be a culturally competent and responsible traveler with an expanded worldview.
4. Articulate some of the major stylistic trends and concepts behind artworks from ancient Greece.
5. Develop a basic knowledge and appreciation for Byzantine iconography as it relates to archetypal ideals in an historical and contemporary context.

PSYC 2990. Practicum

Course Description

Varies

Student Learning Outcomes

Varies

PSYC 2991. Directed Studies in Psychology

Course Description

An advanced capstone course in psychology that provides students with an opportunity to focus on areas of personal interest and specialization within the discipline of psychology. Under the supervision of psychology faculty, students will develop academic research papers or projects in selected areas of psychology. This course is intended for students who are majoring will offer opportunities for students to integrate and synthesize material from the core requirements in psychology and prepare them to transfer to a four-year institution. Students will take the capstone course during their final semester.

Student Learning Outcomes

At the conclusion of this course, the student should be able to demonstrate the following in specifically chosen areas of psychology:

1. Theory and content of major concepts and theoretical perspectives·
2. Research methods
3. Critical thinking skills, skeptical inquiry, and the scientific approach
4. Application of psychological principles to personal, social, and organizational issues
5. Values in psychology
6. Personal development and insight into their own and others' behavior and mental processes

PSYC 2993. Workshop in Psychology
Course Description
Varies
Student Learning Outcomes
Varies

PSYC 2996. Topics in Psychology
Course Description
Varies
Student Learning Outcomes
Varies

PSYC 2998. Internship in Psychology
Course Description
Varies
Student Learning Outcomes
Varies

PSYC 2999. Capstone in Psychology
Course Description
Varies
Student Learning Outcomes
Varies

Public Administration (PADM)

PADM 2110 Public Leadership for Social Change
Course Description
Addressing modern societal problems depends on the collaboration of key players from all levels of government, nonprofit organizations, commercial businesses and more. This course prepares students to contribute to improving social problems through a hands-on approach centered around the core theme of public leadership for social change.
Student Learning Outcomes:

1. Map the influence that key political actors and stakeholders have in the policy-making arena locally in your own community.
2. Describe the core values of public service by examining the gaps between theory and practice.
3. Use data and evidence to frame a public issue(s).
4. Compose a compelling story to encourage data-driven decision-making practices.
5. Compile a cohesive set of public service values that you and your peers believe are non-negotiable with compelling reasons as to why.

6. Communicate clearly and succinctly in spoken presentations.
7. Develop persuasive writing skills.
8. Recognize your own power, influence, and implicit bias in all collaborative efforts with your peers and a community organization.

Public Health Science (PHLS)

PHLS 1110. Personal Health & Wellness

Course Description

A holistic and multi-disciplinary approach towards promoting positive lifestyles. Special emphasis is placed on major problems that have greatest significance to personal and community health. Topics to include nutrition, stress management, fitness, aging, sexuality, drug education, and others.

Student Learning Outcomes

1. Students will identify, describe and explain human health behaviors and how they are influenced by social structures, institutions, and processes within the contexts of complex and diverse communities. Students should: Develop an understanding of self and the world by examining content and processes used by social and behavioral sciences to discover, describe, explain, and predict human behaviors and social systems.
2. Students will articulate how beliefs, assumptions, and values are influenced by factors such as politics, geography, economics, culture, biology, history, and social institutions. Students should: Enhance knowledge of social and cultural institutions and the values of their society and other societies and cultures in the world.
3. Students will describe ongoing reciprocal interactions among self, society, and the environment. Students should: Understand the interdependent nature of the individual, family/social group, and society in shaping human behavior and determining quality of life.
4. Students will apply the knowledge base of the social and behavioral sciences to identify, describe, explain, and critically evaluate relevant issues, ethical dilemmas, and arguments. Students should: Articulate their role in a global context and develop an awareness and appreciation for diverse value systems in order to understand how to be good citizens who can critically examine and work toward quality of life within a framework of understanding and justice.

PHLS 1111. Introduction to Health Science

Course Description

Introduction to computational techniques for the solution of physics-related problems.

Student Learning Outcomes

Not Available

PHLS 1120. Introduction to Community Health Care

Course Description

Overview of current health care delivery systems and organization structure, third-party payers, facility ownership, patient rights and quality care. Procedures for determining care payment eligibility are also covered. Covers public financing available to clients as well as non-governmental third-party insurance. Provides information relevant to health care organizations to include workplace behavior, communication and teamwork, legal issues and decision making in the health care setting.

Student Learning Outcomes

1. Discuss current health care delivery systems and organization structure, third- party payers, facility ownership, patient rights, and quality care.
2. Identify procedures for determining care payment eligibility.
3. Determine public financing options available to clients as well as non- governmental third-party insurance.

4. Discuss information relevant to healthcare organizations to include workplace behavior, communication and teamwork, legal issues, and decision making in the health care setting.
5. Display cultural humility for individuals, groups and other department.
6. Discuss chronic disease management and medication management.
7. Enable others to increase health literacy and health promotion through capacity building.
8. Enable individuals and groups to advocate for change in their society.

Describe coordination of services for clients and families.

4. Demonstrate interpersonal skills in building positive, effective client relationships that promote learning, growth and self-efficacy.
5. Identify and describe elements of home and home visiting safety and relevant infection control practices.
6. Demonstrate accurate home visit documentation and information entry into the home visiting data base.

PHLS 1125. Community Health Worker Fundamentals

Course Description

This course provides an interdisciplinary introduction to Community Health Work. It provides students with the opportunity to learn the theory and skills to function as a community health worker. This course introduces the CHW student to the profession of community health, effective communications skills and interpersonal skills needed to work effectively in the community.

Student Learning Outcomes

1.The Community Health Worker Profession.

1.1 Scope of practice & history of the profession.
- 1.1.1 Describe the history, role, & impact of CHWs/CHRs in improving individual & community health.
- 1.1.2 Describe the NM CHW Scope of Practice

1.2 CHW code of ethics, professional boundaries, and self care.
- 1.2.1 Define the CHW Code of Ethics and demonstrate performance of ethical behavior as a CHW.
- 1.2.2 Identify & explain the boundaries of the CHW role, how to establish boundaries with clients, & the role of a CHW on multi-disciplinary teams.
- 1.2.3 Describe & utilize self-awareness and self-care practices.

1.3 Public health concepts & approaches.
- 1.3.1 Describe the determinants of health & recognize how they impact health needs & priorities.

1.4 Client-centered approach.
- 1.4.1 Describe a client-centered approach.

1.5 Cultural humility & competence.
- 1.5.1 Recognize and appropriately respond to the beliefs, values, culture, and languages of the Individuals/ communities being served.

1.6 Organizational & professional skills.
- 1.6.1 Prioritize, activities & effectively manage time.

1.7 CHW certification & professional development.
- 1.7.1 Describe & access national & state CHW professional organizations & training resources.
- 1.7.2 Explain the NM CHW voluntary certification policy & process for obtaining certification (including grandfathering).
- 1.7.3 Identify and utilize tools and resources for CHW professional development.

2. Effective Communication Skills.

2.1 Observation & non-verbal communication.
- 2.1.1 Identify & respond to non-verbal communication.
- 2.1.2 Use appropriate body language & other non-verbal communication skills in communicating with individuals.

2.2 Verbal communication.
- 2.2.1 Communicate with individuals in a non-judgmental & appropriate manner.
- 2.2.2 Speak & write to individuals in their preferred language at an appropriate literacy level (obtain interpreters if unable to communicate in clients preferred language).
- 2.2.3 Describe client rights, confidentiality , & health information in clear language & assess client comprehension.
- 2.2.4 Practice active & reflexive listening & attend to client concerns.
- 2.2.5 Ask open ended questions to gather client information & elicit perspectives & needs.
- 2.2.6 Utilize affirming statement to provide positive reinforcement.
- 2.2.7 Use summary statements to review in formation & establish mutual understanding.
- 2.2.8 Use written & visual materials that convey information clearly & respectfully.
- 2.2.9 Utilize basic group communication & facilitation skills when speaking to groups.
- 2.2.10 Provide professional appropriate feedback to other members of care team.

2.3 Negotiate, mediate, & resolve conflict.
- 2.3.1 Assist individuals & groups in managing & resolving conflicts.

2.4 Documentation.
- 2.4.1 Report relevant information to others succinctly, accurately, and in appropriate format.
- 2.4.2 Document information in an effective, efficient, and timely manner.

PHLS 1126. Health Promotion

Course Description

This course introduces the student to basic skills needed to be proficient as a Community Health Worker. Topics include health coaching skills, service coordination skills and technical teaching skills.

Student Learning Outcomes

1. Health Coaching Skills Aspects of Competency Training Standards.
   - 4.1 Health promotion & disease prevention.
     - 4.1.1 Provide information about health risks & possible problems in a manner that allows clients & families to face current of potential problems with minimal fear and avoidance.
     - 4.1.2 Define, provide tools, & implement preventive health measures with clients & the community Behavior change strategies Maintenance & relapse prevention.
     - 4.2.1 Utilize various motivational approaches to gather clients health goals & priorities.
     - 4.2.2 Identify & strategize coaching interventions using the stages of change model.
   - 4.2. Utilize behavior change strategies to collaboratively develop, implement, and revise health goals & self-management plans with clients.
     - 4.2.4 Respect & actively support clients choices and preferences.
     - 4.3.1 Identify & integrate formal & informal resources to support client choices & preferences.
     - 4.3.2 Document information in an effective, efficient, and timely manner.
2. Service Coordination Skills Aspects of Competency Training Standards.
   - 5.1 Case finding & recruitment.
     - 5.1.1 Identify high risk clients or clients with unmet needs.
     - 5.1.2 Record & maintain information on clients, referrals, & appointments.
   - 5.2 Navigation & linking to services.

5.2.1 Develop & document lists of clients, partnership networks and institutional resources, to address individual, family, & community needs & to improve service delivery.
5.2.2 Establish & maintain relationships with staff at referral organizations.
5.2.3 Refer clients to appropriate service providers & confirm that appointments were kept.
5.2.4 Advocate effectively with others so that clients receive needed care in timely manner.
5.2.5 Train clients how to follow-?up on referrals and provide support as needed.
5.2.6 Facilitate client enrollment into appropriate programs.
5.2.7 Serve as a liaison between organizations & specific groups.

5.3 Case Management.

5.3.1 Help improve access to resources by identifying barriers, documenting details, & developing strategies to remove them.
5.3.2 Provide information & support to individuals to self advocate.

3. Technical Teaching Skills Aspects of Competency Training Standards.

8.1 Adult learning principles.

8.1.1 Utilize adult learning principles & methods to motivate, inspire, and promote learning in 1-on-1 and group settings.
8.1.2 Use training strategies & techniques that address various learning styles.
8.1.3 Provide reliable information appropriate to the needs of the learner.

8.2 Health education with individuals & groups.

8.2.1 Plan & organize presentation, training sessions, workshops & other activities.
8.2.2 Identify and select audience appropriate training materials.
8.2.3 Identify & explain training program goals & objectives.
8.2.4 Support active & equal participation in groups.
8.2.5 Seek & incorporate feedback from training participants.
8.2.6 Evaluate the effectiveness of training program.
8.2.7 Operate commonly used audiovisual equipment.

8.3 Effective Meetings.

8.3.1 Planning meeting agenda & manage time appropriately.

PHLS 1150. Community Health Worker Training

Course Description

An introductory course that trains students to become community health workers (CHW) who assist individuals and communities in adopting and maintaining positive health behaviors. Topics include the roles of the CHW, adult learning principles, and skill development in such areas as advocacy, health coaching and leadership development.

Student Learning Outcomes

1. Describe the role, scope of practice, and certification requirements for the Community Health Worker.
2. Demonstrate understanding of principles of adult learning in health education and health promotion activities.
3. Demonstrate positive interpersonal skills in working with clients in the community.
4. Demonstrate effective health coaching skills that appropriately educates and guides clients.
5. Describe how the Community Health Worker acts as an advocate on behalf of their clients and community.
6. Demonstrate effective communication skills in a professional and culturally sensitive manner.

PHLS 1160. Community Health Worker Training II

Course Description

Completes the training required to apply for the Community Health Worker certificate offered by the state of New Mexico. Topics include effective communication skills, clinical support skills, service coordination skills, and community assessment.

Student Learning Outcomes

1. Demonstrate effective communication skills with clients, medical providers and community contacts.
2. Demonstrate professional and culturally sensitive behaviors in the role as a community health worke.r
3. Describe effective service-coordination skills needed for case management and navigation through the health care system.
4. Develop a community assessment plan.
5. Demonstrate an understanding of how to competently perform clinical skills.

PHLS 1311. Home Visitor Training I

Course Description

First of two courses that prepares students to enter the community as a Home Visitor. This course focuses on foundational concepts and practice, including the Home Visitor role, responsibilities, communication, service coordination, relationship building, home safety, and documentation. Successful completion of this course is required for enrollment in HLCR 132. Prospective students who have been convicted of a felony are advised to contact CYFD/state department of health for employment or state certification.

Student Learning Outcomes

1. Apply the roles and responsibilities of the Home Visitor to ethics in practice, client privacy, client rights, and client observation.
2. Demonstrate communication skills that are sensitive to individual age, gender, culture, condition, and family role.
3. Describe coordination of services for clients and families.
4. Demonstrate interpersonal skills in building positive, effective client relationships that promote learning, growth and self-efficacy.
5. Identify and describe elements of home and home visiting safety and relevant infection control practices.
6. Demonstrate accurate home visit documentation and information entry into the home visiting data base.

PHLS 1322. Home Visitor Training II Specialty Care

Course Description

The second of two courses that prepares students to enter the community as a Home Visitor. This course focuses on family and community assessment, developmental education, family/client empowerment, use of parallel process/health coaching, management of home visits, and starting a career. Successful completion of this course qualifies the student to obtain a Community Health Worker Certificate.

Prospective students who have been convicted of a felony are advised to contact the CYFD/state deparment of health to determine their eligibility for employment or state certification.

Student Learning Outcomes

1. Apply Home Visitor role to educating families on parenting opportunities and challenges in the prenatal, postpartum, infant, and toddler periods.
2. Demonstrate effective relationship building and coaching skills that educate, guide and empower families.
3. Identify and analyze how parallel process affects participants in a relationship with regards to emotional regulation.
4. Demonstrate effective communication and interventions for participants requiring support and redirection in a parallel process.
5. Demonstrate time management skills needed in managing visits, documentation, ongoing training and supervisory and team meetings.

6. Analyze the Home Visitor's role in supporting family stability and capacity building through community knowledge and assessment.
7. Describe other opportunities for the home visitor role and demonstrate how to be successful in starting a related career.

PHLS 1990. Community Health Worker Practicum
Course Description
Varies
Student Learning Outcomes
Varies

PHLS 2020. Community Health Work: Frameworks, Principles and Practices for Direct Service
Course Description
This course provides a broad introduction to public health as the framework for providing direct services to individuals, with focus on the ecological model, health equity, and healthcare systems. It provides in-depth skills practice for providing effective service within that framework, including interpersonal and communication skills, cultural humility, and client-centered, strengths-based approaches. It applies those core skills to an array of scenarios including conducting client interviews, managing and resolving conflict, working on a care team, and delivering health literate, trauma-informed care.
Student Learning Outcomes
1. Define health and public health and apply the ecological model to understanding the social determinants health in individuals, groups, and communities.
2. Discuss the concept of health as a human right, advocate and work for health equity and inclusion.
3. Discuss and demonstrate CHW roles and responsibilities in advocating for social justice, and the connection to health.
4. Plan a client interview demonstrating the client-centered approach (empathy, non-judgment, strengths-based).
5. Create safety for and work effectively with individuals and groups impacted by stigma, trauma and incarceration.
6. Describe and demonstrate cultural humility principles and practices for working with diverse clients & communities.
7. Define, negotiate, mediate, and resolve conflict; demonstrate insight into one's own conflict style.

PHLS 2030. Health Coaching and Health Promotion
Course Description
This course provides a strong foundation in health coaching and health promotion, with a focus on working with individuals from a broader public health lens. It offers strategies and skills for supporting client-centered behavior change including action planning, motivational interviewing, and communication skills. It identifies barriers to change such as stigma and bias, gaps in health literacy, and offers strategies for addressing those barriers. Lessons learned will be applied to scenarios involving harm reduction, and the self-management of chronic conditions. Using the HEAL model, students will explore practical frameworks and guidelines for promoting health, delivering health education, and accessing and communicating reliable health information
Student Learning Outcomes
1. Conduct client-centered health coaching sessions utilizing communication skills (OARS), stages of change theory, motivational interviewing, goal setting, and action planning
2. Describe and effectively work with common barriers to changing health behaviors, including bias, stigma, and trauma
3. Describe risk/harm reduction; identify and utilize strategies to reduce health risk and harm

4. Identify common chronic conditions and discuss related inequities in disease rates among populations
5. Explain and analyze the concept of patient empowerment in the self-management of chronic conditions
6. Define health literacy and utilize strategies for closing health literacy gaps to improve health outcomes
7. Research and analyze sources of health and digital health information for authority, bias, and currency
8. Explain general guidelines for healthier eating and drinking, as well as for regular activity or exercise
9. Demonstrate a 5-step approach to providing health education to individuals about nutrition, physical activity, or other health topics

PHLS 2040. Health Navigation and Service Coordination

Course Description

This course provides an overview of models, skills, tools, resources, and considerations for providing strengths-based health navigation and service coordination with clients. Rooted in principles of client-centered practice developed in PHLS 2020, and motivational approaches to planning change in PHLS 2030, this course will explore best practices for planning, conducting and documenting case-finding and recruitment, establishing and maintain relationship via client interviewing, developing service plans, making and tracking meaningful referrals, and building client self-efficacy and self-reliance. Addresses the importance of building relationships with referral sources and agencies.

Student Learning Outcomes

1. Describe the scope, roles, and tasks of community health workers in health navigation and service coordination.
2. Describe and utilize common methods for case-finding, in-reach, and outreach for various population groups.
3. Assess client needs, resources, strengths, risks, and readiness, and create a navigation/service coordination plan that builds client capacity and self-reliance.
4. Conduct and document a client interview utilizing an array of interpersonal, communication, and planning skills.
5. Demonstrate client-centered principles and practices in working with individuals and families including empathy, sensitivity, kindness, non-judgment, advocacy, and respect for client autonomy.
6. Discuss and explain confidentiality and clients' rights in the context of service provision.
7. Identify and facilitate access to enrollment in healthcare programs, benefits, services, and community resources; make and track meaningful referrals.
8. Organize, document, and track components of service plans, including goals, referrals, and appointments.
9. Establish and maintain relationships with referral sources and agencies.
10. Advocate for clients to support timely, accessible, and culturally/linguistically competent care & services
11. Identify and address systems barriers to quality, accessible care and services.
12. Discuss and develop self-awareness, boundaries, and strategies for working with unique or challenging scenarios.

PHLS 2050. Health Education and Facilitation

Course Description

This course provides an overview of the major approaches, models, skills, and knowledge needed to plan, facilitate, and evaluate basic health education presentations for groups in clinical and community settings. It provides a similar overview to planning and facilitating groups and group processes for a variety of health-related purposes. The course offers an experiential immersion into principles of adult learning and explores related media and instructional strategies. It address common challenges in group education and facilitation and promotes best practices for the professional development and self-care of educators and facilitators including cultural humility, boundaries, confidentiality, supervision, and managing power dynamics.

Student Learning Outcomes

1. Identify different types of training and training approaches that CHWs may facilitate, including popular education, participatory learning, and problem-based learning.
2. Discuss some of the ways that people learn new information and skills.
3. Identify and respond to common challenges faced by training facilitators.
4. Develop a training plan, including learning goals and outcomes; deliver and evaluate the training.
5. Identify and describe different types of groups, and the unique benefits of group work.
6. Explain four stages of group work; analyze the roles and task of facilitators at each stage.
7. Analyze how issues of power and authority, including the facilitator's, influence group dynamics and processes.
8. Discuss the importance of self-reflection and evaluation for facilitators and apply it to one's work.
9. Discuss & apply ethics to group work, including issues of cultural humility, boundaries, confidentiality, supervision.
10. Design and facilitate their own group, document group proceedings, agendas, and minutes.

PHLS 2060. Community Health Outreach, Assessment and Advocacy

Course Description

This course provides an overview of various approaches, models, methods, and considerations for doing public health work in community spaces and settings: conducting home visits, health outreach, community organizing, and advocacy for improving community health. Students will learn to utilize a wide range of tools central to this work including environmental scans, community health assessments, surveys, focus groups, canvassing, and PhotoVoice. We will explore the unique role of the health worker in advocating for communities, surfacing community-identified priorities, and activating and building community-based leadership. Addresses a wide range of considerations related to this aspect of community health work including building relationships and trust, ethics, confidentiality, and safety.

Student Learning Outcomes

1. Describe the role of CHWs/CHRs in home visiting, health outreach, community assessment, community health advocacy.
2. Discuss and demonstrate the qualities of successful outreach workers and advocates that enable them to build relationships and trust in community.
3. Plan, conduct, and document home visits and environmental assessments utilizing guidelines for common courtesies and safety.
4. Discuss the different indications, types, and levels of health outreach; plan a health outreach campaign in a targeted community.
5. Discuss the CHW /CHR interface with formal and informal community leaders, and in building community capacity & leadership.
6. Conduct, document, and share results of a strengths-based community diagnosis utilizing tools such as mapping, surveys, scans, canvassing, and focus groups, applying health literacy principles.
7. Describe the five-step Community Action Model (CAM) and utilize it to develop a community organizing plan.
8. Train, support, and mobilize community members to self-advocate around health issues and priorities.
9. Develop and deliver a policy-advocacy presentation to community leaders/policymakers utilizing PhotoVoice.
10. Discuss ethical considerations related to conducting home visiting, community outreach, and advocacy including issues of cultural humility, boundaries, confidentiality, and supervision.

PHLS 2110. Foundations of Health Education

Course Description

Role and responsibility of the health educator with emphasis on small group dynamics, oral and written communication skills, building community coalitions and introduction to grant writing.

Student Learning Outcomes

By the conclusion of this course, students successfully completing this course should be able to:

1. Define health, three levels of prevention, health education and health promotion, and describe the major determinants of health.
2. Describe the 7 major areas of responsibility, major competencies and sub-competencies of a professional health educator and the CHES's possible roles in various community health settings.
3. Describe and examine the historical context and development of the profession of health education.
4. Identify and critique major processes and practices of health education programming.
5. Describe the steps involved in conducting needs assessments, program and intervention planning, implementation, and program evaluation.
6. Identify, examine and describe elected health behavior change theories and models and explore possible applications in health education practice.
7. Describe and discuss the process of community mobilization and building of a community coalition.
8. Identify health issues and describe effective methods/strategies in health education advocacy.
9. Describe and discuss the future trends and issues in the professional preparation and practice of professional health educators.
10. Demonstrate effective and appropriate oral and written communication skills for health education professionals.

PHLS 2120. Essentials of Public Health

Course Description

The course will focus on principles and major areas of public health, including ecological and total personal concept of health care system, epidemiological approaches to disease prevention and control.

Student Learning Outcomes

Upon completion of the course, students will be able to:

1. Understand the sources of public health data, and how to interpret that information.
2. Access existing health related data.
3. Analyze health related data.
4. Identify populations for health education programs.
5. Incorporate data analysis and principles of community organization.
6. Interpret results from evaluation and research.
7. Infer implications from findings for future health–related activities.
8. Have a basic understanding of health topics faced by various populations.

PHLS 2400. Health Systems, Services and Policies

Course Description

This course provides an overview of the US and New Mexico health systems and the main policies that shape them, including the complex infrastructure of public health and the health care system; its performance compared to other health care systems; the key interest groups that shape the health policies; and the main policy challenges, scenarios for improvement, and proposals for change. The course also describes how health policies impact populations and health equity outcomes and includes an introduction to the policy making process, with particular attention to policy design. The purpose of the course is to increase the knowledge and analytical skills of undergraduate students in the field of population health and related areas of knowledge and practice.

Student Learning Outcomes

1. Identify common concepts related to health care systems, services, and health policy.
2. Understand historical and current developments in the US and New Mexico health care system/services/policies.
3. Identify the most important programs and systems at the tribal, state, and federal levels (Indian Health Service, Medicare, and Medicaid, among others).
4. Understand the relationship between political processes and health policy.

5. Identify the impact of social determinants of health and health equity in health policy discussions.
6. Identify key policy design utilized in the creation and implementation of health policy in the US and New Mexico.

PHLS 2410. Fundamentals of Health Care Finance
Course Description
This course will introduce basic concepts of health care finance: access, affordability, quality, and portability.
Student Learning Outcomes
1. Discuss the advantages and disadvantages of various business models in healthcare.
2. Evaluate the impact of different reimbursement mechanisms (e.g., fee-for-service, capitation, value-based care) on the financial risk of healthcare organizations.
3. Develop and assess program budgets under diverse operational scenarios.
4. Explain and apply cost accounting methods, such as activity-based costing, and pricing strategies that utilize cost-accounting data.
5. Demonstrate financial analysis techniques, including breakeven analysis, capital investment analysis, and risk analysis, in healthcare decision-making.

Pueblo Indian Studies (PINS)

PINS 1110. Introduction to Pueblo Indian Studies
Course Description
Bepowaveh - Welcome! This course will provide an introduction to the Pueblo experiences of New Mexico by drawing upon historical contacts, relations, literature and stories. Our class material will include lectures, films, guest speakers and site visits to important historical places and collections.
Student Learning Outcomes
At the end of the semester students will:
1. Gain a broader understanding of the diverse cultures and histories of
2. Pueblo people and nations
3. Develop strong critical thinking and writing skills
4. Deepen an understanding of the scholarly field of Pueblo Indian Studies

PINS 2110. Native American Literature I
Course Description
This course will introduce students to the literature produced by Native American authors as well as explore issues relevant to the study of Native American literature. The course will also introduce the basic elements of literary analysis.
Student Learning Outcomes
1. Read representative texts by Native American authors from various indigenous cultures and historical backgrounds.
2. Identify the historical and cultural forces that have shaped Native American literature.
3. Demonstrate an understanding of the diversity of oral traditions, written texts, and other media used in Native American literature.

PINS 2120. Native American Literature II
Course Description
Involves critical reading and discussions of writings by Native American writers of fiction (short stories and novels) and poetry.
Student Learning Outcomes

1. Situate conventional literary texts alongside other cultural forms in which Native peoples have exercised self-representation, always being careful to locate writers and texts within their appropriate historical and tribal/cultural contexts.
2. Gain a more complicated understanding of and appreciation for the diversity and complexity of Native American intellectual and cultural production
3. Develop a historically-nuanced grasp of some of the major issues, questions, and concerns that run throughout Indian Country today, specifically the relationship between cultural production, federal policies, and contemporary movements toward Native sovereignty and self-determination.
4. Consistently work to hone close, critical reading skills applicable to a variety of textual forms and intellectual/ professional contexts
5. Develop capacities to engage in thoughtful, collegial and critical debate around questions of race, class, gender, sexuality, nation, citizenship and belonging.

PINS 2130. Pueblo Indian History

Course Description

You will study academic approaches to historical studies of Pueblo Indians in New Mexico and Arizona from pre-Columbian to the present using archival sources, ethno-historical resources and federal records.

Student Learning Outcomes

1. Gain a broader understanding of the histories of Pueblo people and nations
2. Develop strong critical thinking and writing skills
3. Broaden understandings of historical methods and approaches

PINS 2140. Pueblo Arts, Crafts, and Culture

Course Description

You will be introduced to this course through stories which accompany hands-on learning in various arts and crafts as told in the Pueblos for daily life and the transmission of cultural practices and knowledge. The course is taught by social scientists, along with artists in beadwork, fabric work, wood carving, storytelling, and more.

Student Learning Outcomes

By the end of the course, students will be able to:

Relate the stories which accompany hands-on learning in various arts and crafts as told in the Pueblos for daily life and the transmission of cultural practices and knowledge

PINS 2150. Pueblo Indian Women's Lives

Course Description

You will survey anthropological, sociological, historical, life history, arts and crafts, and other writing by and about Pueblo Indian women. Topics will vary.

Student Learning Outcomes

SLOs will vary by topic

PINS 2991. Research Topics in Pueblo Indian Studies

Course Description

Varies

Student Learning Outcomes

Varies

PINS 2996. Topics in Tribal Languages

Course Description
Varies
Student Learning Outcomes
Varies

PINS 2998. Internship in Tribal Leadership, Communication, and Technology
Course Description
Varies
Student Learning Outcomes
Varies

Radiologic Technology (RADT)

RADT 1115. Fundamentals of Radiographic Imaging
Course Description
This course provides students with an in-depth knowledge of radiographic exposure techniques and the factors affecting radiographic image quality. It covers digital imaging with related accessories and emphasizes radiographic critique for diagnostic quality control. Additionally, the course reinforces radiologic fundamentals, introducing instrumentation and technology used in digital imaging. Topics include capturing, processing, displaying, and managing digital images, as well as exposure techniques and exposure indicators. Laboratory activities provided to reinforce radiographic concepts.
Student Learning Outcomes
1. Explain the principles of radiation production, image formation, and digital imaging systems.
2. Demonstrate proper techniques for exposure selection, scatter control, and radiation protection.
3. Compare radiographic digital imaging systems, assessing their advantages and limitations.
4. Evaluate radiographic images for technical accuracy and apply necessary adjustments.
5. Apply quality control measures and automatic exposure control to ensure optimal imaging outcomes.

RADT 1130L. Introduction to Radiographic Imaging Applied Clinic Skills
Course Description
Applied clinical skills Laboratory to provide the student with an in-depth knowledge of radiographic exposure technique and the factors affecting radiographic image quality.
Student Learning Outcomes
1. Demonstrate techniques for radiographic scatter control and grid utilization.
2. Apply exposure selection principles.
3. Analyze and utilize automatic exposure control in imaging.
4. Assess radiographic images for technical accuracy and make necessary adjustments.
5. Apply radiation protection methods for patients and personnel.
6. Utilize radiographic equipment and apply quality control measures.

RADT 1140. Radiographic Positioning I
Course Description
This course covers the fundamental principles and techniques of diagnostic radiography, including radiographic procedures, patient positioning, terminology, and the mechanics of image production. Students will learn and apply these concepts to the upper and lower extremities, chest, abdomen, and pelvis/hip. The course emphasizes radiographic anatomy, particularly osteology and arthrology, as it relates to routine radiographic procedures.

Student Learning Outcomes

1. Master radiographic terminology related to positioning, projection, anatomy, medical abbreviations, positioning aids, accessory equipment, and lead markers, explaining their function and application.
2. Evaluate patient care considerations.
3. Explain the basic principles of radiation protection.
4. Describe the basic principles of image acquisition, display, and standards, including common errors, appearance characteristics, procedural factors, and corrective actions.
5. Evaluate orders, requests, and diagnostic reports.

RADT 1140L. Radiographic Positioning I Laboratory

Course Description

Applied clinical skills Laboratory in radiographic procedures and positioning concepts, techniques, terminology, and mechanics related to upper and lower extremities, chest, abdomen and pelvis/hip.

Student Learning Outcomes

1. Apply knowledge of radiographic procedures, including routine and special views, to clinical simulations for the chest, abdomen, and upper and lower extremities.
2. Demonstrating understanding of positioning considerations.
3. Analyze radiographic images.
4. Apply the basic principles of radiation protection.
5. Apply basic principles of image acquisition, display, and standards, considering common errors, appearance characteristics, procedural factors, and corrective actions.

RADT 1140C. Radiographic Positioning/Laboratory I

Course Description

This course covers the fundamental principles and techniques of diagnostic radiography, including radiographic procedures, patient positioning, terminology, and the mechanics of image production. Students will learn and apply these concepts to the upper and lower extremities, chest, abdomen, and pelvis/hip. The course emphasizes radiographic anatomy, particularly osteology and arthrology, as it relates to routine radiographic procedures. Instruction includes lecture, demonstration, positioning Laboratory, and clinical observation.

Student Learning Outcomes

1. Master radiographic terminology related to positioning, projection, anatomy, medical abbreviations, positioning aids, accessory equipment, and lead markers, explaining their function and application.
2. Apply knowledge of radiographic procedures, including routine and special views, to clinical simulations for the chest, abdomen, and upper and lower extremities, demonstrating understanding of positioning considerations.
3. Analyze radiographic images.
4. Evaluate patient care considerations.
5. Explain and apply the basic principles of radiation protection.
6. Describe the basic principles of image acquisition, display, and standards, including common errors, appearance characteristics, procedural factors, and corrective actions.
7. Evaluate orders, requests, and diagnostic reports.

RADT 1150. Radiographic Positioning II

Course Description

Continuation of Radiographic Positioning I including a study of the osteology and arthrology of the thorax, vertebral column, skull, facial bones, and sinuses. Discussion and demonstration of the related standard and special radiographic projections resents the fundamentals of radiographic anatomy, positioning, and terminology used in routine fluoroscopic procedures of the gastrointestinal and genitourinary tract with discussion and demonstration of the related radiographic projections.

Student Learning Outcomes

1. Identify preparation and positioning aides for Radiological Procedures.
2. Identify evaluation criteria to determine acceptable radiographs.
3. Identify anatomy and physiology for Radiological Procedures.
4. Show use of patient care and radiation protection practices in Radiological Procedures.

RADT 1150L. Radiographic Positioning II Laboratory

Course Description

Continuation of Radiographic Positioning I. Applied Clinical Skills Laboratory: Includes vertebral column, skull, facial bones, sinuses, gastrointestinal, urinary, and fluroscopic procedures.

Student Learning Outcomes

1. Model knowledge of radiographic procedures, including routine floroscopic procedures.
2. Evaluate positioning considerations.
3. Demonstrate Radiological Procedures and apply proper patient position and CR placement to obtain proper evaluation criteria.

RADT 1150C. Radiographic Positioning/Laboratory II

Course Description

This course is a continuation of Radiographic Positioning I, focusing on the osteology and arthrology of the thorax, vertebral column, skull, facial bones, and sinuses. It includes the study and demonstration of standard and special radiographic projections, as well as routine fluoroscopic procedures of the gastrointestinal and genitourinary systems. Applied clinical skills Laboratory provides hands-on experience with radiographic positioning, anatomy, and terminology related to these areas.

Student Learning Outcomes

1. Identify preparation and positioning aides for Radiological Procedures.
2. Identify evaluation criteria to determine acceptable radiographs.
3. Identify anatomy and physiology for Radiological Procedures.
4. Show use of patient care and radiation protection practices in Radiological Procedures.
5. Model knowledge of radiographic procedures, including routine floroscopic procedures.
6. Evaluate positioning considerations.
7. Demonstrate Radiological Procedures and apply proper patient position and CR placement to obtain proper evaluation criteria.

RADT 1154. sRadiographic Anatomy and Physiology

Course Description

Basic A&P for radiographic application. Includes a systems approach to body structures and organs as they relate to anatomical projections, radiographic identification, and various imaging modalities.

Student Learning Outcomes

1. Identify and Laboratoryel the anatomy associated with diagnostic X-ray images.
2. Critique x-ray images for the presence or absence of anatomy in deciding whether the x-ray is appropriately positioned and diagnostic for radiologist assessment.

3. Locate anatomical systems based on background knowledge of typical anatomical locations and identify normal course of system function for appropriate positioning, patient instructions, and x-ray imaging.
4. Apply knowledge in a testing environment mimicking what is expected for the ARRT Registry.

RADT 1175. Introduction to Radiologic Technology and Patient Care

Course Description

This course provides a foundational overview of the radiology profession, encompassing basic patient care skills, professional standards, and ethical/legal principles. Students will learn essential skills such as patient transportation, vital sign assessment, and effective communication, while also being introduced to specific radiographic patient care techniques including history taking, immobilization, managing medical emergencies, and the administration of contrast media and radiopharmaceuticals. Additionally, the course will cover core concepts of radiation protection, and basic and specialized procedures, all within the framework of professional ethics and terminology.

Student Learning Outcomes

1. Demonstrate a working knowledge of medical terminology, procedures, and the roles of various healthcare professionals, including those specializing in medical imaging and radiologic sciences.
2. Critically analyze medical reports, orders, and requests, applying evidence-based practices to inform patient care decisions.
3. Evaluate patient health status using vital signs, Laboratory tests, pain assessments, and patient records, and respond appropriately to medical emergencies and traumatic injuries.
4. Implement infection control protocols, utilizing appropriate procedures, equipment, and knowledge of infectious pathogens.
5. Explain drug classifications, administration routes, safety practices, and the use of contrast agents in radiography.
6. Apply ethical principles and legal considerations to healthcare scenarios, including informed consent and navigating ethically complex situations.
7. Exhibit professional behavior in healthcare settings, demonstrating effective communication, cultural sensitivity, and an understanding of the psychological aspects of patient care.

RADT 1175L. Introduction to Radiologic Technology and Patient Care Laboratory

Course Description

This course provides a foundational overview of the radiology profession, encompassing basic patient care skills, professional standards, and ethical/legal principles. Students will complete skills laboratory and simulation exercises to demonstrate competency in patient transportation, vital sign assessment, venipuncture, and effective communication, while also being introduced to specific radiographic patient care techniques, including history taking, immobilization, managing medical emergencies, and the administration of contrast media and radiopharmaceuticals.

Student Learning Outcomes

1. Demonstrate a working knowledge of medical terminology, procedures, and the roles of various healthcare professionals, including those specializing in medical imaging and radiologic sciences.
2. Critically analyze medical reports, orders, and requests, applying evidence-based practices to inform patient care decisions.
3. Evaluate patient health status using vital signs, Laboratory tests, pain assessments, and patient records, and respond appropriately to medical emergencies and traumatic injuries.
4. Implement infection control protocols, utilizing appropriate procedures, equipment, and knowledge of infectious pathogens.

5. Explain drug classifications, administration routes, safety practices, and the use of contrast agents in radiography.
6. Apply ethical principles and legal considerations to healthcare scenarios, including informed consent and navigating ethically complex situations.
7. Exhibit professional behavior in healthcare settings, demonstrating effective communication, cultural sensitivity, and an understanding of the psychological aspects of patient care.

RADT 1190. CT Equipment and Methodology

Course Description

Skill development in the operation of computed tomographic equipment, focusing on routine protocols, image quality, and quality assurance and radiation protection.

Student Learning Outcomes

1. Demonstrate acquisition of comprehensive technical knowledge by obtaining a seventy-five percent or greater on all quizzes and exam assessments (this is in alignment with the scoring expectations for the national registry exam).
2. Manipulate and choose the appropriate scan parameters and technical factors on CT equipment while applying the technical science supporting the decision.
3. Demonstrate appropriate use of post-processing options and provide diagnostic quality images.
4. Abide by radiation safety and dosimetry standards for patient care by demonstrating ALARA standards.
5. Select CT scan manipulations for optimal demonstration of anatomic region, according to protocol (i.e. delayed imaging, multiplanar reconstructions, filters, etc.) and with safe use of iodinated contrast mediums.
6. Recognize and reduce factors that may inhibit diagnostic image quality.

RADT 1191. Computed Tomography (CT) Imaging and Equipment

Course Description

This course serves as an introduction to computed tomography (CT) for current radiologic technology students. Course will include information on clinical equipment and application of x-rays in CT, CT image formation, evaluation, and archiving, patient radiation safety and dose, and patient interactions and management for imaging.

Student Learning Outcomes

1. Demonstrate acquisition of comprehensive technical knowledge by obtaining a seventy-five percent or greater on all quizzes and exam assessments (this is in alignment with the scoring expectations for the national registry exam).
2. Identify critical components of CT system equipment and what their purposes are in creating a CT image.
3. Identify CT parameters which allow for safely administering radiation dose; particularly to pediatric patients.
4. List and define the steps required to acquire a CT image, including the theory behind x-ray interaction/absorption/ attenuation, detector capabilities, appropriate reconstruction options, and computer equipment.
5. Identify image display functions and radiology informatic options.
6. Identify the major technical components of image display in CT and common artifacts, including how to reduce artifacts.

RADT 1215. Introduction to Radiation Safety for Radiologic Technologists

Course Description

This course is an introduction to radiation protection topics that are common to Radiography and Nuclear Medicine. Topics to be covered include radiation units, radioactivity, radiation sources, background radiation, biological effects of radiation, dose limits, radiation shielding, methods of dose reduction, and regulations.

Student Learning Outcomes

1. Demonstrate understanding of radiation physics, including radioactive decay, various types of radiation, modes of radioactive decay, and radiation interaction with matter.
2. List and recognize the effects of radiation in living tissue, including cellular, tissue, and systemic responses as well as factors affecting radiosensitivity.
3. Differentiate between different types of radiation-producing equipment used in medical imaging.
4. Maintain effective radiation safety practices to minimize patient, occupational, and public exposure from different types of radiation-producing equipment used in medical imaging.
5. Differentiate between different types of radiation detection equipment and understand their application in monitoring radiation intensity and contamination.
6. Recognize a radioactive spill and take appropriate steps to minimize the spread of contamination.
7. Comply with current federal, state, and institutional regulations regarding ionizing radiation.

RADT 1520. Radiation Biology and Protection

Course Description

This course explores the biological effects of ionizing radiation on human cells and tissues, including genetic, somatic, short-term, and long-term effects. It covers radiation measurements, policies, and protection measures for technologists, patients, and others, emphasizing minimizing exposure and basic protection methods. The course also reviews current regulations and recommendations by the NRCP and ICRP.

Student Learning Outcomes

1. Radiobiology: Explain fundamental principles, molecular/cellular aspects, early/late radiation effects, and related regulations/terminology.
2. Radiation Protection: Describe health physics, protection design, and patient/personnel dose management, including methods to limit radiation exposure.
3. Human Biology & Ionization: Discuss relevant aspects of human biology and the consequences of ionization in human cells.
4. Cellular Response to Radiation: Examine factors affecting cell radiosensitivity, direct/indirect effects of radiation, dose-response relationships, and the significance of LD50/30 and LD50/60.

RADT 1811. Radiographic Positioning I Clinical Experience

Course Description

Introduction to the clinical environment. Students will complete administrative duties, perform basic diagnostic radiography exams and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned.

Student Learning Outcomes

1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Appropriately position patients, identify radiographic anatomy and pathological conditions.

RADT 1812. Radiographic Positioning II Clinical Experience

Course Description

Clinical Experience: Students will complete administrative duties, perform diagnostic radiography exams, and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned.

Student Learning Outcomes

1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Appropriately position patients, identify radiographic anatomy and pathological conditions.

3. Model effective communication skills.

RADT 1825. Clinical Education I

Course Description

Introduction to the clinical environment. Students will complete administrative duties, perform diagnostic radiography exams and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned. Course offered in the fall semester only.

Student Learning Outcomes

1. Become familiar with the department and hospital layout, and with the basic departmental and hospital operations procedures of each major clinical facility.
2. Gather information for a given patient exam from when the request is received in the radiology department to the time when the images and reports are resulted.
3. Identify patient demographics on images.
4. Become competent and familiar with any and all radiographic/fluorographic equipment they are assigned to work with.
5. Know and follow the Policies and Procedures listed in the student handbook.
6. Responsible for any additional homework or class work that is deemed necessary and assigned by the program faculty.
7. Turn in their personal dosimeters as needed or upload readings in Canvas monthly.
8. Use positive forms of nonverbal communication to assist in patient care.
9. Anticipate and provide basic patient care and comfort with warmth, understanding, and empathy.
10. Show appreciation of the patient's mental factors and react accordingly.
11. Show recognition and appreciation of the diversity of the patient's ethnic backgrounds and react accordingly.
12. Exhibit the appropriate response when their performance and quality of work is evaluated.
13. Show adaptability in dealing with a wide range of patient types and conditions.
14. Show a level of confidence which is consistent with their training experience.
15. Understand the professional role of a radiologic technologist and consistently display a professional attitude.
16. Support the profession's code of ethics and comply with the profession's scope of practice.

RADT 1826. Clinical Education II

Course Description

Continuation of Clinical Education I. Students will complete administrative duties, perform diagnostic radiography exams, and provide patient care under direct/indirect supervision of a qualified registered radiologic technologist as required and assigned. Course offered in the spring semester only.

Student Learning Outcomes

1. Familiarize themselves with all radiographic/fluorographic equipment they are assigned to work with.
2. Familiarize themselves with the department and hospital layout, and with the basic departmental and hospital operational procedures of each assigned clinical facility.
3. Process paperwork for a given patient exam from the time the request is received in the radiology department.
4. Transport a patient safely from the patient room to the radiology department and back to the patient room by wheelchair or stretcher.
5. Correctly mark exams and process images including patient information as specified by each clinical site type of equipment; CR, and or DR.
6. Know and follow the Policies and Procedures listed in the student handbook.

7. Submit film badges monthly for radiation readings.
8. Use nonverbal communication.
9. Anticipate and provide basic patient care and comfort with warmth, understanding, and empathy.
10. Show appreciation of patients' mental factors and react accordingly.
11. Show recognition and appreciation of the diversity of patients' ethnic backgrounds and react accordingly.
12. Exhibit the appropriate responses when their performance and quality of work is evaluated.
13. Show adaptability in dealing with a wide range of patient types and conditions.
14. Show a level of confidence which is consistent with their training experience.
15. Understand the professional role of a radiologic technologist and consistently displays a professional attitude.
16. Support the profession's code of ethics and comply with the profession's scope of practice.

RADT 1830. Clinical Experience I

Course Description

Introduces students to Radiologic Technology as a health science profession. Includes an introduction to the clinical setting, radiology and hospital organization, radiation protection and monitoring, ethical and legal issues of medical imaging, confidentiality, to include diversity and anti-discrimination issues in employment situations, professional organizations, professional development, accreditation and credentialing and computers in the workplace.

Student Learning Outcomes

1. Continue attaining clinical competencies in Extremities, Abdominal & Chest Radiography.
2. Begin process of investigating radiographic special procedures UGI, IVP, & BE.
3. Attend Direct Clinical Instruction Skull/Facial bones, Spine/Sacrum/Coccyx, Fluoroscopy, Pediatrics.

RADT 1997. Radiologic Technology Independent Study

Course Description

Varies

Student Learning Outcomes

Varies

RADT 2110. Radiographic Imaging I

Course Description

Covers film and electronic imaging with related accessories. Employs radiographic film critique to emphasize the methods of diagnostic quality control.

Student Learning Outcomes

1. Define ,state and describe radiation and its discovery.
2. Describe , state and list the qualities of X-ray beam formation.
3. Define ,differentiate and explain radiographic Image formation.
4. Define, describe and state radiographic Image properties: photographic & geometric.
5. Describe, list and demonstrate radiographic scatter control and grid utilization.
6. Describe and explain radiographic film and digital image receptors.
7. Define, explain and describe radiographic Sensitometry.
8. Define ,differentiate and recognize radiographic exposure selection.
9. Define, analyze explain how automatic exposure control works.
10. Explain, define and identify how digital imaging systems work.

RADT 2111. Fundamentals of Radiography II

Course Description

Continuation of concepts in image production to include prime factors, exposure, scatter, and image characteristics. Presents the fundamentals of radiographic positioning and terminology used in non-routine skeletal trauma, pediatric, and mobile imaging with discussion and demonstration of the related radiographic projections. Students will participate in Laboratory simulation of procedures covered. Course offered in the summer semester only.

Student Learning Outcomes

1. Describe anatomy and functions.
2. On diagrams and radiographs, identify specific anatomy.
3. Define specific terms related to conditions and procedures.
4. Describe the effect of body habitus on the location of normal anatomy.
5. List the basic and special positions or projections to include size and type of image receptor, central ray location, direction and angulation of the central ray, and anatomy best demonstrated.
6. Discriminate between acceptable and unacceptable radiographs and describe how positioning or technical errors can be corrected.
7. Given various hypothetical situations, identify the correct modification of a position and/or exposure factors to improve the radiographic image.
8. Using a peer, position for basic and special projections of the various systems.
9. Identify the steps and safety measures to be followed during a venipuncture procedure.
10. List safety measures to be followed before and during the injection of an iodinated contrast media.
11. Discuss common clinical applications for tomography.
12. Explain positioning principles that must be observed during trauma radiography.
13. List general patient preparation requirements for procedures of the pediatric patient.
14. Explain the safe use of radiographic equipment in surgery.
15. Describe common radiographic procedures performed in surgery.

RADT 2250. Radiographic Image Critique

Course Description

This course reviews radiographs, evaluating anatomy and technical quality, including positioning and technique. Students learn to make adjustments and reinforce concepts through classroom activities.

Student Learning Outcomes

1. Optimal Projections & Labeling: State key components of optimal projections, properly display body structures, and accurately Laboratoryel projections using markers and annotations.
2. Comprehensive Imaging Knowledge: For all major body regions (chest, abdomen, extremities, pelvis, shoulder girdle, bony thorax, spine, skull): identify anatomy, state technical data, identify positioning errors, describe considerations for special conditions (air-fluid levels, motion, pathology), and discuss adaptive techniques.
3. Digital Imaging: Demonstrate familiarity with digital image acquisition, errors, and display.
4. Image Analysis: Perform image analysis, including appearance standards, characteristics, procedural factors, and corrective actions.

RADT 2404. Radiographic Special Modalities

Course Description

Introduction and discussion of various special procedures and modalities including but not limited to: interventional radiography, computed tomography, magnetic resonance imaging, nuclear medicine, radiation therapy, ultrasound.

Student Learning Outcomes

1. Attain basic knowledge of the various imaging modalities and differentiate between images produced by those modalities.
2. Explain general equipment requirements.
3. Identify various contrast agents used by different modalities and define potential contraindications.
4. Explain the use of artificial intelligence for the various modalities.

RADT 2408. Radiographic Pathology

Course Description

This course explores the pathology of major body systems and corresponding radiographic imaging techniques. Students learn about disease processes (etiology, signs/symptoms, diagnosis, and treatment) and identify pathological signs on various images, emphasizing radiography. Fundamental anatomy and physiology are integrated, focusing on anatomical projections, radiographic identification, and imaging modalities (including CT and MRI).

Student Learning Outcomes

1. Describe and identify anatomical structures on diagrams and radiographs.
2. Classify and explain pathological conditions affecting major body systems.
3. Identify pathologies, assess radiographic appearance, and evaluate imaging accuracy.
4. Define key terms, use medical abbreviations, and understand diagnostic reports.
5. Position patients correctly, assess images, and apply technical adjustments.
6. Identify radiation types, effects, and imaging modalities for diagnosis and treatment.
7. Critique images, locate pathology, and demonstrate readiness for certification exams.

RADT 2410. Radiographic Physics and Equipment

Course Description

This course offers a comprehensive exploration of the physical principles of diagnostic radiography, covering radiologic physics, imaging theory, and quality assurance. Students will examine atomic structure, electromagnetism, X-ray production and interaction, exposure factors, scatter control, and image characteristics. The curriculum also includes digital fluoroscopy, X-ray circuitry, and an introduction to advanced imaging modalities such as mammography, CT, and MRI.

Student Learning Outcomes

1. Explain the structure of atoms and types of radiation.
2. Describe X-ray production and factors affecting image quality.
3. Explain photon interactions with matter.
4. Identify key components of the X-ray circuit and X-ray tube.
5. Apply physics and math principles to radiographic procedures and equipment.
6. Analyze radiographic images for accuracy and quality.

RADT 2811. Clinical Experience I

Course Description

Clinical Experience: Students will complete administrative duties, perform diagnostic radiography exams, and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned.

Student Learning Outcomes

1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Appropriately position patients, identify radiographic anatomy and pathological conditions.
3. Demonstrate effective communication skills.

4. Accurately document/record data in accordance with clinical site policies and procedures.

RADT 2812. Clinical Experience II

Course Description

Clinical Experience: Students will complete administrative duties, perform diagnostic radiograph exams, and provide patient care under direct/indirect supervision of a qualified registered radiologic technologist as assigned. Evening/weekend, CT, and OR rotations will be offered where available.

Student Learning Outcomes

1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Appropriately position patients, identify radiographic anatomy and pathological conditions.
3. Demonstrate effective communication skills.
4. Accurately document/record data in accordance with clinical site policies and procedures.
5. Demonstrate the ability to use independent judgement.
6. Analyze radiographic images for technical and positioning accuracy to make modifications as needed.
7. Conduct themselves in a professional manner to function effectively as a member of the healthcare team.

RADT 2813. Clinical Experience III

Course Description

Clinical Experience: Students will complete administrative duties, perform diagnostic radiography exams, and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned. Evening/weekend, CT and OR rotations will be offered where available.

Student Learning Outcomes

1. Demonstrate the ability to safely produce diagnostic radiographic images.
2. Be able to appropriately position patients, identify radiographic anatomy and pathological conditions.
3. Demonstrate effective communication skills.
4. Acccurately document/record data in accordance with clinical site policies and procedures.
5. Demonstrate the ability to use independent judgement.
6. Analyze radiographic images for technical and positioning accuracy to make modifications as needed.
7. Conduct themselves in a professional manner to function effectively as a member of the healthcare team.
8. Identify opportunities for professional growth within medical imaging sciences.

RADT 2814. Special Modalities Clinical Experience IV

Course Description

Clinical Experience: Special rotations in advanced imaging modalities to include but are not limited to nuclear medicine, sonography, mammography, MRI, CT, interventional radiology, and cardiac catheterization Laboratory.

Student Learning Outcomes

1. Identify, compare, and evaluate various specialized modalities in medical imaging, including but not limited to Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Ultrasound, Nuclear Medicine, and Interventional Radiology.
2. Demonstrate principles, applications, and patient care considerations associated with each modality, as well as the role of advanced imaging in diagnosis and treatment within the healthcare setting.
3. Demonstrate effective communication skills.
4. Conduct themselves in a professional manner to function effectively as a member of the healthcare team.
5. Identify various opportunities for professional growth within medical imaging sciences.

6. Develop and refine professional job-seeking skills, including crafting an effective resume and cover letter, preparing for interviews, and demonstrating workplace professionalism.

RADT 2817. Cross Sectional Anatomy for Medical Imaging

Course Description

Anatomic relationships that are present under various sectional orientations as depicted by computed tomography or magnetic resonance imaging.

Student Learning Outcomes

1. Identify and Laboratoryel the anatomy associated with the topical outline in diagnostic CT images.
2. Critique CT images for the presence or absence of anatomy and pathology in deciding whether the image is appropriately positioned and diagnostic for radiologist assessment.
3. Locate anatomical systems and possible pathology based on background knowledge of typical anatomical locations and identify normal course of system function for appropriate positioning, patient instructions, and CT imaging.

RADT 2818. Clinical Experience I (Computed Tomography)

Course Description

A basic, introductory health-related, work-based learning experience that enables students to apply specialized occupational theory, skills, and concepts. The clinic professional provides direct supervision.

Student Learning Outcomes

1. Complete at least 55 high-quality CT scans while maintaining good standing.
2. Engage appropriately with patients using verbal and nonverbal communication at a beginner level.
3. Identify necessary Laboratory values for contrast-enhanced CT exams at a beginner level.
4. Evaluate personal/occupational radiation exposure and explain CT dose measurement.
5. Use post-processing tools to produce diagnostic-quality images and adjust CT parameters for optimal imaging and contrast.

RADT 2819. Clinical Experience II (Computed Tomography)

Course Description

An intermediate health-related work-based learning experience that enables students to apply specialized occupational theory, skills, and concepts. The clinic professional provides direct supervision.

Student Learning Outcomes

1. Complete at least 100 high-quality CT scans while maintaining good standing.
2. Engage appropriately with patients using verbal and nonverbal communication.
3. Identify necessary Laboratory values for contrast-enhanced CT exams.
4. Evaluate personal/occupational radiation exposure and explain CT dose measurement.
5. Use post-processing tools to produce diagnostic-quality images and adjust CT parameters for optimal imaging and contrast safety.

RADT 2820. Clinical Experience III (Computed Tomography)

Course Description

Advanced health-related work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. Direct supervision is provided by the clinic professional. Upon completion, students will be able to assume most of the duties of an experienced imaging professional in Computed Tomography.

Student Learning Outcomes

1. Complete at least 125 high-quality CT scans while maintaining good standing.
2. Engage appropriately with patients using verbal and nonverbal communication.
3. Identify necessary Laboratory values for contrast-enhanced CT exams.
4. Evaluate personal/occupational radiation exposure and explain CT dose measurement.
5. Use post-processing tools to produce diagnostic-quality images and adjust CT parameters for optimal imaging and contrast safety.

RADT 2824. Clinical Education III

Course Description

Continuation of Clinical Education II. Students will complete administrative duties, perform diagnostic radiography exams, and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned. Evening and OR rotations will be offered where available.

Student Learning Outcomes

1. Familiarize themselves with all radiographic/fluorographic equipment they are assigned to work with.
2. Familiarize themselves with the department and hospital layout, and with the basic departmental and hospital operational procedures of each assigned clinical facility.
3. Process paperwork for a given patient exam from the time the request is received in the radiology department.
4. Transport a patient safely from the patient room to the radiology department and back to the patient room by wheelchair or stretcher.
5. Correctly mark exams and process images including patient information as specified by each clinical site type of equipment; CR, and or DR.
6. Know and follow the Policies and Procedures listed in the student handbook.
7. Submit film badges monthly for radiation readings.
8. Use nonverbal communication.
9. Anticipate and provide basic patient care and comfort with warmth, understanding, and empathy.
10. Show appreciation of patients' mental factors and react accordingly.
11. Show recognition and appreciation of the diversity of patients' ethnic backgrounds and react accordingly.
12. Exhibit the appropriate responses when their performance and quality of work is evaluated.
13. Show adaptability in dealing with a wide range of patient types and conditions.
14. Show a level of confidence which is consistent with their training experience.
15. Understand the professional role of a radiologic technologist and consistently displays a professional attitude.
16. Support the profession's code of ethics and comply with the profession's scope of practice.

RADT 2825. Clinical Education IV

Course Description

Continuation of Clinical Education III. Students will complete administrative duties, perform basic diagnostic radiograph exams, and provide patient care under direct/indirect supervision of a qualified registered radiologic technologist as assigned. Evening and OR rotations will be offered where available. Course offered in the fall semester only.

Student Learning Outcomes

1. Familiarize themselves with all radiographic/fluorographic equipment they are assignedto work with.
2. Familiarize themselves with the department and hospital layout, and with the basic departmental and hospital operational procedures of each assigned clinical facility.
3. Process paperwork for a given patient exam from the time the request is received in theradiology department.

4. Transport a patient safely from the patient room to the radiology department and back to the patient room by wheelchair or stretcher.
5. Correctly mark exams and process images including patient information as specified byeach clinical site type of equipment; film, CR, and or DR.
6. Know and follow the Policies and Procedures listed in the student handbook.
7. Submit film badges monthly for radiation readings.
8. Use nonverbal communication.
9. Anticipate and provide basic patient care and comfort with warmth, understanding, and empathy.
10. Show appreciation of patients' mental factors and react accordingly.
11. Show recognition and appreciation of the diversity of patients' ethnic backgrounds and react accordingly.
12. Exhibit the appropriate responses when their performance and quality of work is evaluated.
13. Show adaptability in dealing with a wide range of patient types and conditions.
14. Show a level of confidence which is consistent with their training experience.
15. Understand the professional role of a radiologic technologist and consistently displays a professional attitude.
16. Support the profession's code of ethics and comply with the profession's scope of practice.
17. Acquire all required performance evaluations (competencies).
18. Ten mandatory general patient care activities (completed these 1st semester).
19. 36 mandatory imaging procedures.
20. 15 elective imaging procedures selected from the list of 34 procedures.
    a. One of the 15 elective imaging procedures must be selected from the head section: and
    b. Two of the 15 elective imaging procedures must be selected from the fluoroscopy studies section, one of which must be either upper GI or contrast enema.

RADT 2826 Clinical Education V

Course Description

Students will complete administrative duties, perform basic diagnostic radiography exams, and provide patient care under the direct/indirect supervision of a qualified registered radiologic technologist as required and assigned. Evening, and OR, and specialized modality rotations will be offered where available.

Student Learning Outcomes

1. Familiarize themselves with all radiographic/fluorographic equipment they are assignedto work with.
2. Familiarize themselves with the department and hospital layout, and with the basic departmental and hospital operational procedures of each assigned clinical facility.
3. Process paperwork for a given patient exam from the time the request is received in theradiology department.
4. Transport a patient safely from the patient room to the radiology department and back to the patient room by wheelchair or stretcher.
5. Correctly mark exams and process images including patient information as specified byeach clinical site type of equipment; film, CR, and or DR.
6. Know and follow the Policies and Procedures listed in the student handbook.
7. Submit film badges monthly for radiation readings.
8. Use nonverbal communication.
9. Anticipate and provide basic patient care and comfort with warmth, understanding, and empathy.
10. Show appreciation of patients' mental factors and react accordingly.
11. Show recognition and appreciation of the diversity of patients' ethnic backgrounds and react accordingly.
12. Exhibit the appropriate responses when their performance and quality of work is evaluated.

13. Show adaptability in dealing with a wide range of patient types and conditions.
14. Show a level of confidence which is consistent with their training experience.
15. Understand the professional role of a radiologic technologist and consistently displays a professional attitude.
16. Support the profession's code of ethics and comply with the profession's scope of practice.
17. Acquire all required performance evaluations (competencies).
    a. Ten mandatory general patient care activities (completed these 1st semester)
    b. 36 mandatory imaging procedures
    c. 15 elective imaging procedures selected from the list of 34 procedures
    d. One of the 15 elective imaging procedures must be selected from the head section: and
    e. Two of the 15 elective imaging procedures must be selected from the fluoroscopy studies section, one of which must be either upper GI or contrast enema.

RADT 2830.Clinical Experience II

Course Description

A continued development of competencies under direct supervision and continuous practice of basic procedures learned in positioning I and II and Radiographic Imaging I. Independent and intermediate level of performance in selected procedures, film processing and film critiques. Assistance in a variety of patient care needs, safety issues, PACS and dye exposure.

Student Learning Outcomes

1. Continue attaining clinical competencies in Extremities, Abdominal & Chest Radiography.
2. Begin process of investigating radiographic special procedures UGI, IVP, & BE.
3. Attend Direct Clinical Instruction:
    a. Skull/Facial bones
    b. Spine/Sacrum/Coccyx
    c. Fluoroscopy
    d. Pediatrics

RADT 2831. Clinical Experience III

Course Description

Continues course of study with indirect supervision, a continued development of competence and practice in basic positioning. Independent/intermediate level of performance in selected procedures, film processing and film critiques. Assists in a variety of patient care activities.

Student Learning Outcomes

1. Complete ten clinical competencies in Extremities, Abdominal & Chest and other mandatory or elective
2. ARRT Radiography competencies.
3. Finish radiographic special procedures competencies, UGI, IVP, & BE.

RADT 2832. Clinicval Experience IV

Course Description

Continues course of study with instruction and practice in a clinical facility under indirect/close supervision. Student will continue to develop competencies. Observation, involvement and assistance in special procedures and special imaging modalities. Review of radiographs, preparation for employment as radiologic technologists.

Student Learning Outcomes

1. Complete ten clinical competencies in Extremities, Abdominal & Chest and other mandatory or elective ARRT Radiography competencies or 40 totals.
2. Finish radiographic special procedures competencies, UGI, IVP, & BE.
3. Have completed 40 clinical competencies by end of term.

RADT 2993. Radiologic Technology Workshop
Course Description
Varies
Student Learning Outcomes
Varies

RADT 2996. Radiologic Technology Topics
Course Description
Varies
Student Learning Outcomes
Varies

RADT 2999. Radiologic Technology Capstone
Course Description
Varies
Student Learning Outcomes
Varies

Range Science (RGSC)

RGSC 1110. The Range Science Profession
Course Description
Introduction to scientific disciplines and career opportunities in rangeland science and management.
Student Learning Outcomes
1. To introduce students to the Range Science program and to a variety of career opportunities in Range Science.
2. To develop an individualized course curriculum that prepares the student to achieve their career goals.
3. To examine opportunities to gain practical work experience through internships and cooperative employment.

RGSC 2110. Introduction to Rangeland Management
Course Description
This course covers the principles of managing and understanding pasture and rangelands. Plant physiology and ecology, plant communities and rangeland sustainability and how they relate to livestock production and wildlife management will be discussed.
Student Learning Outcomes
1. Understand rangeland management operations.
2. Identify rangeland plants.
3. Gain a perspective of watershed management.
4. Discuss the management of rangeland resources.
5. Understand the process of rangeland evaluation through a broad understanding of monitoring and production of these rangelands.

6. Gain a perspective of the correlation of rangelands and the economic principles guiding resource management.
7. Understand the process of rangeland condition.
8. Understand the concepts of stocking rates and usage of rangelands.
9. Gain a broad perspective of different classes of land ownership; Tribal, federal, private and state.
10. Recognize vegetative communities, ecological sites, plant physiology and application to rangeland management considerations.

RGSC 2996. Topics in Range Science
Course Description
Specific subjects and credits announced in the Schedule of Classes.
Student Learning Outcomes
Varies

Religion (RELG)

RELG 1110. Introduction to World Religions
Course Description
This course introduces major world religions and the scholarly methods of the academic study of religion. Religions covered may include Hinduism, Buddhism, Confucianism, Daoism, Judaism, Christianity, Islam and/or New Religious Movements.
Student Learning Outcomes
1. Students will demonstrate knowledge of the origins, history, development, and characteristics of each religion.
2. Recognize and distinguish the beliefs, practices, and features of each religion.
3. Analyze various primary religious texts.

RELG 1120. Introduction to the Bible
Course Description
Introduction to the Bible is an introductory study of the structure and content of the Hebrew and Christian Scriptures. This class provides the context and reading skills for study and investigation of the Bible and its influence upon western culture and religion.
Student Learning Outcomes
1. Students will demonstrate knowledge of the context for the composition of Biblical texts.
2. Analyze Biblical texts and identify major characters and themes.
3. Demonstrate knowledge of the use and interpretation of Biblical texts in various religious traditions.
4. Choose and apply appropriate academic methods as applied to Biblical interpretation.

RELG 1123. Hebrew Bible
Course Description
An introduction to the history, beliefs, practices, and development of the Hebrew and later Jewish religion as reflected in the Hebrew Biblical Scriptures, using a historical and critical approach, with attention given to understanding its socio-cultural and political environment.
Student Learning Outcomes
1. Trace the chronology of the myths, history, and ideas found in the Hebrew Bible emphasizing significant events, personalities, and cultural settings.
2. Identify the various literary genres present in the Hebrew Bible.
3. Identify aspects of the different moral, ethical, and theological messages of the Hebrew Bible.

RELG 1126. New Testament

Course Description
An introduction to the history, beliefs, practices, and development of the early Christian religion as reflected in the New Testament, using a historical and critical approach, with attention given to understanding its socio-cultural and political environment.
Student Learning Outcomes
1. Students will demonstrate knowledge of the chronology of the history of early Christian belief and practice, emphasizing significant events, personalities, and diverse cultural settings as they influenced the development of the faith.
2. Students will be able to identify and explain core theories, methods, and approaches to study of the New Testament.
3. Students will be able to identify and explain aspects of the moral, ethical, and theological messages of the New Testament.

RELG 1510. Life of Christ
Course Description
The Life of Christ is a course that examines the life of Christ with regard to the events and teachings of Jesus as recorded in the Synoptic gospels namely, Mathew, Mark and Luke. It is also an introduction in the field of textual and synoptic criticism.
Student Learning Outcomes
Student Learning Outcomes correspond to: assisting the students in understanding who Jesus Christ is, the events that took place in His life and His teachings according to the Synoptic gospel writers, recognizing the differences among the synoptic writers and the arrangement of events in Christ's life and empowering the students through resources.

RELG 1520. Religion and the Arts
Course Description
Introduction to the relationship between religion and culture as reflected in the arts. Surveys the roles and functions of visual, performing, and literary arts and architecture in experiencing and expressing the social and doctrinal dimensions of several indigenous and major world religions.
Student Learning Outcomes
The objective is to gain a broad understanding of the symbolic and expressive dimensions of religion and the relationship between religion and the arts. Students will:
1. Identify the basic beliefs and practices of each religion.
2. Describe each religion's relative position on the iconoclasm–iconophilia spectrum.
3. Describe the use of symbolism to convey religious concepts and meanings.
4. Analyze representative literary, performance, visual art, and/or architectural works as expressions of religious beliefs and doctrines.
5. Demonstrate critical reflection and understanding of course material and concepts.

RELG 1550. Religion, Health & Medicine
Course Description
Religion, Health, and Medicine introduces students to how people's religious beliefs and practices influence their perspectives on health and their approaches to medical care and treatment.
Student Learning Outcomes
1. Describe one's worldview and how it influences one's own perspective on health and approach to medicine.
2. Explain the basic beliefs and practices of the religions we study and how they influence people's perspectives on health and their approaches to medicine.
3. Identify particular questions and problems that may result when people holding different worldviews meet to discuss and/or treat health and medicine issues.

4. Develop comprehension and analytical reading, writing, and evaluation skills through class assignments.

RELG 1996. Topics in Religion
Course Description
A course exploring a topic not covered by the standard curriculum but of interest to faculty and students in a particular semester.
Student Learning Outcomes
Varies

RELG 2110. Eastern Religions
Course Description
Provides an academic overview of major religious traditions of Asia (mainly India, China, and Japan), which may include Hinduism, Buddhism, Sikhism, Jainism, Confucianism, Daoism, Shinto, and/or Shamanism as well as popular, tribal, or new religions. Students will be assigned both primary and secondary texts.
Student Learning Outcomes
1. Students will demonstrate knowledge of the origins, history, development, and characteristics of each religion.
2. Students will be able to identify and explain the beliefs and practices of each religion.
3. Analyze various primary religious texts.

RELG 2115. World Religions
Course Description
In this course, the student will study the history and teachings of the world's major religions, e.g., Buddhism, Muslimism, Hinduism, and Shintoism.
Student Learning Outcomes
Students will:
1. Recognize the roots and foundations of each of the major religions and its founders.
2. Illustrate the history and development in relation to their respective cultures.
3. Examine their historical sequence in the development of religious traditions and practices.
4. Locate the global distribution of each religion from their foundation to the present.
5. Describe the relationship of thought and worship in the varied cultures.
6. Value the uniqueness of the different cultural religious expression through art, music, and literature.
7. Demonstrate to Western Christian thinking the uniqueness of Eastern belief, thought and religious living.
8. Measure the impact and influence of education, morality, and values of each religion globally.

RELG 2120. Western Religions
Course Description
This is a survey course that will cover major religious traditions of the West, including the three Abrahamic religions (Judaism, Christianity, and Islam) and other religious systems. The course will focus on how each tradition has developed historically and how it exists in the world today.
Student Learning Outcomes
1. Students will demonstrate knowledge of the histories, belief systems, practices, etc. of major Western religions, and of how these traditions have influenced different societies.
2. Students will demonstrate critical skills in interpretation, discussion, and in composing creative, analytical and/or objective responses to material.

RELG 2130. History of Christianity
Course Description

This course examines Christianity from its origins to the present. The course will focus on church doctrine, people, movements, and problems that have characterized Christianity over two millennia.

Student Learning Outcomes

1. Students will demonstrate historical knowledge of the people, movements, and problems that comprise Christianity, and an understanding for the diversity of Christian expression over time.
2. Students will demonstrate critical skills in interpretation, discussion, and in composing creative, analytical and/or objective responses to material.

RELG 2135. Ancient Religions

Course Description

Examines the religions of the ancient Middle East, Egypt, Greco-Roman, Germanic and Celtic worlds. Provides students with an understanding of the origins of modern religions and spirituality.

Student Learning Outcomes

1. Identify major religious movements of the ancient world.
2. Contrast and compare the various ancient religions.
3. Describe the pantheons of the religions of the ancient world.
4. Define major terms in ancient religion, such as animism.
5. Analyze primary texts from ancient sources on religion.

RELG 2140. The Book of Acts

Course Description

An examination of the work of Peter and other early Christian leaders; missionary journeys of Paul; and the spread of early Christianity as recounted in the Book of Acts.

Student Learning Outcomes

1. Students will demonstrate knowledge of this stage in the development of the spread of the early Christian faith.
2. Students will demonstrate critical skills in interpretation, discussion, and in composing creative, analytical and/or objective responses to material.

RELG 2210. Biblical Perspectives on Relationships

Course Description

This course provides a fundamental knowledge of the biblical perspective on relationships by thoroughly covering the topics of marriage, family, and singleness from a Christian worldview. Current issues and movements are analyzed and discussed openly and honestly through the lens of the Scriptures. Moreover, the textbook intertwines the theological and the practical aspects of these ideals for the students' personal applications.

Student Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. Identify and explain topics and issues of importance concerning various relationships from a biblical perspective.
2. Develop and defend a proper thesis statement about an approved book for a critique.
3. Compose journal entries of personal thoughts concerning corresponding reading assignments.
4. Prove retention of class material through weekly quizzes and the midterm and final exams.

RELG 2220. Women of the Bible

Course Description

This course is designed to introduce the modern-day reader to the women Bible characters. The Bible is literally filled with strong women whose lives and voices have much in common with modern day woman. The gamut of the Biblical record runs from the revered Virgin Mary to the beguiled Jezebel. Even though some of the women noted in the Bible remain unnamed, their lives can still be examined in the context of their exploits, accomplishments and commitments.

These women have complex and multifaceted personalities and, in that light, their message is relevant to all generations. These women struggled with real problems and obstacles. Surprisingly, these issues are in essence the same struggles that women face today. Many chose poorly and their lives reflected that but others made good choices and as a result, their lives are viewed through those lines. But whether these women made poor choices or good choices, the study of these women's lives in Biblical times are relevant for today. So, in this course, we will examine those women who might be ancient in history, but relevant to our study today.

Student Learning Outcomes

1. To acquaint ourselves with both well-known and not so well-known Bible characters who are women.
2. To establish a time-line to see how these women Bible characters fit into the framework of the Bible.
3. To study the history and customs surrounding the Bible women characters and how that history and culture affected them in their time.
4. To interpret and discuss the situations of Bible times and how they played out in women's lives.
5. To reflect on women's lives in Biblical times to relate to modern day times and all trials that humans face.
6. To examine each woman's life to evaluate consequences, achievements and situations resulting from her actions.

RELG 2230 Men of the Bible

Course Description

This course is designed to introduce the modern-day reader to the many men of the Bible who helped shaped the Bible message. In studying these men, students will have an opportunity to look into their lives. It will be illuminating and inspiring to see their stories played out in the Bible. Many of the men are strong men, many are good men and some are evil men. In that light, the student can see the aspects of both good and evil as nothing is withheld from the Biblical record and all flaws and good character traits are there for all readers to see. The gamut of men in the Biblical record runs from patriarchs such as Abraham and Jacob to Judas Iscariot and Pontius Pilate. No matter their character, their lives can still be examined in the context of their exploits, accomplishments and commitments.

These men all have complex and multifaceted personalities and as a result, their message is relevant to all generations. These men struggled with real problems and obstacles. These issues are in essence the same struggles that all humankind face today. Many chose poorly and their lives reflected those poor choices but others made good choices and as a result, their lives are viewed through the results of those choices. But whether poor choices or good choices, the study of these men's lives in Biblical times is relevant for today.

Student Learning Outcomes

1. The student will become acquainted with both well-known and not so well-known men of the Bible who helped to shape the world in which they lived during Biblical times.
2. The student will establish a timeline to see how these Bible characters fit into the framework of the Bible.
3. The student will become familiar with the history surrounding the characters and how that history and culture touched them in their time.
4. The student will reflect on the culture of the times in which the men lived to ascertain how that culture influenced the times of their lives.
5. The student will interpret, reflect, and discuss the situations of Bible times and how those times played out in men's lives.
7. The student will become familiar with each man in his own particular situation to see how that man fit into the revelation of the Biblical account.
8. The student will compare experiences of men through the Biblical record to times of today to detect similarities and differences.
9. The student will reflect on the hardships, setbacks, life experiences, personal choice and encounters that made the men in the Bible notable.

10. The student will recognize Bible ordinary men with life's baggage and situations that are common to even people today.

RELG 2510. Principles of Textual Interpretation

Course Description

A study of the principles of interpretation and the application of these principles to selected portions of Scripture.

Student Learning Outcomes

1. You will understand the need and importance of disciplined biblical interpretation.
2. You will know the impact that particular genres of the Bible have on successful interpretation.
3. You will learn the principles of inductive Bible study and the value of textual observations.
4. You will be able to prepare a thorough and responsible inductive Bible study on any assigned biblical text.
5. You will learn that the best biblical interpretation is pursued with a spirit of humility.

RELG 2520. Jesus and the School of Healing

Course Description

The introductory course takes a holistic approach to the biblical concept of healing. Topics include introduction to selected Old Testament passages with major emphasis in New Testament passages, containing the aspects of healing concepts. These passages are introductory exposure of the student to a broad understanding of the role of the Christian churches healing ministry in the twenty-first century. This will include introduction to the historical concepts, theological concepts, sacramental concepts, current models of holistic medicine concepts, and an introduction to authors with writings of relevance. Exposure to current works regarding death and dying; stress management, and related holistic theories.

Student Learning Outcomes

1. The student will be able to use the critical thinking process and to formulate a personal approach to the integration of biblical healing and the 21st century as demonstrated by writing an academic document containing a personal statement of faith, scored by faculty and receiving a score of 70% or better.
2. The student will be able to demonstrate competence in understanding of material presented by scoring a 70% or better on faculty evaluated quizzes or oral presentations.
3. The students will be able demonstrate proficiency in verbal articulation as based upon participation in classroom discussion and interaction with peers and the instructor by scoring a 70% or better on faculty evaluation.

RELG 2525. Beliefs and Believers

Course Description

In this course, the student develops an understanding of what they believe and why they believe it. The student will gain some initial exposure to the religious systems of major world religions: Hinduism, Buddhism, Taoism, Confucianism, Judaism, Christianity, and Islam – as well as systems of belief which are outside the scope of what are deemed to be mainstream religious institutions, such as new age religions, Neopaganism, and “civil” religion.

Student Learning Outcomes

Successful completion of the course implies the student will be able to:

1. Identify major religions and worldviews as measured by scoring 70% accuracy on a faculty prepared examination.
2. Describe major religions and worldviews according to the following dimensions – mythic, experiential, doctrinal, ritualistic, ethical and social as measured by scoring 70% on a faculty prepared examination.

RELG 2993. Workshop in Religion

Course Description

Varies

Student Learning Outcomes

Varies

RELG 2996. Topics in Religion
Course Description
Specific subjects and credits announced in the Schedule of Classes.
Student Learning Outcomes
Varies

Renewable Energy (RNBL)

RNBL 1010. Introduction to Renewable Energy
Course Description
This course is an introduction to renewable energy as compared to non-renewable energy. A close study of locally available renewable energy will allow a hands-on approach to solar, hydro, bio mass, and wind energy. Proper siting, feasibility, payback, and calculations, such as, load, storage and production will be introduced. Passive as well as active systems and dwellings will be studied.
Student Learning Outcomes

1. The student will be able to describe the difference between renewable energy sources and non-renewable energy sources
2. The student will be able to determine the proper use of both energy types considering current technology.
3. The student will be able to demonstrate knowledge of the different types of renewable energy and its conversion to mechanical and or electrical energy.
4. The student will be able to identify and utilize standard renewable energy terminology and concepts.
5. The student will be able to calculate the electrical load of an average American home.
6. The student will be able to complete a basic renewable energy feasibility study.

RNBL 1060. Electrical Theory for Renewable Energy
Course Description
This course introduces electrical safety, the basic principles of Direct Current (DC) and Alternating Current (AC) theory. Electrical energy applications in basic, capacitive, and inductive circuits will be covered in lecture and laboratory study, as will applications of basic renewable energy electrical components and systems.
Student Learning Outcomes

1. The student will be able to identify basic electrical components.
2. The student will be able to identify and explain characteristics of both AC and DC electricity.
3. The student will be able to demonstrate knowledge of Ohm's Law.
4. The student will be able to utilize a multimeter to test and troubleshoot basic circuits.
5. The student will be able to identify and calculate the basic series, parallel and series parallel circuits.

The student will be able to demonstrate knowledge of the electronics used in renewable energy devices, arrays and various installations.

RNBL 1150. Field Safety and Experience
Course Description
Wind turbine safety principles and practices are provided to ensure that persons working on wind power plants are safeguarded from the hazards associated with the work environment and the electro-mechanical systems therein. Students will obtain field experience involving tower safety and rescue, and will be familiarized with applicable OSHA standards.
Student Learning Outcomes

Student will score 100 % in the areas of “Lock Out/Tag Out” procedures and protocols and personal fall protection and rescue equipment and 80% or higher on a faculty prepared exam or project in all other areas.

1. The student will be able to identify the general concepts of health and safety and apply government regulations.
2. The student will be able to demonstrate the principles of electrical safety and protection.
3. The student will be able to identify the components of safety meetings.
4. The student will be able to perform “Lock Out/Tag Out” procedures and protocols.
5. The student will be able to demonstrate knowledge of the environmental, ethical, and legal obligations found within the wind industry.
6. The student will be able to inspect and wear personal fall protection and rescue equipment.

RNBL 1160. Introduction to Motors and Generators

Course Description

The electric motor and generator are critically important devices for generating mechanical and electrical power in nearly all heavy industries, including wind energy. In this course, students will be introduced to the various types of motors and generators commonly found within commercial wind turbines and study their configurations, functions, and operational characteristics.

Student Learning Outcomes

1. The student will be able to demonstrate knowledge of AC and DC motors and their applications.
2. The student will be able to describe the function of a generator.
3. The student will be able to describe the difference between synchronous and asynchronous.
4. The student will be able to identify three phase and single-phase wiring diagrams.
5. The student will be able to successfully identify major components of a motor and generator of both AC and DC types.
6. The student will be able to successfully identify different windings used in motors.
7. The student will be able to explain the use of capacitors to start and run a motor.
8. The student will be able to explain the application of a variable frequency drive.
9. The student will be able to explain the function of a doubly fed induction generator.

RNBL 1210. Wind Turbine Mechanical Systems

Course Description

This course is designed to familiarize students with the mechanical systems found within industrial wind turbines. These include turbine yaw drive systems, pitch drive systems, primary drive gearboxes, and smaller mechanical systems.

Student Learning Outcomes

1. The student will be able to demonstrate fundamentals of mechanical drive systems and their implementation.
2. The student will be able to explain the basics of mechanical power transmission.
3. The student will be able to explain the relationships between gears, bearings and lubrication.
4. The student will be able to identify gaskets and seals applicable to renewable energy mechanical systems.
5. The student will be able to identify specific applications of renewable energy mechanical systems.
6. The student will describe and demonstrate safety rules and practices relating to mechanical power systems, including rules of dress, and lock-out/tag-out.
7. The student will describe and demonstrate calculations and measurements used to determine the mechanical efficiency of a motor.

RNBL 1394. Communication Technology for the Technician

Course Description

This course will take the student through a history of communication cable connection and how and why they were used in the renewable energy arena along with their advantages and disadvantages. Communication devices will be discussed and

used. Email, text and voice will be the modes used to send and receive assignments. Digital photography will be incorporated to archive, report, and receive detailed instruction. During this course a smart phone becomes the main tool. Examples of uses on the job site, up tower or on the array will be presented. Students will be competent at basic calling, texting, conference calling, sending digital images and special features of smart technology.

Student Learning Outcomes

Students will demonstrate critical thinking skills, conceptual constructs, and specialized vocabulary with a score of 70% or better while addressing the following learning outcomes:

1. The student will be able to identify data transfer cables and connectors commonly used in the Renewable energy industry.
2. The student will be able to explain the use of each cable and connector.
3. The student will be able to send and receive or, upload and download, job assignments via text, voice, email, or video conference.
4. The student will be able to report problems to team members and supervisors utilizing electronic means.
5. The student will be able to take digital images and videos that are informative, well-lit and the best composition possible given the situation.
6. The student will be able to interpret and follow instructions sent electronically.

RNBL 1400. Wind Turbine Climbing and Safety I

Course Description

This course will introduce the student to the environment of a wind turbine. The student will obtain skills of proper identification, inspection, donning, and maintenance of personal protection equipment (PPE) and fall protection equipment. An initial climb test will be administered before tower work proceeds.

Student Learning Outcomes

1. The student will be able to identify basic personal protective equipment (PPE).
2. The student will be able to inspect all PPE required for a safe tower climbing.
3. The student will be able to demonstrate proper donning and wear of PPE.
4. The student will be able to demonstrate proper maintenance and care of PPE.
5. The student will be able to successfully pass a pre-tower climb test before attempting to climb the wind turbine tower.
6. The student will be able to successfully climb the wind turbine tower while demonstrating safe practices and proper use of all safety equipment to include PPE.
7. The student will be able to identify faulty protective equipment.

RNBL 1410. Wind Turbine Climbing and Safety II

Course Description

This course will establish hazard awareness to the student in the environment of a wind turbine. The student will obtain skills of proper identification, inspection, reporting, and correcting the hazards. Climb time in this course will emphasize rigging, hoisting, and nacelle top equipment and proper tie off points.

Student Learning Outcomes

1. The student will be able to demonstrate knowledge of hazards in the environment of a wind turbine.
2. The student will be able to identify hazards and be able to take corrective or evasive action.
3. The student will be able to describe high voltage procedures and equipment used.
4. The student will be able to identify high voltage and low voltage cabinets.
5. The student will be able to successfully identify major components of the wind turbine and tower.
6. The student will be able to successfully ascend and descend the tower using all safety procedures and equipment.

RNBL 1993. Renewable Energy Workshop
Course Description
Varies
Student Learning Outcomes
Varies

RNBL 2040. Introduction to Hydraulics
Course Description
This course will introduce the basic elements and applications of hydraulic power. Additional emphasis will be given to circuits, pressure, flow and control of hydraulic systems.
Student Learning Outcomes
1. The student will identify basic hydraulic equipment.
2. The student will identify the basics of hydraulic circuits, controls, systems and characteristics.
3. The student will identify the components, schematics and principles of hydraulics.
4. The student will explain the difference between atmospheric and gauge pressure.
5. The student will demonstrate how power is calculated.
6. The student will explain Pascal's Law.
7. The student will calculate the horsepower output of a hydraulic motor.
8. The student will describe and demonstrate knowledge of principles of hydraulic pressure and flow: pressure vs. cylinder force, hydraulic leverage, fluid friction, absolute vs. gage force.
9. The student will describe and demonstrate knowledge of hydraulic speed control: relief valves, check valves, flow control valves, meter-in and meter-out circuits, flow control circuit design, flow rate vs. cylinder speed.
10. The student will describe and demonstrate knowledge of pressure control circuits: sequence valves, sequence valve applications, pressure reducing valve, and applications.

RNBL 2170. Wind Turbine Siting, Erection, Generation and Distribution
Course Description
This course will instruct the student in proper wind farm siting that takes into consideration wind and weather data, ecological, anthropological and social concerns. Construction and commissioning are also covered as it relates to wind farm specifics. History of power distribution and transfer in the United States will be studied. Grid operation including renewable energy will be discussed.
Student Learning Outcomes
1. The student will be able to properly identify and use siting factors.
2. The student will be able to identify and demonstrate proper use of a MET tower.
3. The student will be able to demonstrate knowledge of proper development practices.
4. The student will be able to demonstrate basic commissioning techniques.
5. The student will be able to conduct a wind farm siting analysis.
6. The student will be able to follow all safety procedures for the climb.
7. The student will be able to identify the steps of wind turbine construction.
8. The student will be able to evaluate grid tie situations.

RNBL 2180. Wind Turbine Electronics
Course Description
This course explores the technologies and methodologies employed by heavy industry to remotely monitor and control power facilities. The study of commercial wind turbine monitoring and control systems will be strongly emphasized, as will the use of such systems to aid in the troubleshooting and maintenance of wind turbines. This course is designed to

familiarize students with the principles of digital technology, and the composition of systems that employ it. Emphasis will be given to advanced industrial computerized control and automation systems.

Student Learning Outcomes

1. The student will be able to identify the technologies and concepts of Programmable Logic Controllers (PLC's).
2. The student will be able to identify various data transmission and communications protocols.
3. The student will be able to identify the technologies and concepts behind Supervisory Control and Data Acquisition (SCADA) systems.
4. The student will identify various types of input/output devices, and describe their function.
5. The student will describe the purpose for and methodology of data storage and archiving.
6. The student will demonstrate the usage of data history and trending to accomplish a given task.
7. The student will identify various embedded systems and independent control modules commonly found within WTG's.

RNBL 2190. Operation, Maintenance and Repair

Course Description

This valuable course is designed to introduce students to the general maintenance practices and procedures employed within the wind energy industry. The study of wind turbine mechanical system and subsystem fundamentals will be included. Hands on practice of installation, operation, maintenance, troubleshooting, and repair of wind turbine electro-mechanical systems is included in this course; as well as real-world troubleshooting scenarios that may be encountered in the wind energy workplace.

Student Learning Outcomes

1. The student will be able to properly identify, maintain and troubleshoot bearings used in wind turbines.
2. The student will be able to identify gasket materials and their uses.
3. The student will be able to demonstrate knowledge of lubrication purposes and identify grease and oils used in wind turbines.
4. The student will be able to list the properties of lubrication oils and grease.
5. The student will be able to use the basics of a wind farm SCADA system.
6. The student will be able to use SCADA to help diagnose turbine problems.
7. The student will be able to identify communications components used in the wind industry.
8. The student will be able to identify and correct electrical problems found on the wind turbine to include contactors and relays.

RNBL 2400. Tower Climb and Safety III

Course Description

This course will instruct the student in proper procedure of entering the hub of a wind turbine. Proper lock out/tag out procedures will be followed. The student will learn to identify components inside the hub. This course will emphasize safe techniques of hub entry and egress.

Student Learning Outcomes

1. The student will be able to identify hub components.
2. The student will be able to demonstrate proper lock out/tag out of the rotor lock.
3. The student will be able to demonstrate proper entry and exit of the wind turbine hub.
4. The student will be able to inspect and wear proper PPE for the climb.
5. The student will be able to follow all safety procedures for the climb.
6. The student will be able to rig and hoist special equipment needed for the climb.

RNBL 2410. Tower Climb and Safety IV

Course Description

This course will instruct the student in proper stopping and starting procedures of the wind turbine. The students will be able to identify and perform proper housekeeping. Proper maintenance and troubleshooting techniques will be introduced. During the climb all previous knowledge of climb safety will be evaluated.

Student Learning Outcomes

1. The student will be able to properly start and stop the wind turbine.
2. The student will be able to identify and demonstrate proper housekeeping.
3. The student will be able to demonstrate proper maintenance procedures.
4. The student will be able to demonstrate basic troubleshooting techniques.
5. The student will be able to inspect and wear proper PPE for the climb.
6. The student will be able to follow all safety procedures for the climb.
7. The student will be able to rig and hoist special equipment needed for the climb.

Respiratory Therapy (RESP)

RESP 1110. RT Orientation and Patient Assessment

Course Description

This course introduces the scope of practice, education, licensure, organizations and brief history of the profession of respiratory care. It also presents the basic techniques of patient interview, medical record review, physical assessment, basic ECG, Laboratory and chest x-ray assessment of the patient with cardiopulmonary disorder. Minimum grade required: C

Student Learning Outcomes

1. Analyze assessment data to prioritize patient care and provide patient education for the prevention and treatment of pulmonary disease or disorders.

RESP 1113. Introduction to Respiratory Therapy

Course Description

An overview of respiratory care, its evolution as a profession and its current relation to the modern health care system. Includes medical terminology, basic concepts of microbiology and chemistry, health communication, general patient care principles, as well as ethical and legal implications of health care. Principles of infection control employed in the hospital?s respiratory care department. Includes discussion of organisms responsible for contamination in respiratory care and techniques for preventing contamination. Also, it will cover the principles and techniques of basic cardiac life support, prudent living, risk factors, and action for survival. Students will also acquire skills in airway and breathing management using adjuncts, use of an automatic defibrillator, an initial management of life threatening situations. Upon completion, students are eligible for Basic Life Support Certification by the American Heart Association.

Student Learning Outcomes

1. Understand the Respiratory Care Profession:
   a. Describe the evolution and current role of respiratory care within the modern health care system.
   b. Identify key historical developments and the professional standards of respiratory therapy.
2. Utilize Medical Terminology:
   a. Demonstrate proficiency in medical terminology relevant to respiratory care and communicate effectively using appropriate terminology.

3. Apply Basic Concepts of Microbiology and Chemistry:
   a. Explain fundamental microbiological and chemical principles related to respiratory care.
   b. Recognize common microorganisms involved in respiratory infections and their impact on patient care.
4. Implement Effective Health Communication:
   a. Employ effective communication techniques in patient interactions and interdisciplinary team settings.
   b. Address patient concerns and provide clear, compassionate information regarding respiratory care.

5. Perform Basic Cardiac Life Support:
   a. Master the principles and techniques of Basic Cardiac Life Support (BCLS), including the use of an automatic defibrillator.
   b. Execute appropriate actions in response to life-threatening situations to ensure patient survival.
   c. Demonstrate the skills and knowledge necessary to achieve Basic Life Support Certification by the American Heart Association.
   d. Understand Ethical and Legal Implications:
   e. Analyze and apply ethical and legal principles in the practice of respiratory care, ensuring adherence to professional standards and regulations.
   f. Describe the evolution and current role of respiratory care within the modern health care system.
   g. Identify key historical developments and the professional standards of respiratory therapy

RESP 1118. Diagnostic and Therapeutic Techniques

Course Description

This course introduces basic cardiopulmonary diagnostic testing, specifically arterial blood gas (ABG) analysis and pulmonary function testing (PFT). It also covers the various therapeutic modalities used in respiratory care for humidity and aerosol therapy, lung expansion therapy, bronchial hygiene, chest physiotherapy and airway clearance.

Student Learning Outcomes

1. Describe the importance of pulmonary function testing and its different diagnostic measurements.
2. Demonstrate the pulmonary function testing (PFT) procedure, and interpret PFT results.
3. Describe the importance of arterial blood gas analysis (ABG) and its different diagnostic measurements.
4. Demonstrate the ABG procedure, and interpret ABG results.
5. Discuss the clinical applications of humidity therapy.
6. Calculate values for the different terms in humidity.
7. Explain the principles of operation of the different types of humidifiers.
8. Describe the principles of aerosol therapy.
9. Describe and demonstrate the principles, clinical applications and troubleshooting of nebulizers.
10. Explain how lung expansion therapy works.
11. Describe bronchial hygiene therapy.
12. Demonstrate airway clearance techniques.

RESP 1120. Cardiopulmonary Pathophysiology I

Course Description

Introduces the student to assessment and management of selected respiratory disorders. Topics include anatomic changes, pathophysiology, etiology, differential diagnosis, clinical manifestations, and management.

Student Learning Outcomes

1. Apply basic data collection, content organization, and assessment skills in disease processes; and display the ability to develop a treatment plan for cardiopulmonary disease processes.
2. Distinguish and apply the skills needed to assess and treat a patient on the “General Care Units”; as well as diagnostic Laboratoryoratories relating to specific disease processes through case study analysis.
3. Analyze and interpret basic pulmonary Function diagnostic information to assess and report cardiopulmonary patient conditions.
4. Analyze and interpret basic acid/base diagnostic information to assess and report cardiopulmonary patient conditions.

5. Utilize proper format and technical data to report appropriate patient information.

RESP 1122. Therapeutic Modalities

Course Description

Covers respiratory care therapeutic modalities in all patient populations, including medical gas administration, oxygen therapy, humidity and aerosol therapy, bronchial hygiene, airway management, lung expansion therapy and the applicable physics and mathematics. This course introduces students to respiratory care professional organizations and to professional and ethical issues in health care, sustainable living through study of the "invisible structures" behind environmental sustainability, and the environmental impact of the medical industry.

Student Learning Outcomes

1. Demonstrate knowledge and appropriate application of patient safety and infection control standards.
2. Demonstrate knowledge/awareness of sustainable perspectives as they relate to the health care industry and the practice of respiratory care.
3. Demonstrate understanding of theory, goals, indications, contraindications, hazards, administration, assessment and documentation of oxygen therapy modalities and medical gas administration.
4. Demonstrate understanding of theory, goals, indications, contraindications, hazards, administration, assessment and documentation of lung expansion therapy modalities.
5. Demonstrate understanding of theory, goals, indications, contraindications, hazards, administration, assessment and documentation of bronchial hygiene therapy modalities.
6. Demonstrate understanding of theory, goals, indications, contraindications, hazards, assessment and documentation of airway management adjuncts.
7. Demonstrate appropriate education for patients and families for each modality.
8. Participate effectively in the interdisciplinary patient care team.

RESP 1124. Special Procedures in Respiratory Care

Course Description

This course discusses chest tube and drainage systems, hemodynamic monitoring, sleep studies, bronchoscopy, Holter monitoring, exercise testing, and metabolic studies.

Student Learning Outcomes

Student Learning Outcomes

1. Describe chest tubes and chest drainage systems.
2. Discuss hemodynamic monitoring
3. Identify the requirements for bronchoscopy.
4. Describe Holter monitoring.
5. Describe the common sleep disorders and polysomnography
6. Identify the requriements for exercise testing
7. Describe nutritional assessment and indirect calorimetry.

RESP 1125. Cardiopulmonary Pharmacology I

Course Description

Introduction to cardiopulmonary pharmacology as used in respiratory care. Topics include review of central and peripheral nervous systems, pharmacology terminology, dosage calculations, bronchodilating agents, mucous-controlling agents, corticosteroids and aerosol administration.

Student Learning Outcomes

1. Demonstrate knowledge and appropriate application of patient safety and infection control standards.
2. Participate effectively in the interdisciplinary patient care team.
3. Demonstrate appropriate patient/family education.
4. Identify and define applicable pharmacology terminology.
5. Demonstrate competence in drug calculations required of the respiratory care professionals.
6. Identify bronchodilating agents, their administration, indications, dosages, contraindications, hazards and side-effects.
7. Identify selected mucous-controlling agents, their administration, indications, dosages, contraindications, hazards and side effects.
8. Identify selected corticosteroids, their administration, indications, dosages, contraindications, hazards and side effects.
9. Identify selected other agents of pulmonary value, their administration, indications, dosages, contraindications, hazards and side effects.

RESP 1128. Basic Assessment and Monitoring

Course Description

Study of patient assessment, diagnostic procedures, and testing techniques. Includes the detection and monitoring of adult, neonatal and pediatric cardiorespiratory disorders including advancedcardiac life support (ACLS).Also includes participation in a service-learning project. Upon completion, students are eligible for the Advanced Cardiac Life Support (ACLS) certification by the American Heart Association.

Student Learning Outcomes

1. Conduct Comprehensive Patient Assessment:
   a. Perform thorough patient assessments for adult, neonatal, and pediatric populations, including the evaluation of cardiorespiratory status.
   b. Utilize clinical skills to gather relevant patient history, conduct physical examinations, and identify signs and symptoms of cardiorespiratory disorders.
2. Utilize Diagnostic Procedures and Testing Techniques:
   a. Apply diagnostic procedures and testing techniques to evaluate cardiorespiratory function, including the use of diagnostic tools such as electrocardiograms (ECGs), pulse oximetry, and arterial blood gases (ABGs).
   b. Interpret test results accurately to support clinical decision-making and patient management.
3. Monitor Cardiorespiratory Disorders:
   a. Detect and monitor cardiorespiratory disorders through continuous and intermittent assessment methods.
   b. Implement appropriate monitoring strategies for patients with various cardiorespiratory conditions, including acute and chronic disorders.
4. Apply Advanced Cardiac Life Support (ACLS) Protocols:
   a. Demonstrate proficiency in Advanced Cardiac Life Support (ACLS) techniques and protocols, including the management of cardiac arrest and arrhythmias.
   b. Perform ACLS procedures according to the latest guidelines and standards set by the American Heart Association.
   c. Meet the requirements for Advanced Cardiac Life Support (ACLS) certification by demonstrating the necessary skills and knowledge through practical and written examinations.
5. Participate in Service-Learning Project:
   a. Engage in a service-learning project that integrates course concepts with community service or clinical practice.

b. Reflect on and articulate the impact of the service-learning experience on personal and professional development in respiratory care.

c. Apply Knowledge to Clinical Scenarios:

d. Integrate theoretical knowledge and practical skills in clinical scenarios to address complex patient cases involving cardiorespiratory assessment and monitoring.

RESP 1128L. Basic Assessment and Monitoring Laboratory

Course Description

Basic Assessment and Monitoring Laboratory. One credit hour. Application of concepts taught in Basic Assessment and Monitoring RCP.

Student Learning Outcomes

1. Apply Patient Assessment Techniques:
    a. Demonstrate the ability to perform comprehensive assessments for adult, neonatal, and pediatric patients, including physical exams and the use of assessment tools.
    b. Apply techniques for detecting and evaluating cardiorespiratory disorders in a Laboratory setting.
2. Perform Diagnostic Procedures:
    a. Execute diagnostic procedures and testing techniques, such as ECGs, pulse oximetry, and arterial blood gas (ABG) analysis, with proficiency.
    b. Interpret diagnostic test results accurately to guide clinical decision-making and patient management.
    c. Monitor Cardiorespiratory Disorders:
    d. Practice the monitoring of cardiorespiratory disorders using appropriate equipment and methods.
    e. Demonstrate the ability to continuously and intermittently monitor patients, identifying and responding to changes in their condition.
3. Implement Advanced Cardiac Life Support (ACLS) Skills:
    a. Apply Advanced Cardiac Life Support (ACLS) protocols in simulated scenarios, demonstrating the ability to manage cardiac arrest and other critical situations effectively.
    b. Perform ACLS procedures according to the latest American Heart Association guidelines.
    c. Demonstrate the skills and competencies required for ACLS certification through practical exercises and simulations.
    d. Ensure readiness for certification exams by practicing and mastering key ACLS procedures and protocols.
4. Integrate Theoretical Knowledge into Practice:
    a. Translate concepts learned in RCP 108 into practical Laboratory exercises, effectively applying theoretical knowledge to real-world scenarios.
    b. Demonstrate critical thinking and problem-solving skills during Laboratory activities and simulations.
    c. Participate in Hands-On Practice:
    d. Engage in hands-on practice of assessment and monitoring techniques, including the use of Laboratory equipment and simulation tools.
    e. Develop and refine practical skills necessary for accurate patient assessment and effective monitoring.

RESP 1130. Respiratory Care Anatomy and Physiology

Course Description

Study of the cardiopulmonary system and associated structures. Includes nervous system control of ventilation, renal system, and the principles involved in ventilation and gas transport. Also, includes the effects of aging, exercise, and altitude on the cardiopulmonary system.

Student Learning Outcomes

1. Understand Cardiopulmonary Anatomy and Physiology:
   Describe the structure and function of the cardiopulmonary system, including the heart, lungs, and associated vascular structures.
2. Analyze Nervous System Control of Ventilation:
   Explain the role of the nervous system in regulating ventilation, including the mechanisms of respiratory control and feedback systems.
3. Explain Renal System Interactions:
   Discuss the interaction between the renal system and the cardiopulmonary system, including the regulation of fluid and electrolyte balance and its impact on respiratory function.
4. Apply Principles of Ventilation and Gas Transport:
   Demonstrate an understanding of the principles of ventilation and gas transport, including the mechanics of breathing, gas exchange, and transport in the blood.
5. Assess the Effects of Aging on the Cardiopulmonary System: Identify and describe how the aging process affects cardiopulmonary function and structure, including changes in respiratory and cardiovascular efficiency.
6. Evaluate the Impact of Exercise on Cardiopulmonary Function:
   Analyze the physiological responses of the cardiopulmonary system to exercise, including adaptations and the impact on ventilation and cardiovascular performance.

RESP 1140. Respiratory Therapy Pharmacology

Course Description

Principles of pharmacology, drug dose calculations, and drug receptor theory as it relates to patients with cardiopulmonary disease. Includes specific emphasis on drugs used by respiratory care practitioners as well as discussion of other drugs used in the treatment of patients under their care.

Student Learning Outcomes

1. Have an introductory level of knowledge of the basic general principles of pharmacology that relate to all medications, drug actions, routes of administration etc.
2. Accurately calculate typical drug-dose calculations.
3. Demonstrate an in-depth knowledge of the mode of action, desired clinical effect and common and serious adverse effects of the medications commonly used in respiratory care.
4. Relate pharmacologic therapy to common pulmonary pathologies.
5. Effectively evaluate and educate patients regarding self-management of asthma and smoking cessation techniques.
6. Understand the underlying neurophysiology involved with each class of drugs studied in this course.

RESP 1150. Respiratory Therapy I

Course Description

Introduces respiratory therapy as a health sciences profession. Topics includecardiopulmonary assessment, medical gas administration, aerosol therapy, oxygen therapy, microbiology, infection control, equipment maintenance, incentive breathing exercises and chest physiotherapy.

Student Learning Outcomes

1. Accurately perform a complete cardiopulmonary assessment of any non-critically ill patient.
2. Apply knowledge of the basic anatomy and physiology of the cardiopulmonary system, especially as it relates to the transportation of oxygen in the human body.
3. Correctly set up equipment and assess effectiveness of bland aerosol equipment.

4. Relate how microbiology impacts respiratory therapy to include using the correct technique for the isolation of patients and utilizing standard precautions in the clinical setting.
5. Evaluate the procedures for cleaning and sterilization of respiratory therapy equipment.
6. Apply basic respiratory treatment to include chest physiotherapy, airway maintenance, and basic medication administration.

RESP 1150L. Respiratory Therapy I Laboratory

Course Description

Students practice cardiopulmonary assessment, medical gas administration, aerosol therapy, oxygen therapy, microbiology, infection control, equipment maintenance, incentive breathing exercises and chest physiotherapyusing state of the art equipment in the learning Laboratory under simulated patient situations.

Student Learning Outcomes

1. Accurately perform a complete cardiopulmonary assessment of any non-critically ill patient.
2. Apply knowledge of the basic anatomy and physiology of the cardiopulmonary system, especially as it relates to the transportation of oxygen in the human body.
3. Correctly set up equipment and assess effectiveness of bland aerosol equipment.
4. Relate how microbiology impacts respiratory therapy to include using the correct technique for the isolation of patients and utilizing standard precautions in the clinical setting.
5. Evaluate the procedures for cleaning and sterilization of respiratory therapy equipment.
6. Apply basic respiratory treatment to include chest physiotherapy, airway maintenance, and basic medication administration.

RESP 1160. Physics of Respiratory Therapy

Course Description

This course introduces the basic concepts in the physics and the applications of gas laws in respiratory therapy. It discusses the physical characteristics of medical gasses, production, regulation, storage and distribution, and the therapeutic and diagnostic uses of oxygen.

Student Learning Outcomes

1. Conceptualize the basic physical principles inherent in respiratory therapy.
2. Develop the mathematical tools necessary for solving physics problems presented in this class.
3. Estimate answers to math/physics problems before solving them.
4. Determine the correct formula and then successfully apply it to solve math/physics problems.
5. Recall and correctly use terminology and symbols commonly used in scientific arenas.
6. Relate the history of physics and the history of respiratory therapy science to problems included in this course.

RESP 1162. Cardiopulmonary Diagnostics

Course Description

Builds on the basic assessment and interpretation skills acquired in RESP 1130 and includes pulmonary function testing, acid-base balance, arterial blood gases (ABGs), ECGs, chest radiography (CXR), cardiac diagnostics bronchoscopt assisting and an introduction to intravenous (IV) therapy.

Student Learning Outcomes

1. Demonstrate knowledge and appropriate application of patient safety and infection control standards.
2. Participate effectively in the interdisciplinary patient care team.
3. Perform a complete patient assessment, including chart review, interview and physical exam.

4. Make recommendations based on patient assessment.
5. Demonstrate competence in ABG sampling, obtaining an ECG, performing spirometry and pulmonary mechanics and starting and managing IV therapy.
6. Interpret ABG, ECG, CXR and applicable Laboratory results and make recommendations.
7. Demonstrate bronchosopy assisting.
8. Utilize AIDET (Acknowledge, Introduce, Duration, Explanation, Thank you) and appropriate patient education techniques.

RESP 1166. Cardiopulmonary Pharmacology II

Course Description

Continuation of RESP 1125 Cardiopulmonary Pharmacology with an emphasis on advanced cardiac life support (ACLS) and critical care agents. Topics include advanced cardiac life support agents, cardiovascular agents, critical care agents and a review of dosage calculations.

Student Learning Outcomes

1. Demonstrate knowledge and appropriate application of patient safety and infection control standards.
2. Participate effectively in the interdisciplinary patient care team.
3. Demonstrate appropriate patient/family education.
4. Identify and define applicable pharmacology terminology.
5. Demonstrate competence in drug calculations required of the respiratory care professionals.
6. Identify ACLS agents, their administration, indications, dosages, contraindications, hazards and side effects.
7. Identify other selected pulmonary agents , their administration, indications, dosages, contraindications, hazards and side effects.
8. Identify selected critical care and cardiovascular agents and their indications and contraindications.

RESP 1170C. Ventilator Management Lecture & Laboratory

Course Description

Introduces mechanical ventilation background, theory and physiologic effects. This course prepares the student to initiate and manage advanced airways and mechanical ventilation in the patient care setting and includes discussion of disorder-specific ventilation strategies and technical operation of specific ventilators.

Student Learning Outcomes

1. Demonstrate knowledge and appropriate application of patient safety, infection control standards and equipment processing.
2. Participate effectively in the interdisciplinary patient care team.
3. Demonstrate appropriate communication with patients and families.
4. Demonstrate intubation and extubation procedures at the novice level of skill.
5. Describe and demonstrate initiation, assessment, monitoring and optimization of mechanical ventilation.
6. Recognize different ventilation modes/strategies.
7. Describe troubleshooting and complications of mechanical ventilation.
8. Describe disorder-specific ventilation strategies.
9. Identify important technical operational differences among ventilators.

RESP 1170. Ventilator Management

Course Description

Study of critical care principles and procedures in the adult patient. Includes advanced airway management, mechanical ventilation principles, care of the mechanically ventilated patient, and alternatives to conventional ventilation.

Student Learning Outcomes

1. Master Advanced Airway Management:
   a. Demonstrate proficiency in advanced airway management techniques, including endotracheal intubation, placement of supraglottic airway devices, and the use of bronchoscopy.
   b. Identify and manage complications associated with advanced airway interventions.
2. Understand Mechanical Ventilation Principles:
   a. Explain the principles and modes of mechanical ventilation, including volume control, pressure control, and other advanced modes.
   b. Describe the physiological effects of mechanical ventilation on the respiratory and cardiovascular systems.
3. Manage the Mechanically Ventilated Patient:
   a. Develop and implement effective care plans for patients receiving mechanical ventilation, including monitoring, troubleshooting, and adjusting ventilator settings.
   b. Assess and address common issues and complications associated with mechanical ventilation, such as ventilator-associated pneumonia and barotrauma.
4. Apply Alternatives to Conventional Ventilation:
   a. Describe and utilize alternative ventilation strategies, such as non-invasive ventilation (NIV) and high-frequency oscillatory ventilation (HFOV).
   b. Evaluate the indications, benefits, and limitations of alternative ventilation methods in critical care settings.
5. Integrate Critical Care Principles into Practice:
   a. Apply critical care principles to real-world scenarios, including the assessment, diagnosis, and management of critically ill patients.
   b. Utilize evidence-based practices and clinical guidelines to inform decision-making in critical care settings.
6. Demonstrate Proficiency in Critical Care Procedures:
   a. Perform critical care procedures with competence, including the use of advanced airway devices and mechanical ventilators.
   b. Simulate and practice critical care scenarios to reinforce procedural skills and clinical judgment.
7. Collaborate Effectively in Critical Care Teams:
   a. Exhibit teamwork and communication skills essential for effective collaboration in a critical care environment.
   b. Engage with interdisciplinary teams to provide comprehensive care for critically ill patients.
8. Prepare for Advanced Clinical Practice:
   a. Integrate knowledge and skills from RCP 110 into clinical practice, preparing for complex patient care scenarios in critical care settings.
   b. Ensure readiness for real-world application of advanced critical care therapeutics and techniques.

RESP 1170L. Ventilator Management Laboratory

Course Description

Application of Ventilator Management RESP 1170

Student Learning Outcomes

1. Demonstrate proper use of Respiratory Therapy Equipment.
   a. Identify and correctly operate various respiratory care equipment used in critical care settings, including ventilators, oxygen delivery systems, and monitoring devices.
2. Apply Ventilation Techniques in Critical Care Scenarios.

a. Implement appropriate mechanical ventilation techniques in simulated critical care situations, adjusting parameters based on patient needs and conditions.

3. Perform Airway Management Procedures.
   a. Demonstrate effective airway management techniques, including intubation, suctioning, and the use of airway adjuncts, in a Laboratory setting.
4. Administer and Monitor Respiratory Therapies.
   a. Safely administer therapeutic gases, aerosol treatments, and other respiratory interventions while monitoring patient response and adjusting as needed.
5. Evaluate Patient Data to Modify Respiratory Care Plans.
   a. Analyze patient data, including arterial blood gases (ABGs), ventilator settings, and vital signs, to make informed decisions about modifying respiratory care treatment plans.
6. Practice Infection Control Procedures in Critical Care.
   a. Follow and apply infection control practices specific to respiratory therapy in critical care settings, including the proper handling of equipment and disposables.
7. Demonstrate Emergency Response Skills.
   a. Respond effectively to respiratory and cardiac emergencies in a critical care environment, performing advanced life-saving techniques such as rapid sequence intubation and resuscitation.
8. Collaborate with Healthcare Team in Critical Care Simulation.
   a. Work collaboratively with healthcare professionals in simulated critical care scenarios to provide comprehensive respiratory care, communicating clearly and efficiently.
9. Apply Ethical and Legal Principles in Critical Care Practice.
   a. Recognize and apply ethical and legal considerations related to respiratory care in critical care environments, ensuring patient safety and professional integrity.
10. Demonstrate Proficiency in Documentation.
    a. Accurately document all respiratory care interventions and patient responses in a critical care simulation setting, following standard healthcare protocols.

RESP 1250 Respiratory Therapy II

Course Description

Advanced respiratory care techniques. Emphasis on airway management, aerosol treatment, chest physiotherapy, pharmacology, posture pressure breathing, and pulmonary rehabilitation.

Student Learning Outcomes

1. Demonstrate a comprehensive understanding of the anatomy and physiology of the arterial system.
2. Apply and explain the basic principles of pharmacology therapy as it relates to the cardiopulmonary system.
3. Analyze and differentiate the basic pulmonary physiology associated with restrictive and obstructive disease processes. Analyze test results to identify abnormal findings.
4. Interpret and apply advanced airway management techniques including endotracheal intubation, tracheostomy, laryngeal mask airway, and supraglottic airway.
5. Describe and interpret radiographic images to assess respiratory and cardiopulmonary conditions.
6. Identify the anatomy, physiology and the electrical conduction of the heart.
7. Differentiate between invasive and non-invasive mechanical ventilation techniques, explaining their indications and contraindications.
8. Demonstrate knowledge of emergency life support related to respiratory therapy.

RESP 1250L. Respiratory Therapy II Laboratory

Course Description

Students practice airway management, pulmonary function testing, arterial puncture and blood gas analysis and administering home care therapyprocedures using state of the art equipment in the learning Laboratory under simulated patient situations.

Student Learning Outcomes

1. Demonstrate the correct setup, operation, and maintenance of various respiratory therapy equipment; to include oxygen delivery systems, medication delivery devices CPAP/BiPAP machines and ventilators.
2. Complete respiratory assessments including vital signs: arterial blood gas ECG, pulmonary function test and ECG interpretations.
3. Properly assess and ensure airway patency.
4. Respond and react to airway emergencies and initiate proper treatment as indicated.

RESP 1294L. Basic Clinical Prep Laboratory I

Course Description

Provides first-year respiratory therapy students a abasic overview of what to expect in the general care units within clinical rotations. Prepares students for basic tasks within the clinical setting.

Student Learning Outcomes

1. Perform aseptic techniques.
2. Comprehend and apply proper hand hygiene and proper placement of personal protective equipment.
3. Identify basic respiratory equipment.
4. Understand the indications, contraindications, and complications of basic respiratory equipment.
5. Perform various basic respiratory therapies.
6. Understand the indications, contraindications, and complications of various basic respiratory therapies.

RESP 1310. Clinical Experiences I

Course Description

Provides supervised clinical experiences in area hospitals and health care facilities.

Student Learning Outcomes

1. Accurately assess the status of real and fictitious patients in the general care unit of a hospital. Make recommendations for changes based on the assessment of the patient's total needs.
2. Demonstrate the skill level needed to successfully complete clinical simulation scenarios related to adult patients who require a basic level of care.
3. Develop and/or accurately complete problem-based case studies of patients in the general care unit of a hospital.

RESP 1312. Clinical Experiences II

Course Description

Continuation of RESP 1310 which provides supervised clinical experiences in area hospitals and health care facilities.

Student Learning Outcomes

1. Demonstrate the skill level needed to successfully complete clinical simulation scenarios related to adult patients who require an intermediate level of care.
2. Develop and/or accurately complete problem-based case studies of patients on the general and intermediate-care units.
3. Accurately assess the status of real and fictitious patients on the intermediate-care population.

4. Make recommendations for therapy changes based on the assessment of the patient's total needs.

RESP 1320L. Clinical Procedures I

Course Description

Clinical application of all prerequisite and corequisite respiratory care coursework. Includes hospital and departmental organization; professionalism; medical record utilization; oxygen administration and analysis; and respiratory physiology principles applied to patient care.

Student Learning Outcomes

1. Apply Clinical Knowledge and Skills:
   Demonstrate the ability to apply knowledge and skills from prerequisite and corequisite coursework to real-world respiratory care scenarios.
   Exhibit proficiency in clinical techniques and procedures related to respiratory care.
2. Understand Hospital and Departmental Organization:
   Explain the organizational structure and workflow of the hospital and respiratory care department.
   Identify roles and responsibilities of various healthcare professionals and how they interact within the respiratory care setting.
3. Demonstrate Professionalism:
   Display professionalism in clinical settings, including adherence to ethical standards, effective communication, and respectful interaction with patients and healthcare team members.
4. Utilize Medical Records Effectively:
   Accurately utilize medical records and documentation systems to gather patient information, track progress, and support clinical decision-making.
   Maintain accurate and confidential patient records in compliance with healthcare regulations.
5. Administer and Analyze Oxygen Therapy:

   Perform oxygen administration and analysis techniques, including the use of appropriate equipment and methods for assessing oxygen levels.
   Evaluate patient responses to oxygen therapy and adjust treatment plans as necessary.
6. Apply Respiratory Physiology Principles to Patient Care:
   Integrate principles of respiratory physiology into patient care practices, including assessment, diagnosis, and treatment planning.
   Demonstrate an understanding of how physiological concepts impact respiratory function and patient outcomes.
7. Achieve Clinical Competency:
   Meet the competency-based requirements for clinical procedures as outlined by the course, including successfuldemonstration of required skills and adherence to clinical guidelines.

RESP 1322L. Clinical Procedures II

Course Description

Continuation of RESP 1320L. Includes clinical application of all prerequisite respiratory care coursework. Also includes basic respiratory care therapeutics, basic assessment, monitoring, and clinical application of cardiopulmonary medications.

Student Learning Outcomes

1. Apply Basic Respiratory Care Therapeutics in Clinical Settings.

a. Demonstrate the clinical application of basic respiratory care therapies, including oxygen therapy, aerosol treatments, and airway clearance techniques.

2. Perform Respiratory Assessments in Real-World Clinical Environments.
    a. Conduct comprehensive patient assessments, including respiratory rate, breath sounds, and oxygenation levels, in a clinical setting.
3. Monitor and Evaluate Cardiopulmonary Function.
    a. Utilize appropriate monitoring techniques (e.g., pulse oximetry, capnography, and electrocardiograms) to assess and evaluate patients' cardiopulmonary function.
4. Administer and Manage Cardiopulmonary Medications.
    a. Safely administer prescribed cardiopulmonary medications, such as bronchodilators and mucolytics, and monitor patients for therapeutic effectiveness and adverse reactions.
5. Apply Clinical Knowledge in Diverse Healthcare Settings.
    a. Demonstrate adaptability in applying respiratory care skills in various clinical environments, including hospitals and other healthcare facilities, with potential travel for clinical experiences.
6. Demonstrate Competency in Clinical Respiratory Care.
    a. Meet clinical competency standards by successfully performing all required respiratory care procedures under supervision in real patient care settings.
7. Collaborate with Healthcare Teams in Clinical Practice.
    a. Work effectively as part of an interdisciplinary healthcare team, contributing to the delivery of respiratory care and patient management in clinical settings.
8. Document Patient Care and Interventions
    a. Accurately record patient assessments, interventions, and responses to therapy in clinical documentation, adhering to professional standards.
9. Integrate Ethical and Legal Considerations in Clinical Practice
    a. Apply ethical principles and follow legal guidelines in providing respiratory care, ensuring patient rights, confidentiality, and safety.
10. Demonstrate Professionalism in Clinical Environments.
    a. Exhibit professional behavior, including effective communication, punctuality, and responsibility, while participating in clinical rotations and interacting with patients and healthcare staff.

RESP 1330. Respiratory Therapy II Clinical

Course Description

Supervised practice and application in a hospital setting.

Student Learning Outcomes

1. Maintain Patient confidentiality/privacy as defined by HIPAA.
2. Use critical thinking, problem solving and ethical decision-making in the assessment, diagnosis, planning, evaluation, and implementation of respiratory procedures.
3. Recognize emergency situations and respond appropriately.
4. Compose a patient assessment & Compose a patient SOAP/Patient Assessment document.
5. Demonstrate and perform cardiopulmonary diagnostic procedures.
6. Demonstrate how to set up and maintain a mechanical ventilator.
7. Demonstrate appropriate patient/physician interactions in the clinical setting.

RESP 1340L. Respiratory Care Clinical I

Course Description

Introduction to respiratory care in the patient care setting. Clinical experiences include patient assessment, interview and physical exam, chart review, documentation, basic respiratory equipment and procedures, airway management,and applicable therapist driven protocols.

Student Learning Outcomes

1. Use AIDET protocol (Acknowledge, Introduce, Duration, Explanation, Thank you) in the acute care setting.
2. Demonstrate knowledge and application of principles of patient safety, infection control, and participation in the healthcare team at the advanced beginner level of competency.
3. Perform a cardiopulmonary patient assessment at the novice level of skill.
4. Interpret cardiopulmonary assessments and make treatment recommendations at the novice level of skill.
5. Perform basic respiratory therapy therapeutics at the advanced beginner level of skill.
6. Process respiratory equipment with appropriate attention to safety and infection control.
7. Use applicable therapist-driven protocols effectively.

RESP 1342L. Respiratory Care Clinical II

Course Description

Builds on experience and skills acquired in Respiratory Care Clinical I. Experiences include cardiopulmonary diagnostics: arterial blood gases (ABGs), ECGs, intravenous therapy (IVs) and radiography (X-ray) and bronchoscopy.

Student Learning Outcomes

1. Use AIDET protocol (Acknowledge, Introduce, Duration, Explanation, Thank you) in the acute care setting.
2. Demonstrate knowledge and application of principles of patient safety, infection control, and participation in the healthcare team at the advanced beginner level of competency.
3. Perform a cardiopulmonary patient assessment at the novice level of skill.
4. Interpret cardiopulmonary assessments and make treatment recommendations at the novice level of skill.
5. Perform basic respiratory therapy therapeutics at the advanced beginner level of skill.
6. Process respiratory equipment with appropriate attention to safety and infection control.
7. Use applicable therapist-driven protocols effectively.

RESP 1350. Clinical Practicum I

Course Description

This course provides clinical experience in basic therapeutic modalities in the clinical setting. This includes patient assessment, non-invasive monitoring, pulmonary function testing, blood gas analysis, EKG, chest x-ray, medical gas therapy, aerosol therapy, humidity therapy, IPPB, chest physiotherapy, and airway care.

Student Learning Outcomes

1. Analyze assessment data to prioritize patient care and provide patient education for the prevention and treatment of pulmonary disease and disorders.
    a. Select, review, obtain and interpret data.
    b.Initiate, conduct, and modify prescribed therapeutic procedures based on patient outcomes.
2. Provide culturally sensitive care to patients across their lifespan.
3. Integrate clinical research and evidence-based practice for informed decision-making in the provision of quality patient care.
4. Employ leadership concepts to foster communication and collaboration within the interdisciplinary health care team.

a. Demonstrate ethical behavior, safety practices, effective communication skills, interpersonal and teamwork skills in a clinical environment.

5. Demonstrate the safe use of technology and information management systems.
    a. Select, assemble and check equipment for proper function, operation, and cleanliness.
    b. Demonstrate proficiency and competency in the delivery of respiratory care procedures.

RESP 1520. Cardiopulmonary Pathophysiology II

Course Description

Presents pathophysiology and management of patients with pulmonary diseases, oftenfrom the perspective of a physician. Includescauses, signs and symptoms, pathophysiology, diagnosis, treatments, and prognosis for patients with diseases involving the cardio-pulmonary systems.

Student Learning Outcomes

1.Develop a treatment for plan for specific disease processes.
2.Execute the skills to assess and treat patient's to specific disease processes through case study analysis.
3.Analyze case studies and articles relating to various disease processes.

RESP 1592L. Scenario Procedures Laboratory I

Course Description

Provides first-year respiratory therapy students additional learning over general respiratory care and practice of basic respiratory therapy skills in the campus laboratory.

Student Learning Outcomes

1. Complete therapeutic procedures such as aerosol and humidity therapy, chest physiotherapy, invasive and non-invasive ventilation application.
2. Respond to respiratory emergencies. Execute airway procedures as indicated, such as bag-valve mask ventilation, airway suction, and cardiopulmonary resuscitation.
3. Participate in simulated clinical scenarios to practice and refine all respiratory therapy skills in a controlled environment.

RESP 1992. Respiratory Therapy Directed Study

Course Description

Varies

Student Learning Outcomes

Varies

RESP 1996. Topics in Respiratory Therapy

Course Description

Varies

Student Learning Outcomes

Varies

RESP 2110. Respiratory Therapy Cardiopulmonary

Course Description

This course delves into the study of commonly encountered respiratory disorders in adult patients. It encompasses an in-depth examination of the etiology, pathology, pathogenesis, clinical manifestations, and treatment of a variety of common adult pulmonary diseases.

Student Learning Outcomes

1. Identify and describe common adult respiratory disorders, explaining their etiology, pathology, and clinical manifestations. They will be able to formulate appropriate treatment plans for patients with pulmonary diseases, evaluating diagnostic data and applying evidence-based practices.
2. Recognize preventative strategies for respiratory diseases and demonstrate an understanding of COPD, asthma, and pulmonary infections.
3. Apply patient safety and infection control principles while demonstrating effective communication and interprofessional collaboration.

RESP 2120 Respiratory Therapy III

Course Description

Presents basic concepts of adult care medicine including adult intensive care and pathophysiology of diseases, introduction to concepts of positive pressure ventilation and advanced airway care. Introduction to positive pressure mechanical ventilation equipment and procedures related to basic critical care medicine for adults using state of the art equipment and computer simulations in the learning Laboratory.

Student Learning Outcomes

1. Classify foundational concepts and core knowledge of mechanical ventilation.
2. Monitor mechanical ventilation and assessment of patients receiving mechanical ventilation and in the intensive care units.
3. Evaluate when and how to discontinue a patient from ventilation and long-term ventilation.
4. Successfully initiate ventilation.

RESP 2120L. Respiratory Therapy III Laboratory

Course Description

Introduction to positive pressure mechanical ventilation equipment and procedures related to basic critical care medicine for adults using state of the art equipment and computer simulations in the learning Laboratory.

Student Learning Outcomes

1. Apply didactic skills to hands-on, scenario based learning.
2. Compare and contrast the components and settings of mechanical ventilation, IPPB, BiPAP, airway care parameters, components, and settings.
3. Analyze blood gases and advanced pharmacology.
4. Practice airway care and extubation techniques.
5. Explain ACLS protocols and their relevance in emergency situations and interpret hemodynamic monitoring data to assess patient status and guide treatment decisions.

RESP 2125. Neonatal and Pediatric Cardiopulmonary Disorders

Course Description

Presents pathophysiology and management of patients with pulmonary diseases from the perspective of a physician including causes, signs and symptoms, pathophysiology, diagnosis, treatments and prognosis for patients with these problems. Specific topics include infant and pediatric cardiac and respiratory disorders, cystic fibrosis, congestive heart failure, neuromuscular disease, traumatic injuries, burns, respiratory failure and adult/acute respiratory distress syndrome.

Student Learning Outcomes

1. Identify Common Respiratory Disorders Across All Age Groups.
   Describe frequently encountered respiratory disorders in newborns, and pediatric patients, including their classifications and characteristics.
2. Explain the Etiology of Cardiopulmonary Diseases in Various Populations.
   Understand and explain the causes (etiology) of cardiopulmonary diseases across neonatal, and pediatric populations.
3. Analyze the Pathology and Pathogenesis of Cardiopulmonary Disorders.
   Examine the pathology (structural changes) and pathogenesis (disease development) associated with selected cardiopulmonary diseases in, newborns, and children.
4. Recognize Clinical Manifestations of Cardiopulmonary Diseases.
   Identify and interpret the clinical signs and symptoms of common cardiopulmonary diseases in neonatal, and pediatric patients.
5. Develop Treatment Plans for Cardiopulmonary Disorders Across Age Groups.
   Formulate comprehensive treatment strategies for patients of all ages, incorporating both pharmacological and non-pharmacological interventions based on the specific cardiopulmonary disorder.
6. Evaluate Diagnostic Data for Neonatal and Pediatric Patients.
   Assess and interpret diagnostic data such as imaging, Laboratory results, and clinical findings to guide the diagnosis and management of cardiopulmonary diseases across various populations.
7. Discuss the Impact of Cardiopulmonary Disorders on Different Age Groups.
   Evaluate how cardiopulmonary diseases affect the health and quality of life of neonatal and pediatric patients.
8. Apply Evidence-Based Practices in the Treatment of Cardiopulmonary Disorders.
   Integrate current evidence-based practices into the treatment and management of cardiopulmonary diseases in newborns and children.
9. Understand Preventative Measures for Cardiopulmonary Disorders.
   Recognize and recommend strategies to prevent or reduce the risk of developing cardiopulmonary diseases in neonatal, and pediatric populations.
10. Participate in Service-Learning Projects.
    Engage in a service-learning project to apply classroom knowledge to real-world settings, contributing to community health and gaining practical experience.

RESP 2130C. Respiratory Care Seminar-Critical Care Lecture and Laboratory

Course Description

Prepares students for clinical experiences in respiratory care as it is practiced in non-hospital settings. The course includes research, sleep medicine, pulmonary rehabilitation, hyperbaric medicine, respiratory home care, transplantation and disaster management.

Student Learning Outcomes

1. Demonstrate knowledge and appropriate application of patient safety and infection control standards.
2. Participate effectively in the interdisciplinary patient care team.
3. Communicate with patients and families appropriately.
4. Demonstrate appropriate interpretation of therapist-driven protocols.
5. Recognize the indications, contraindications and complications of critical care. Explain the clinical indicators used to monitor patients in the intensive care unit (ICU)
6. Demonstrate appropriate ventilator assessment and management.

7. Describe management of shock, sepsis, ALI/ARDS, CHF, and trauma patients.
8. Identify the equipment, procedure, and practical application of chest tubes.
9. Discuss interpretation of Laboratory data, hemodynamic data, fluid and electrolyte data, nutritional data and ECGs in the critical care setting.

RESP 2130. Respiratory Care Seminar-Critical Care

Course Description

Study of the assessment of the critical respiratory patient. Includes advanced diagnostic studies and testing techniques employed in the detection and monitoring of adult, neonatal, and pediatric cardiorespiratory disorders. Upon completion, students are eligible for the Pediatric Advanced Life Support (PALS) certification by the American Heart Association. Also includes participation in a service-learning project.

Student Learning Outcomes

1. Perform Advanced Respiratory Assessments.
    a. Conduct thorough respiratory assessments for critical adult patients, evaluating airway, breathing, and circulation.
2. Interpret Advanced Diagnostic Tests.
    a. Analyze results from advanced diagnostic studies, such as arterial blood gases (ABGs), chest radiographs, and pulmonary function tests, to assess cardiorespiratory disorders.
3 Monitor and Evaluate Critical Respiratory Patients.
    a. Utilize advanced monitoring techniques to continuously assess the respiratory status of patients with cardiorespiratory conditions, adjusting care plans based on findings.
4. Assess and Manage Neonatal and Pediatric Respiratory Disorders.
    a. Apply specialized assessment and monitoring techniques for neonatal and pediatric populations, focusing on age-specific respiratory conditions and interventions.
5. Recognize and Respond to Cardiorespiratory Emergencies.
    a. Identify signs of respiratory and cardiac distress in critical patients and initiate appropriate emergency interventions, including airway management and resuscitation.
6. Apply Pediatric Advanced Life Support (PALSa.) Techniques.
    a. Demonstrate the skills required for Pediatric Advanced Life Support (PALS), including the recognition and management of respiratory and cardiac emergencies in children.
    b. Complete the necessary training and assessments to qualify for Pediatric Advanced Life Support (PALS) certification by the American Heart Association.
7. Integrate Ethical and Legal Considerations in Patient Care.
    a. Apply ethical and legal principles when assessing and monitoring critical respiratory patients, ensuring patient rights, informed consent, and professional accountability.
8. Participate in Service-Learning Projects.
    a. Engage in a service-learning project, applying respiratory care knowledge in a community setting and reflecting on the impact of healthcare services on diverse populations.
9. Collaborate with Interdisciplinary Healthcare Teams.
    a. Work effectively with interdisciplinary healthcare teams in both clinical and simulated environments to assess, monitor, and manage patients with critical respiratory conditions.

RESP 2130L. Respiratory Care Seminar-Critical Care Laboratory

Course Description

Application of Advanced Assessment and Monitoring.

Student Learning Outcomes

1. Demonstrate Advanced Respiratory Assessment Techniques.
   Perform comprehensive respiratory assessments on adult patients using advanced tools and methods in a Laboratory setting.
2. Apply Advanced Diagnostic Procedures.
   Utilize and interpret results from advanced diagnostic tools, such as arterial blood gas (ABG) analyzers, spirometry, and chest radiography, to assess respiratory function.
3. Monitor Critical Respiratory Patients.
   Operate advanced monitoring equipment (e.g., pulse oximetry, capnography, and hemodynamic monitors) to track the respiratory status of patients in real-time simulations.
4. Manage Cardiorespiratory Emergencies.
   Apply advanced assessment skills in simulated emergency scenarios, recognizing and managing respiratory and cardiac emergencies promptly.
5. Use Pediatric Advanced Life Support (PALS) Techniques.
   Practice Pediatric Advanced Life Support (PALS) interventions, including airway management and resuscitation, in pediatric emergency simulations.
6. Analyze Clinical Data to Inform Treatment Decisions.
   Interpret clinical data from advanced monitoring systems and diagnostics to make evidence-based decisions about modifying patient care plans.
7. Document Respiratory Assessments and Monitoring Results.
   Accurately record respiratory assessment findings and monitoring data in simulated clinical documentation, following standard healthcare protocols.
8. Collaborate with Interdisciplinary Teams in Simulated Environments.
   Work effectively with a simulated healthcare team to assess, monitor, and manage patients with critical respiratory conditions in Laboratory-based scenarios.

RESP 2150C. Neonatal and Pediatric Respiratory Lecture/Laboratory

Course Description

This course introduces assessment skills, resuscitative procedures and appropriate therapies needed to treat the pediatric patient. This course also includes a study of neonatal anatomy and physiology, Labor and delivery, high risk infants, resuscitation, ventilator management, and common neonatal pathologies and modalities for their treatment.

Student Learning Outcomes

1. Demonstrate knowledge and appropriate application of patient safety and infection control standards.
2. Demonstrate appropriate participation in the interdisciplinary patient care team.
3. Describe appropriate education of patients and families.
4. Dmonstrate neonatal and pediatric assessment, diagnostics, basic therapeutics, and stabilization.
5. Demonstrate pediatric and neonatal resuscitation protocols.
6. Demonstrate initiation, management, and discontinuation of neonatal and pediatric ventilation.
7. Identify important technical operational differences among ventilators.

RESP 2150. Neonatal and Pediatric Respiratory Theory

Course Description

Presents cardiopulmonary assessment and diagnosis in advanced neonatal and pediatric critical care including correlation of cardiopulmonary anatomy, physiology and pathophysiology with evaluation of cardiopulmonary function. Presents concepts of rehabilitative practice for patients with chronic cardiopulmonary diseases. Introduces strategies for successful completion of national board exams. Presents mechanical ventilation procedures related to critical care medicine for children and infants using state of the art equipment and computer simulation in the learning laboratory.

Student Learning Outcomes

1. Accurately identify and perform a complete cardiopulmonary assessment of a critically ill pediatric patient.
2 Identify and perform a complete cardiopulmonary assessment of a critically ill neonatal patient.
3. Summarize review-content and complete mock CRT and RRT examinations.
4. Compare and contrast the components of pediatric and neonatal ventilators.
5. Correctly perform and assess effectiveness of respiratory therapy on neonatal/pediatric patients.

RESP 2150L.Neonatal and Pediatric Respiratory Laboratory

Course Description

Presents mechanical ventilation procedures related to critical care medicine for children and infants using state of the art equipment and computer simulation in the learning Laboratory. Students will focus on cardiopulmonary assessment and diagnosis with correlation of cardiopulmonary anatomy, physiology and pathophysiology and evaluation of cardiopulmonary function.

Student Learning Outcomes

1. Accurately identify and perform a complete cardiopulmonary assessment of a critically ill pediatric patient.
2. Identify and perform a complete cardiopulmonary assessment of a critically ill neonatal patient.
3. Summarize review-content and complete mock CRT and RRT examinations.
4. Compare and contrast the components of pediatric and neonatal ventilators.
5. Correctly perform and assess effectiveness of respiratory therapy on neonatal/pediatric patients.

RESP 2180. Cardiopulmonary Pathophysiology III

Course Description

Presents pathophysiology and management of patients with pulmonary diseases from the perspective of a physician including causes, signs and symptoms, pathophysiology, diagnosis, treatments and prognosis for patients with these problems:chest trauma, ACLS, pneumothorax, pulmonary vascular disease, Cor Pulmonale, sepsis syndrome, EKG interpretation. Management of patients on mechanical ventilation regardless of diagnosis is also covered.

Student Learning Outcomes

1. Apply the principles of data collection, organization, and assessment skills to the successful development of a treatment plan for specific disease processes.
2. Distinguish and apply the skills to assess and treat a patient in the ICU relating to specific disease processes through case study analysis.
3. Demonstrate the ability to examine and identify the chest x-ray of a patient in the ICU.
4. Analyze, integrate and solve ventilator management case studies relating to various cardiopulmonary disease processes.
5. Discuss, interpret and analyze cardiopulmonary pathophysiology.

RESP 2192L. Scenario Procedures Laboratory II

Course Description

Provides second-year Respiratory Therapy students the opportunity for additional learning and practice of respiratory therapy skills in the campus Laboratory.

Student Learning Outcomes

1. Understand the components of a ventilator, BiPAP, IPPB, chest tubes, bronchoscopy, and arterial blood gases.
2. Apply learned Laboratory skills to advanced adult patient population scenarios.
3. Provides time with respiratory equipment and high fidelity manikins to learn advanced respiratory therapy.

RESP 2194L. Advanced Clinical Prep Laboratory I

Course Description

This course is designed to help students with the transition of basic respiratory skills to advanced respiratory skills. The course will teach students an introduction to how to effectively care for critically ill patients in the intensive care units prior to attending their clinical rotations.

Student Learning Outcomes

1. Describe and demonstrate how to turn on various ventilators.
2. Assess and adjust settings and parameters on various ventilators.
3. Examine the intensive care unit and the monitors in the intensive care unit.
4. Demonstrate how to setup circuits on various ventilators.
5. Modify ventilatory support based on arterial and venous blood gases.

RESP 2210. Respiratory Professional Development

Course Description

Prepares students for national respiratory care credentialing exams and the job placement process. Topics include interviewing, resume-building, and board exam strategies.

Student Learning Outcomes

1. Create a resume and cover letter.
2. Demonstrate professionalism in a mock interview.
3. Pass a NBRC Therapist Multiple Choice Self-Assessment Exam.
4. Pass a NBRC Clinical Simulation Exam Self-Assessment Exam.

RESP 2220. Respiratory Seminar I

Course Description

This course introduces the student on the preparation for the certification and written registry examinations by utilizing the guidelines of the National Board for Respiratory Care (NBRC).

Student Learning Outcomes

1. Discuss stress reduction strategies that can be used during a test.
2. Discuss helpful hints for the night before the exam.
3. Take a self-assessment Certified Respiratory Therapist (CRT) exam, and identify weaknesses.
4. Review the appropriate text and subjects to strengthen weaknesses.
5. Successfully pass a CRT-level practice exam.
6. Take a self-assessment written Registered Respiratory Therapist (RRT) exam and identify weaknesses.
7. Review the appropriate text and subjects to strengthen weaknesses.
8. Successfully pass an RRT-level practice exam.

RESP 2230. Respiratory Therapy V

Course Description

Emphasis on special modalities.

Student Learning Outcomes

1. Demonstrate and perform cardiopulmonary diagnostic procedures.
2. Determine appropriate interventions in a critical medical situation.
3. Demonstrate how to setup and maintain a mechanical ventilator.
4. Formulate appropriate cardiopulmonary treatment plans.

RESP 2230L. Respiratory Therapy V Laboratory

Course Description

Advanced practice and procedures of respiratory care.

Student Learning Outcomes

1. Demonstrate and perform cardiopulmonary diagnostic procedures.
2. Formulate appropriate cardiopulmonary treatment plans.
3. Determine appropriate interventions in a critical medical situation.
4. Demonstrate how to setup and maintain a mechanical ventilator.

RESP 2232. Pulmonary Rehabilitation and Home Care

Course Description

This course presents the principles and applications of pulmonary rehabilitation, respiratory home care, and healthcare reimbursement. Included is sub-acute care geriatrics.

Student Learning Outcomes

1. Describe the goals, and rationale for Respiratory Home care and pulmonary Rehabilitation.
2. Explain the role of the respiratory therapist in the home care and pulmonary rehabilitation settings.
3. Identify guidelines for reimbursement for respiratory procedures outside the hospital setting.
4. Compare the equipment used for out of hospital care (ventilators, oxygen, and treatments).

RESP 2236. Ethics, Management and Wellness Promotion

Course Description

This course discusses the ethical and professional practice of respiratory care, principles of management, concepts and strategies of teaching. Included are ethics, leadership and management, adult learning, health and wellness promotion.

Student Learning Outcomes

1. Discuss the concepts and practices of ethics as it relates to healthcare setting.
2. Discuss the principles of management as applied to respiratory care.

RESP 2238. Clinical Simulation III

This course is a review of selected adult, pediatric and neonatal scenarios used in the clinical simulation examination of the National Board for Respiratory Care (NBRC).

Student Learning Outcomes

1. Prepare for TMC exam by taking simulated examinations on adult, neonatal and pediatric cases.
2. Successfully complete simulations on various respiratory disorders.

RESP 2242. Pediatric Advanced Life Support (PALS)

Course Description

Etiology, diagnosis, clinical manifestations, and management of cardiopulmonary disorders related to respiratory care.

Student Learning Outcomes

1. Accurately identify and perform a complete cardiopulmonary assessment of a critically ill pediatric patient.
2. Summarize review-content and complete mock CRT and RRT examinations.
3. Compare and contrast the components of pediatric and neonatal ventilators.
4. Correctly perform and assess effectiveness of respiratory therapy on neonatal/pediatric patients.

RESP 2243. Respiratory Therapy Neonatal Resuscitation

Course Description

Advanced practice of the neonatal resuscitation and certification. Students must be admitted into program to enroll in this course.

Student Learning Outcomes

1. Use critical thinking, problem solving and ethical decision-making in the assessment, diagnosis, planning, evaluation, and implementation of respiratory procedures.
2. Recognize emergency situations and respond appropriately.
3. Compose a patient assessment & Compose a patient SOAP/Patient Assessment document.
4. Demonstrate and perform cardiopulmonary diagnostic procedures.

RESP 2250. Clinical Review of CP Science

Course Description

This is an optional course suited for review for the national board certifications. It provides an in-depth review of clinical concepts in cardiopulmonary physiology, including the neuromuscular, renal, immune and endocrine systems. It involves case studies and clinical applications of various therapeutic modalities in cardiopulmonary care.

Student Learning Outcomes

1. Overview of anatomy, disease process and treatment modalities in review for the NBRC national board exam.
2. Overview of management of equipment used in respiratory care including QA and troubleshooting techniques.
3. Review of information for National board exam in Respiratory care.

RESP 2251. TMC Respiratory Board Exam Review Course

Course Description

Preparation and review for credentialing for the NBRC TMC exam for graduates of a CoARC-accredited Respiratory Therapy program.

Student Learning Outcomes

1. Demonstrate Mastery of Core Respiratory Therapy Concepts.
   Review and demonstrate understanding of the core respiratory therapy concepts and practices required for the NBRC TMC exam, including patient assessment, therapeutic interventions, and respiratory care techniques.
2. Apply Critical Thinking and Problem-Solving Skills.
   Practice applying critical thinking and problem-solving skills to clinical scenarios and case-based questions similar to those found on the NBRC TMC exam.
3. Understand NBRC TMC Exam Structure and Content.
   Describe the structure, format, and content areas of the NBRC TMC exam, including the distribution of topics and the types of questions typically encountered.
4. Identify and Address Knowledge Gaps.

Conduct self-assessment to identify areas of weakness in respiratory care knowledge and take steps to address these gaps through targeted study and review.

5. Interpret and Analyze Diagnostic Data.
   Demonstrate the ability to analyze and interpret diagnostic data such as arterial blood gases, pulmonary function tests, and imaging studies in preparation for the exam.
6. Practice Time Management for Exam Success.
   Develop effective time management strategies for answering questions efficiently and accurately within the time constraints of the NBRC TMC exam.
7. Utilize Test-Taking Strategies.
   Apply test-taking strategies to maximize performance on multiple-choice questions, including eliminating incorrect answers and making educated guesses when necessary.
8. Develop a Personalized Study Plan.
   Create a personalized study plan that outlines a timeline, resources, and study techniques to prepare effectively for the NBRC TMC exam.

RESP 2252. CSE Respiratory Board Exam Review Course

Course Description

Preparation and review for credentialing for the NBRC CSE exams for graduates of a CoARC-accredited Respiratory Therapy program.

Student Learning Outcomes

1 Demonstrate Comprehensive Knowledge of Respiratory Therapy Principles:
   Recall and apply fundamental concepts and principles of respiratory therapy, including but not limited to respiratory physiology, pathophysiology, pharmacology, and mechanical ventilation.
2. Apply Critical Thinking Skills to Clinical Scenarios:
   Develop the ability to analyze and solve complex clinical case studies and scenarios similar to those encountered in the NBRC CSE exams, demonstrating critical thinking and problem-solving skills in the context of respiratory therapy.
3. Utilize Effective Test-Taking Strategies:
   Learn and implement effective test-taking strategies, including time management, question analysis, and answer selection techniques, to improve performance on the NBRC CSE exams.
4. Demonstrate Proficiency in Core Respiratory Therapy Competencies:
   Demonstrate proficiency in key competencies required for the NBRC CSE exams, such as patient assessment, diagnostic testing, therapeutic interventions, and emergency management.
5. Integrate Knowledge from CoARC-Accredited Programs:
   Integrate and synthesize knowledge and skills acquired from their CoARC-accredited respiratory therapy programs, ensuring that their preparation aligns with the standards and expectations of the NBRC CSE exams.
6. Conduct Self-Assessments and Identify Areas for Improvement:
   Engage in self-assessment activities to evaluate their readiness for the NBRC CSE exams, identify areas of strength and weakness, and create a targeted study plan to address any gaps in knowledge or skills.
7. Demonstrate Effective Communication in a Clinical Context:
   Students will practice and refine their communication skills, including patient interactions and professional documentation, to ensure they meet the standards expected by the NBRC CSE and in real-world clinical settings.
8. Foster Professional Development and Lifelong Learning:

Students will develop a commitment to ongoing professional development and lifelong learning by exploring additional resources, staying current with advancements in respiratory therapy, and preparing for future credentialing and certification requirements.

RESP 2310. Clinical Experiences III

Course Description

Introduces skills for basic respiratory care in adult care settings with emphasis on problem solving and decision-making skills, patient evaluation skills and the evaluation of therapeutic care plans and initiating life support systems.

Student Learning Outcomes

1. Demonstrate an understanding of mechanical ventilation and critical care principles as evidenced by competency in the clinical setting.
2. Accurately assess the status of patients on mechanical ventilation or in the critical care setting to include: hemodynamic status, ABGs, and special procedures such as chest tubes, nutrition and Bronchoscopy.
3. Identify and recommend changes to a patients cardiopulomonary plan of care.
4. Develop plan of care for the critically ill adult patient.
5. Apply advanced respiratory care modalities for the critically ill patient.
6. Summarize the role of other health care professionals in the care of the critically ill patient.
7. Assemble equipment necessary for endotracheal intubation in the clinical setting.
8. Develop accurate, insightful, problem-based case studies of patients on mechanical ventilation.

RESP 2312. Clinical Experiences IV

Course Description

Introduces skills for advanced respiratory care in adult critical care clinical settings with emphasis on problem-solving and decision-making skills. Experiences include cardiopulmonary function monitoring and maintaining life support systems.

Student Learning Outcomes

1. Apply mechanical ventilation and critical care principles as they relate to pediatric and neonatal population.
2. Accurately assess the status of neonatal and pediatric patients on mechanical ventilation or in the critical care setting to include: hemodynamic status, ABGs, and special procedures such as chest tubes, nutrition and bronchoscopy.

RESP 2320L. Clinical Procedures III

Course Description

Includes clinical application of all prerequisite respiratory care coursework with an emphasis on adult critical care, assessment, and monitoring. Also includes cooperative and problem-based learning, and students will interact with, and present case studies to, the program's medical director.

Student Learning Outcomes

1. Apply Advanced Respiratory Care in Adult Critical Care Settings.
   Demonstrate the clinical application of advanced respiratory care techniques, including mechanical ventilation and other therapies, in adult critical care environments.
2. Perform Comprehensive Patient Assessments in Critical Care.
   Conduct thorough assessments of critically ill adult patients, including evaluating respiratory status, hemodynamics, and overall patient condition.
3. Monitor and Evaluate Critically Ill Patients.

Utilize advanced monitoring techniques and equipment, such as arterial blood gas analysis and capnography, to assess and adjust patient care in real-time.

4. Develop and Modify Respiratory Care Plans.
   Create and adjust individualized respiratory care plans for critically ill adults based on patient assessments, monitoring data, and evolving clinical conditions.
5. Implement Problem-Based Learning in Clinical Scenarios.
   Apply problem-based learning approaches to address complex respiratory care challenges in clinical settings, utilizing critical thinking and clinical reasoning skills.
6. Collaborate with Healthcare Teams in Critical Care Settings.
   Work effectively with interdisciplinary healthcare teams, including nurses, physicians, and other respiratory therapists, to manage care for critically ill patients.
7. Integrate Feedback from Medical Professionals.
   Incorporate feedback from the program's medical director and other clinical mentors to refine clinical skills and improve patient care strategies.
8. Demonstrate Professionalism in Clinical Environments.
   Exhibit professional behavior, including effective communication, ethical practice, and accountability, in all clinical interactions and patient care activities.
9. Meet Competency Standards in Adult Critical Care.
   Achieve competency in all required respiratory care procedures related to adult critical care, assessment, and monitoring, as evaluated by clinical supervisors.
10. Adhere to Infection Control and Safety Protocols.
    Follow strict infection control measures and safety protocols when delivering care to critically ill patients in high-risk clinical environments.
11. Apply Ethical and Legal Considerations in Critical Care Practice.
    Ensure patient safety and rights by applying ethical and legal principles while providing critical care to adult patients.

RESP 2322L. Advanced Procedures Clinical

Course Description

Includes clinical application of all prerequisite respiratory care coursework with an emphasis on adult critical care; neonatal/ pediatric basic and critical care therapeutics; assessment and monitoring; pulmonary rehabilitation; and specialized environments for the delivery of respiratory care. In-depth clinical application of all prerequisite respiratory care coursework with an emphasis in specialty areas.

Student Learning Outcomes

1. Demonstrate Advanced Clinical Competency:
   Apply advanced respiratory care techniques and procedures effectively in clinical settings, including adult critical care, neonatal/pediatric care, and specialized environments, demonstrating competency in all prerequisite respiratory care coursework.
2. Execute Specialized Respiratory Care Procedures:
   Proficiently perform advanced procedures and therapies specific to critical care, neonatal/pediatric care, and pulmonary rehabilitation, including but not limited to mechanical ventilation, advanced airway management, and monitoring of complex patient conditions.
3. Conduct Comprehensive Patient Assessments:

Conduct thorough assessments of patients across various clinical settings, including adult critical care and neonatal/pediatric environments, utilizing advanced diagnostic and monitoring tools to evaluate respiratory status and response to therapy.

4. Apply Evidence-Based Practices:
   Integrate evidence-based practices and current clinical guidelines into their respiratory care procedures, ensuring that their interventions are grounded in the latest research and best practices for specialized patient populations.
5. Demonstrate Proficiency in Specialized Environments:
   Demonstrate proficiency in delivering respiratory care in specialized environments such as pulmonary rehabilitation centers and other unique clinical settings, adapting their techniques and approaches to meet the specific needs of these environments.
6. Effectively Manage Complex Cases:
   Manage complex and critical respiratory cases with a focus on problem-solving and decision-making, demonstrating the ability to handle acute and challenging situations with clinical expertise and confidence.
7. Utilize Advanced Monitoring Techniques:
   Use advanced monitoring techniques and technologies to track and assess patient progress, adjust therapeutic interventions, and make informed clinical decisions based on real-time data.
10. Enhance Professional Skills through Clinical Experience:
    Enhance their professional skills, including communication, teamwork, and ethical decision-making, through hands-on clinical experience and interaction with multidisciplinary teams in various clinical settings.
11. Demonstrate Adaptability and Problem-Solving Skills:
    Exhibit adaptability and problem-solving skills by responding effectively to unexpected clinical challenges, including those encountered during out-of-town travel or in specialized clinical environments.
12. Reflect on Clinical Practice and Personal Development:
    Engage in reflective practice to evaluate their clinical experiences, identify areas for improvement, and set personal and professional development goals based on their clinical performance and feedback.

RESP 2330. Respiratory Therapy IV Clinical

Course Description

Emphasis on mechanical ventilators.

Student Learning Outcomes

1. Maintain Patient confidentiality/privacy as defined by HIPAA.
2. Use critical thinking, problem solving and ethical decision-making in the assessment, diagnosis, planning, evaluation, and implementation of respiratory procedures.
3. Recognize emergency situations and respond appropriately.
4. Compose a patient assessment & Compose a patient SOAP/Patient Assessment document.
5. Demonstrate and perform cardiopulmonary diagnostic procedures.
6. Demonstrate how to set up and maintain a mechanical ventilator.
7. Demonstrate appropriate patient/physician interactions in the clinical setting.

RESP 2332. Respiratory Therapy V Clinical

Course Description

Emphasis on special modalities.

Student Learning Outcomes

1. Demonstrate and perform cardiopulmonary diagnostics procedures during mechanical ventilation.

2. Demonstrate appropriate patient/physician interactions needed in the clinical setting.
3. Demonstrate how to set up, maintain, and wean a patient from a mechanical ventilator.
4. Compose a patient assessment on a patient receiving mechanical ventilation.
5. Formulate appropriate cardiopulmonary treatment plans for mechanical ventilation.
6. Determine appropriate interventions in a critical medical situation.
7. Document ventilator parameters, alarm settings, and patent assessment.

RESP 2334. Respiratory Therapy VI Clinical

Course Description

Advanced Clinical experience on special modalities.

Student Learning Outcomes

1 Maintain Patient confidentiality/privacy as defined by HIPAA.
2. Use critical thinking, problem solving and ethical decision-making in the assessment, diagnosis, planning, evaluation, and implementation of respiratory procedures.
3. Recognize emergency situations and respond appropriately.
4. Compose a patient assessment & Compose a patient SOAP/Patient Assessment document.
5. Demonstrate and perform cardiopulmonary diagnostic procedures.
6. Demonstrate how to set up and maintain a mechanical ventilator.
7. Demonstrate appropriate patient/physician interactions in the clinical setting.

RESP 2340L. Respiratory Care Clinical III

Course Description

Builds on experience and skills acquired in Respiratory Care Clinicals I and II. Students are introduced to initiation and management of non-invasive mechanical ventilation and emergency and critical care procedures.

Student Learning Outcomes

1. Use AIDET protocol (Acknowledge, Introduce, Duration, Explanation, Thank you) in the acute care setting.
2. Demonstrate knowledge and application of principles of patient safety, infection control, and participation in the healthcare team at the advanced beginner level of competency.
3. Perform a cardiopulmonary patient assessment at the advanced beginner level of skill.
4. Interpret cardiopulmonary assessments and make treatment recommendations at the novice level of skill.
5. Perform basic respiratory therapy therapeutics at the advanced beginner level of skill.
6. Perform ventilation related skills at the novice level of skill.
7. Demonstrate progressive independence in the practice of respiratory care.
8. Process respiratory equipment with appropriate attention to safety and infection control.
9. Use applicable therapist- driven protocols effectively.

RESP 2342L. Respiratory Care Clinical IV

Course Description

Prepares the student for practice in the entry-level health care environment. This clinical experience focuses on adult, pediatric and neonatal critical respiratory care in the acute care setting. Advanced cardiopulmonary assessment, plan of care, and shift management in all settings are included.

Student Learning Outcomes

1. Use AIDET protocol (Acknowledge, Introduce, Duration, Explanation, Thank you) in all settings.

2. Demonstrate knowledge and application of principles of patient safety, infection control and participation in the healthcare team.
3. Perform cardiopulmonary patient assessment at the competent level of skill.
4. Discuss the indications, methods, and goals of pulmonary rehabilitation.
5. Discuss the pathophysiology and treatment of sleep disorders
6. Educate patients and families in smoking cessation.
7. Show good shift management skills in the critical care setting.
8. Demonstrate patient assessment, treatment, and documentation at the competent level of skill.
9. Identify and interpret appropriate patient monitoring in the critical care setting.
10. Demonstrate ventilator management at the competent level of skill.
11. Identify the indications, contraindications, and complications of critical care.
12. Demonstrate progressive independence in the practice of respiratory care in all patient populations.
13. Describe indications, assessment, therapeutic modalities, patient education and documentation for respiratory care in alternate settings.
14. Process respiratory care equipment with appropriate attention to safety and infection control.
15. Use critical care therapist-driven protocols effectively.

RESP 2350. Practicum II

Course Description

This course is structured to provide the student the clinical experience in applying respiratory care modalities in an intensive or critical care and emergency settings. Included are modalities for airway care, ventilator management, and monitoring of adult patients.

Student Learning Outcomes

1. Select, review and interpret data in patients chart.
2. Select, assemble, and check equipment for proper function, operation and cleanliness.
3. Initiate, conduct, and modify prescribed therapeutic procedures based out patient outcomes for adult ventilator patients.
4. Demonstrate competency in the delivery of respiratory care procedures including Intubation, extubation, and mechanical ventilator management.

RESP 2352. Clinical Practicum III

Course Description

This course is designed to provide clinical experience in general diagnostic therapeutic and critical care modalities for adult, neonatal and pediatric patients in the clinical setting. Included are patient transport, mechanical ventilation, airway management, emergency care, and monitoring of neonatal and pediatric patients.

Student Learning Outcomes

1. Demonstrate ethical behavior, safety practices, effective communication skills, interpersonal and teamwork skills in a clinical environment.
2. Select, review, obtain and interpret data.
3. Select, assemble and check equipment for proper function, operation, and cleanliness.
4. Initiate, conduct, and modify prescribed therapeutic procedures based on patient outcomes.
5. Demonstrate proficiency and competency in the delivery of respiratory care procedures.

RESP 2492. Scenario Procedures Lab III

Cours Description

Scenario Procedures Laboratory III

Course Description

Provides second-year respiratory therapy students with the opportunity for additional learning over pediatric and neonatal intensive care. Provides practice of advanced respiratory therapy skills in the pediatric and neonatal patient population within the campus laboratory.

Student Learning Outcomes

1. Apply learned lab skills to advanced patient population scenarios.
2. Practice pediatric and neonatal respiratory therapy techniques using pediatric respiratory equipment and high-fidelity manikins.
3. Identify pediatric and neonatal respiratory equipment in a simulation lab.
4. Evaluate the uses of pediatric and neonatal respiratory equipment in a simulation setting.

RESP 2996. Topics in Respiratory Therapy

Course Description

Varies

Student Learning Outcomes

Varies

Russian (RUSS)

Russ 1110. Russian I

Course Description

This is an entry level Russian course for students with no previous exposure to the language. The purpose of this beginning course is to develop listening, speaking, reading and writing skills to communicate at a basic level. After the completion of the course, students will be able to perform in specific situations at the Novice-Mid level on the American Council on the Teaching of Foreign Languages proficiency scale.

Student Learning Outcomes

1. Students will gain basic understanding of the Russian language through intensive practice in reading, writing, speaking and listening.
2. Students will achieve basic communication goals in different communicative situations.
3. Students will develop intercultural awareness through understanding of Russian social and cultural norms, values, and attitudes.
4. Students will identify salient features of Russian culture in its historical and contemporary contexts.

Russ 1120. Russian II

Course Description

This is an entry-level continuation course for students that have completed Elementary Russian I. The course will use a communicative approach to cover the fundamentals of basic vocabulary, grammar, conversation and culture. After the completion of the course, students will be able to perform in specific situations at the Novice-High level on the American Council on the Teaching of Foreign Languages proficiency scale.

Student Learning Outcomes

1. Students will gain further understanding of the Russian language through intensive practice in reading, writing, speaking and listening.
2. Students will achieve more diverse communication goals in different communicative situations

3. Students will increase their intercultural awareness through understanding of Russian social and cultural norms, values, and attitudes.
4. Students will recognize features of Russian culture in its historical and contemporary contexts.

RUSS 2110. Russian III
Course Description
This course is for students who have completed Elementary Russian I and II. It is designed to further the understanding of the Russian language and culture and continues the development of the four language skills (listening, reading, writing, and speaking). After the completion of the course, students will be able to perform in specific situations at the Intermediate-Low level on the American Council on the Teaching of Foreign Languages proficiency scale.
Student Learning Outcomes
1. Students will increase their understanding of the Russian language through intensive practice in reading, writing, speaking and listening.
2. Students will achieve more complex communication goals in different communicative situations.
3. Students will strengthen their intercultural awareness through understanding of Russian social and cultural norms, values, and attitudes.
4. Students will interpret various features of Russian culture in its historical and contemporary contexts.

RUSS 2120. Russian IV
Course Description
In this course, students continue to expand and refine their proficiency skills in listening, reading, writing, and speaking Russian. It is designed for students who have completed Intermediate Russian I. After the completion of the course, students will be able to perform in specific situations at the Intermediate-Mid level on the American Council on the Teaching of Foreign Languages proficiency scale.
Student Learning Outcomes
1. Students will refine their Russian language skills in reading, writing, speaking and listening.
2. Students will achieve more complex communication goals in specialized contexts.
3. Students will apply their intercultural knowledge to various contexts.
4. Students will analyze more complex Russian cultural phenomena in their historical and contemporary contexts.

RUSS 2993. Workshop in Russian Language
Course Description
Varies
Student Learning Outcomes
Varies

Science (SCIE)

SCIE 1110C. Indigenous Food & Wellness with Laboratory
Course Description
Not Available
Student Learning Outcomes
Not Available

SCIE 1120C. Ethnobotany of the Southwest with Laboratory
Course Description
Not Available

Student Learning Outcomes
Not Available

SCIE 1130C. Desert Ecology with Laboratory
Course Description
Not Available
Student Learning Outcomes
Not Available

Social Science (SOSC)

SOSC 1110. Introduction to Science and Technology Studies
Course Description
The aim of this course is to challenge commonly accepted beliefs regarding technoscience, including the presumption that the "best" technology always wins and the notion that science is never political. Through an examination of historical and contemporary examples, students will explore the cultural, organizational, economic, and political drivers and consequences of scientific R&D and technological change.
Student Learning Outcomes
This course explores the social, cultural, and political roots and effects of technoscience. Course assignments, moreover, will help students hone their analytical, writing, and oral presentation skills. By the end of the course, students should be able to:

1. Recognize and articulate how social factors have shaped historical cases of science and technology.
2. Critically describe the political implications and dominant guiding logics of contemporary regimes of scientific R&D and technological innovation.
3. Enumerate and characterize the possibilities for more democratic and precautious technoscience.
4. Summarize and assess an academic level text in Science and Technology Studies.

SOSC 1110L. Introduction to Science and Technology Studies Lab
Course Description
This is a pilot lab course linked with the HIST189-01 social science course as part of the Living Learning Community program through the Office for Student Learning. This semester will focus on completing a group project investigating technology relevant to our community. We will look at the relationship between technology and contemporary society by looking at how non-technical factors, such as politics, culture, and economics, drive changes in technology.
Student Learning Outcomes

1. Understand the connection between the evolution of modern science and technology and contemporary social issues/problems, relevant to our community.
2. Investigate the current implementation of science and technology, with a focus on the interconnection between technology, culture, and community.
3. Enhance your ability to evaluate information and communicate your ideas through logical evidence-based argument.
4. Develop critical thinking skills and resource knowledge that will facilitate academic success and professional development.

SOSC 1220. Full STEAM Ahead: Part II
Course Description
This course examines the development of contemporary technologies, including the personal computer, nuclear energy, jet engines, chemical plants, genetic engineering, and the automobile, in order to uncover the social, political, and ethical facets

of science and engineering. By learning how historical events, pervasive ideas, business and regulatory cultures, economics, and other social stuff both drive and constrain technological development, students will acquire thinking skills necessary for being not only thoughtful technical professionals but also responsible citizens.

Student Learning Outcomes

This course explores the social, cultural, and political roots and effects of technoscience. Course assignments, moreover, will help students hone their analytical, writing, and oral presentation skills. By the end of the course, students should be able to:

1. Recognize and articulate how social factors have shaped historical cases of technology,
2. Describe how a process of Intelligent Trial and Error can lessen the risks of emerging technologies and enable technological change,
3. Enumerate and characterize the possibilities for more democratic, precautious, or otherwise more desirable technoscience, and
4. Summarize and assess an academic level text.

SOSC 1220L. Full STEAM Ahead: Part II, Lab

Course Description

This lab accompanies the Full STEAM Ahead class and gives students the opportunity to explore class concepts by analyzing technological solutions to a contemporary public problem in a hands-on, collaborative environment. Students will not only diagnose the issues facing a current scientific and technical undertaking but also propose how it could be redesigned to better account for the cultural and political complexities of social reality. By the end of the semester, groups of students will produce and present a research poster on their chosen topics by analyzing technological solutions to a contemporary public problem in a hands-on, collaborative environment. Students will not only diagnose the issues facing a current scientific and technical undertaking but also propose how it could be redesigned to better account for the cultural and political complexities of social reality. By the end of the semester, groups of students will produce and present a research poster on their chosen topics.

Student Learning Outcomes

By the end of the course, students will be able to:

1. Explain the connection between the evolution of modern science and technology and contemporary social issues/problems, relevant to a particular community,
2. Investigate the current implementation of science and technology, with a focus on the interconnection between technology, culture, and community,
3. Evaluate information and communicate their ideas through logical evidence-based argument, and
4. Develop critical thinking skills and resource knowledge that will facilitate academic success and professional development.

SOSC 1320. Creation of the Universe: Fact/Fiction/Myth

Course Description

How did we get here? Where did we come from? How were the earth, moon and sun created? From ancient tribes to modern civilization, the human race has tried to answer these questions. This course examines the myths and scientific theories of the origin of the universe. The course first covers ancient myths, progresses to modern religion and culminates with our current understanding of the Big Bang and related scientific theories. Other myths, such as the great flood, which common to many cultures, are examined. The course focuses on how science and culture interact by examining how our concept of creation has evolved.

Student Learning Outcomes

By the end of the semester, students who satisfactorily complete the course should be able to:

1. Describe the progression of man's concept of the origin of the universe from the ancient Greeks to modern times.
2. Explain how the relationship between science and society has evolved.

3. Articulate how science can be used to support social decisions.

SOSC 2010. American Culture and Leisure Ethics
Course Description
This course takes a look at how sociability and socio-economic status changed over the course of American history. Beginning with colonial America and continuing until the 21st century, we will look at how major political, religious, technological and economic trends, (such as the institution of slavery, prohibition, industrialization, world wars, xenophobia, and economic depressions) influenced social life and leisure habits of Americans. Predominant themes will include spectators as well as participatory sports, vices such as drinking, gambling, and prostitution. The role dating, celebrations, food, freak shows, amusement parks, as well as the evolution of vacations, resorts, dancing, movies and music have played in the life of Americans.
Student Learning Outcomes
1. By the end of this course students will have read and or watched primary and secondary texts and sources in every relevant era to better understand its zeitgeist and apply analytical skills to determine the changes to and varying cultural and social phenomena that occurred in response to social, recreational and leisure habits of Americans. Students will actively participate in individual and group activities that are era appropriate. They are expected to be able to communicate and purposefully apply this knowledge in an effort to experience the same limits, roles, values and mindsets that shaped the behaviors of generations of Americans before them.

SOSC 1996. Social Science Topics
Course Description
Varies
Student Learning Outcomes
Varies

SOSC 2110. Understanding Technoscientific Controversy
Course Description
This science and technology studies course challenges students to think more carefully and critically about technoscientific environmental problems and controversies, such as climate change, vaccine hesitancy, genetic engineering, pharmaceutical drugs, and nuclear energy. Students will examine the cognitive, cultural, economic, ethical, political, and communicative roots of disagreement, learning to recognize that these issues are not solved by presenting a “balanced view” of both sides or by simply informing “ignorant” opponents. Students will apply these thinking skills in order to develop more productive and empathic solutions to tenacious and highly polarized public conflicts.
Student Learning Outcomes
1. Discern and describe how subjective judgements influence scientific decisions about what to study, how to study it, and how to deal with uncertainty.
2. Recognize and articulate past experiences, trust, and moral commitments influence whether people embrace, or reject, particular scientific facts or technologies.
3. Uncover how values are laundered through ostensibly scientific rhetoric about public issues.
4. Explore more productive and democratic pathways for reconciling disagreements about enduring.

SOSC 2120. Unintended Consequences, Industrial Accidents, and Other Anthropogenic Disasters
Course Description
A science and technology studies examination of how different cognitive, organizational, political, and technical factors influence people’s ability to cope with the complexities and uncertainties of tech-nonscientific endeavors. Through a survey of unanticipated consequences, organizational failures, and other human-produced disasters, students will explore how humanity might proceed more thoughtfully, carefully, and fairly with respect to innovation and sociotechnical change.

This course explores the decisions, thinking processes, technical structures, and forms of organization that lead to technoscientific mistakes. Course assignments will help students hone their analytical, writing, and oral presentation skills.

Student Learning Outcomes

By the end of the course, students should be able to:

1. Characterize the unintended consequences occurring in historical cases and the risks entailed by emerging innovations.
2. Describe risky technologies as constituted by the coupling of sociotechnical systems.
3. Evaluate historical and contemporary instances of technoscience in terms of how well "intelligent trial and error" was pursued.
4. Propose mechanisms for lessening the risks posed by emerging technologies and lowering the barriers to more responsible innovation**.**

SOSC 2123. Civilizational Collapse and Its Prevention

Course Description

The goal of this course is to critically examine the resilience and frailties of human civilization. How have previous societies failed or succeeded to organize themselves within socio-ecological limits? What positive lessons can be drawn from earlier human settlements regarding the political, cultural, economic, and technological factors generative of social instability? In addition to researching potential answers to these questions, students will explore and evaluate contemporary perspectives and proposals regarding how to make human societies more socially, politically, and ecologically resilient.

Student Learning Outcomes:

Course assignments will help students hone their analytical, thinking, and oral presentation skills. By the end of the course, students should be able to:

1. Problematize common understandings of "progress" and theories of collapse.
2. Recognize and describe different cause and effect relationships contributing to civilizational collapse.
3. Contrast divergent solutions to civilizational problems, which may include degrowth, ecomodernism, polycentric governance, rewilding, etc.
4. Present a cohesive oral argument regarding a specific civilizational threat and what might be done about it or a specific author's claims regarding it.

SOSC 2996. Social Science Topics

Course Description

Varies

Student Learning Outcomes

Varies

Social Work (SOWK)

SOWK 1110. Ethics for Social Work and Human Services

Course Description

This course introduces students new to social work or human services to ethical standards and practices. The course includes ethics concepts including confidentiality, client rights, duty to warn, communication ethics, and applied ethics. The National Association of Social Workers Code of Ethics serves as the foundation of the course.

Student Learning Outcomes

Upon completion of this course, participants will be able to

1. Identify an ethical decision making process.

2. Explain an ethical decision making process.
3. Apply an ethical decision making process to a social work practice situation.

SOWK 2110. Introduction to Human Services and Social Work

Course Description

This course is for students who are interested in social welfare issues and/or are considering entering a social service profession. The course presents an overview of social problems, issues and trends, and the network of social agencies developed to address these concerns. The course examines the influence of personal and professional values and ethics on the helping relationship. The concept of social welfare will be discussed from a social work perspective (with an emphasis on social justice), and students will gain a basic understanding of social work in U.S. society, social work career opportunities, and contemporary issues facing social workers. Approaches relevant to work with individuals, families, groups and communities are presented, with special emphasis on Hispanic and Indigenous populations of New Mexico and the Southwest.

Student Learning Outcomes

1. Explain the interactions of social institutions, cultural factors, dimensions of identity, and environment with the human development and behavior of individuals.
2. Demonstrate knowledge of the social work profession's focus on addressing contemporary social issues in the United States.
3. Describe the mission and services provided by social service agencies at the regional, national, and global levels.
4. Demonstrate a basic understanding of the social work profession, its history, career opportunities, and contemporary issues facing social workers in the United States today.
5. Recognize how students' knowledge, skills, and attitudes impact their competence as helping professionals.

SOWK 2111. Women's Issues in Social Work

Course Description

Examines gender-specific social problems and their identification and resolution through the use of social agencies and community resources. Community Colleges only. No longer offered at NMSU, NMSU-A, NMSU-D or NMSU-G effective June 16, 2023.

Student Learning Outcomes

1. Understand the commonalties among all women, identifying commonalties and differences among oppressed and dominant groups, recognize multiple oppressions, and respect diversity while conducting social work practice through readings, class discussions, and/or written assignments.
2. Identify the various needs of women as individuals, family members and community members through readings, class discussions, and/or written assignments.
3. Demonstrate skills in working effectively with diverse issues involving women with an emphasis on building strengths, interdependence, self-direction, shared power, and cooperation through experiential exercises, written assignments, companion book, and instructor presentations.
4. Demonstrate skills in addressing issues that affect women such as parental issues, relationship problems, physical abuse, sexual abuse, crime, substance abuse, eating disorders, housing concerns, psychological issues and physical abilities written reports.
5. Understand the importance of and demonstrating skills in caring and empathetic connection in the change process through written assignments, experiential activities in the companion book.
6. Understanding the Importance of the Professionals Self-Care through experiential activities and journaling in the companion book.

SOWK 2112. Ethics in Addictions Work

Course Description

Course covers ethical practice as it relates to work in substance abuse. The course presents an overview of ethical standards of the social work profession as they relate to this population. The course examines personal and professional values in relation to client needs and cultural influences. Students are taught the concepts of working with clients with substance abuse, to include support systems and community dynamics.

Student Learning Outcomes

1. To understand and demonstrate the understanding of personal and client strengths and limitations, client welfare, cultural diversity and the professional relationship dynamic.
2. An introduction to the proper way of using written and spoken clinical material and demonstrate the proper use of the NASW code of ethics through case scenarios and ethical dilemmas.
3. To demonstrate the understanding for the need to continue learning, use of professional supervision, ethical responsibilities and to practice within one's own competence. Students will demonstrate their knowledge of self-care and burnout prevention.
4. Students will demonstrate and apply Substance abuse professional ethics and the NASW Code of ethics and take into consideration workplace standards, professional rapport, and societal obligations.

SOWK 2131. Trauma and Addictions

Course Description

This course explores the experience of trauma and nature of addiction. This course introduces the concepts of mind-body connection, adverse childhood experiences, and theory of trauma, comorbidity, client support structures, and client-practitioner relationships as they relate to substance abuse.

Student Learning Outcomes

1. Identify how a crisis state is formed and the factors that influence substance abuse. They will be able to describe how to help a person increase functioning, identify danger and opportunity, the difference between stress and crisis and characteristics of effective coping.
2. Identify and explain models of crisis intervention and ways to help clients change their thinking.
3. Understand and recognize various forms of crisis what they are and interventions professionals use.

SOWK 2140. Social Justice and Community Engagement

Course Description

This course examines bias, privilege, and oppression, as well as the various types of social inequities and their differential impact on various types of communities. Difference related to race, ethnicity, age and ability, gender identity, sexual orientation, socioeconomic status, immigration status, and geographic location and access to services, will be explored. Further, students will engage in an exploration of the etiology, nature, scope, and effects of societal inequities and oppressive social structures. Drawing upon socio-historical-political approach, the course will encourage students to examine the roots of social justice and explore concrete community engagement initiatives to engage in social justice and related action and advocacy at the micro, mezzo, and macro levels.

Student Learning Outcomes

1. Define Social Justice and demonstrate an understanding of the history and scope of social justice initiatives in the United States.
2. Define and demonstrate an understanding of bias, privilege and systemic oppression.
3. Demonstrate an understanding of how the design and implementation of social systems has a disparate effect on diverse communities.
4. Demonstrate an understanding of how community engagement and advocacy at the micro, mezzo, and macro level, can effect change in societal equity and support for marginalized communities.

Sociology (SOCI)

SOCI 1110. Introduction to Sociology

Course Description

This course will introduce students to the basic concepts and theories of sociology, as well as to the methods utilized in sociological research. The course will address how sociological concepts and theories can be utilized to analyze and interpret our social world, and how profoundly our society and the groups to which students belong influence them. Students will be given the opportunity to challenge their "taken for granted" or "common sense" understandings about society, social institutions, and social issues. Special attention will also be paid to the intimate connections between their personal lives and the larger structural features of social life. In addition, the implications of social inequalities, such as race/ethnicity, gender, and social class will be central to the course's examination of social life in the United States.

Student Learning Outcomes

1. Define sociological perspectives and the contributions that sociological knowledge can bring to the social sciences.
2. Understand the sociological imagination and explain the relationships between social structures, social forces and individuals.
3. Demonstrate the ability to apply the perspectives of symbolic interactionist theory, conflict theory, and structural-functionalist theory to qualitative and/or quantitative data.
4. Understand and explain intersectionality and the connections between race, class, gender, disability, sexual identity and other forms of structural inequality.

SOCI 1215. Career/Life Planning

Course Description

This course enables students to evaluate potential careers and to make educational plans in light of their interests, values, abilities, experiences and goals. Students have access through the Career Development Center to information on specific career choices, occupational requirements and market outlooks.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Articulate values, personality characteristics, interests and skills in relation to the career decision-making process
2. Write a plan for job hunting or career planning.
    a. Utilize occupational and educational resources.
3. Write a resume and cover letter.
    b. Gather information on potential employers.
    c. Recognize the educational requirement of different careers.
4. Recognize the values and lifestyle preferences impact on career choices
5. Prepare for job interviewing
6. Write a career plan

SOCI 1310. Sociology of Substance Abuse

Course Description

This course explores the phenomenon of drug use and abuse in our culture. It will include, but it is not limited to, the history of drug use, the drugs used, legislation concerning drug possession and use, dependence/addiction to and withdrawal from drugs, and the business of drugs—both legal and illegal.

We will concentrate on the sociological aspects of drugs, and we will examine the psychological features as well. Moreover, we will examine the history of drugs, the current state of education as it applies to drugs, prevention efforts, and the role of treatment programs, the latter of which will include both theory and its practical applications in the field. Lastly, we will explore the following list of drugs: stimulants, sedatives/hypnotics, alcohol, nicotine, caffeine, over-the-counter drugs, prescription drugs, narcotics, hallucinogens, cannabis, and inhalants.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Develop an overview of various drugs and their use.
2. Understand the media's influence on drugs and its control.
3. Demonstrate an understanding of how drug use impacts families, the workplace, and society.
4. Explore the historical, social, cultural, & psychological influences associated with drug use & its control.
5. Practice critical thinking skills through thoughtful completion of reading assignments & written discourse.

SOCI 1345. Cultural Diversity

Course Description:

This course examines, from a theoretical and experiential social work perspective, the personal behaviors and institutional factors that have led to oppression of ethnic minorities and various cultural groups. Attention is given to discriminatory practices as related to sex, age, religion, disablement, sexual orientation, and culture. The course explores the strategies that the various groups have employed to deal with discrimination. Implications to the individual, society, and the profession are explored.

Student Learning Outcomes:

1. Students will compare and contrast sociological concepts as they relate to various cultures as evidenced by scoring 70% or better on a faculty prepared examination.
2. Students will apply sociological theories to real-life situations as related to sex, age, religion, disablement, sexual orientation, and ethnic cultures as evidenced by scoring 70% or better on a faculty prepared examination.
3. Students will demonstrate critical thinking skills through discussion, reaction papers, social research, and application field projects scoring a minimum of 70% on each assignment.

SOCI 1350. Rural America

Course Description

Change and diversity are the terms most descriptive of rural America today. This course addresses four themes, which characterize the social and economic contexts within which rural communities must address their problems. Each section examines rural communities from a different perspective, enabling students to explore the complexity and diversity among communities. Collectively the four sections examine the process of community development and transition--exploring the ways in which history, culture, and policies limit change as well as the extent to which local community resources can mobilize to support efforts at community change.

Student Learning Outcomes

On an instructor created exam, eighty percent of the students will be able to:

1. Students of rural communities will:
    a. Describe the ways in which a given rural area may be different over time in terms of economic base and population characteristics.
    b. Describe the current economic transition taking place in rural America.
    c. Recognize how history, environment, culture, economy, and political institutions interact to determine a community's well-being.
    d. Identify how past decisions made by individuals, communities, states, and the federal government have affected rural areas and the problems they face.
2. Students of community and the economy will:
    a. Understand the concept of capital and identify some of the forms it takes in their own community.
    b. Explain how the transition to a global economy has affected different parts of the rural economy, such as farming and rural manufacturing, during the past decade.
    c. Describe the consequences of increased consumption on rural communities, both in terms of economic base and waste disposal.
3. Students of the mediating change: community infrastructure will:

a. Describe the character of rural governments.
b. Define and give some examples of economic infrastructure.
c. Define social infrastructure, and name and give an example of each of its three dimensions.

4. Students of community power and grassroots change will:
    a. Define the principal theories of community power.
    b. Recognize the different responses to special needs shown in the video program and be able to distinguish both their common features and uniqueness.
    c. Identify the process to generate community change.

SOCI 1996. Topics in Sociology

Course Description

A course exploring a topic not covered by the standard curriculum but of interest to faculty and students in a particular semester.

Student Learning Outcomes

Varies

SOCI 2110. Major Orientation

Course Description

This course is designed to prepare students for success in the sociology major. Topics include citation styles, career/graduate school preparation, writing and research ethics.

Student Learning Outcomes

The skills concentrated on will include the following:

1. Demonstrate grammatically correct and factually accurate, professional writing that reflects sociological perspectives.
2. Conduct effective presentations about sociological research.
3. Use appropriate sociological writing style and format.
4. Utilize primary and secondary sources of research appropriately.
5. Develop ethical and legal standards for research and interaction as defined in the American Sociological Association Code of Ethics.

SOCI 2120. Introduction to Criminal Justice Systems

Course Description

This course provides an introduction to social issues that are currently affecting the criminal justice system in the United States. The course will cover the history of the US criminal justice system and how our system compares with other countries. We will address how the U.S. criminal justice system attempts to create and preserve a balance between sustaining order, maintaining individual rights, and promoting justice. Important themes also include, but are not limited to discussions of how crime and delinquency are measured, key correlates of crime, sociological approaches to researching crime, sociological theories of crime, the quality of crime data in the U.S. and how it is used to make public policy decisions, and the causes and consequences of mass incarceration in the United States.

Student Learning Outcomes

1. Identify the current practices and functions of the criminal justice system.
2. Understand and communicate how crime data is collected and measured and how this data informs the claims of policy makers and public policy outcomes.
3. Demonstrate the ability to compare and contrast the institutional practices and stratification of the U.S. criminal justice system with other criminal justice systems in the developed regions of the world.
4. Communicate an understanding of sociological theories of the U.S. criminal justice system through academic research, in-class discussions, written assignments, and other methods.
5. Describe the functions of the social institutions connected to crime, e.g., polity, media, education, family.

SOCI 2130. Introduction to Criminology

Course Description

Students will learn to understand and apply criminological theories that are produced within the field of sociology. These theories focus on how social structures, social contexts and particular kinds of social relationships influence the social activity of crime at both the micro and macro levels. Students will understand and analyze a variety of topics also pertinent to the study of crime, such as divergent definitions of crime, various correlates of criminal activities, criminal trends, and other key topics within the field of criminology.

Student Learning Outcomes

1. Understand and communicate the historical development of criminology as a field of inquiry through academic research, in-class discussions, written assignments, and other methods as necessary.
2. Evaluate and identify the assumptions, limitations and appropriate applications of theories of criminology through academic research, in-class discussions, written assignments, and other methods as necessary
3. Assess the validity and reliability of empirical research used to test the theories of crime examined through academic research, in-class discussions, written assignments, and other methods as necessary.
4. Communicate an understanding of criminological theories and how these theories can be used to explain the occurrence of crime at both micro and macro levels through academic research, in-class discussions, written assignments, and other methods as necessary.

SOCI 2140. Juvenile Delinquency

Course Description

This course is an introduction to sociological theories that explain juvenile delinquency in the United States.
The course will explore the history of the juvenile justice in the U.S. and the causes and solutions of juvenile delinquency. The course will also cover how the U.S. juvenile justice system works and how it is different from the adult criminal justice systems in the US. The course will examine policing of juvenile delinquents, juvenile rehabilitation, probation services, and approaches to address limitations of the current U.S. juvenile justice system.

Student Learning Outcomes

1. Understand and define important events in the history of the juvenile justice system in the United States.
2. Explain the social theories of juvenile delinquency and how these theories explain both the causes of delinquency and possible solutions to delinquency.
3. Describe the relationships between the institutions of the U.S. juvenile justice system and how this system is different from the adult criminal justice systems in the U.S.
4. Identify the strengths and weaknesses of the current U.S. juvenile justice system in preventing delinquency and examine ways to facilitate changes to make it more effective.

SOCI 2210. Sociology of Deviance

Course Description

This course is designed to provide an overview of the study of deviance and social control from multiple sociological perspectives. The instructor will present how sociologists research deviance and social control and the ethical issues involved in studying human subjects involved in these activities. The course also examines central sociological theories for understanding the causes of deviant behavior.

Student Learning Outcomes

1. Identify and explain sociological theories of deviance and conformity through academic research, in-class discussions, written assignments, and other methods as necessary
2. Describe and identify the influences of gender, race, ethnicity, sexual orientation, class, nation, and other factors in defining social deviance and social control.
3. Describe how various sociological theories explain deviance and conformity.
4. Identify important ethics and methods issues that arise in the study of deviance and conformity.

SOCI 2220. Sociology of Gender

Course Description

This course is an introduction to the sociology of gender and gendered inequalities. While analyzing how masculinity, femininity and other gender forms are socially constructed, we will also analyze how gender intersects with other forms of social stratification such as race, socio-economic status, disability and sexual orientation. Our analysis of gender will focus on gender socialization, gender identities, and how gender forms are deeply rooted and reproduced in social institutions, interactions and relationships.

Student Learning Outcomes

1. Describe how gendered social relationships influence experiences, life chances, and perceptions.
2. Explain how gendered inequalities intersect with other forms of social stratification including race/ethnicity, social class, sexuality, etc.
3. Communicate how the institutional structures of gendered social relations have changed over time both in the United States and globally.
4. Describe sociological theories and perspectives of gender and how they pertain to experiences of gendered social relationships.

SOCI 2225. Introduction to Women's Studies

Course Description

This course is designed to help students identify, understand and defuse gender stereotypes and barriers. A control goal is to empower women to take charge of their own lives. Topics include: sexuality, socialization, self-esteem, leadership, motherhood and transcending victimization models of feminism and femininity.

Student Learning Outcomes

1. Students will be able to recognize and demonstrate with 70% accuracy or better on a faculty prepared examination the effect that gender stereotypes, barriers and other social systems (e.g. race and class) have on women’s lives.
2. Students will be able to recognize and demonstrate with 70% accuracy or better on a faculty prepared examination empowering social actions.

SOCI 2226. Empowering Women

Course Description

This course is designed to help students identify, understand and defuse gender stereotypes and barriers. A control goal is to empower women to take charge of their own lives. Topics include sexuality, socialization, self-esteem, leadership, motherhood and transcending victimization models of feminism and femininity.

Student Learning Outcomes

1. Students will be able to recognize and demonstrate with 70% accuracy or better on a faculty prepared examination the effect that gender stereotypes, barriers and other social systems (e.g. race and class) have on women’s lives.
2. Students will be able to recognize and demonstrate with 70% accuracy or better on a faculty prepared examination empowering social actions.

SOCI 2230. Sociology of Sexuality

Course Description

This course explores all aspects of human sexuality from a sociological perspective. Topics include, but are not limited to, sex work, intimate relationships, sexual response, political movements, power, and the social construction of sexuality. The course also considers how various social statuses such as ethnicity, gender, and social class intersect with sexuality.

Student Learning Outcomes

1. Identify the central research questions, theories, and methodologies used in the study of human sexuality.

2. Identify and describe biological, cultural, social, and psychological sexual behaviors and responses across the lifespan.
3. Identify and describe trends and changes that influence sexual attitudes and values in the U.S. and globally.
4. Describe how sexuality is influenced by contextual factors, such as race/ethnicity, gender, socioeconomic status, disability, and nationality.

SOCI 2235. LGBTQ Issues and Identities

Course Description

Examines the various ways lesbian, gay, bisexual, transgender, and queer experiences and identities are shaped by social and structural forces in contemporary US society.

Student Learning Outcomes:

1. Identify key concepts & issues in the interdisciplinary fields of LGBTQ and queer studies
2. Sociologically analyze the various social, economic, and political structures & processes which influence those issues
3. Articulate how sexual orientation, sexuality, and sex/gender are socially constructed
4. Discuss how identities are influenced by social institutions and macro-level forces
5. Analyze intersections between inequality based on orientation and/or gender and other systems of stratification, i.e., race/ethnicity, social class, age, and nationality.
6. Evaluate possible solutions for making social institutions more inclusive and equitable.

SOCI 2240. Sociology of Intimate Relationships and Family

Course Description

This course provides an overview of contemporary intimate relationships and families from sociological perspectives. We will examine intimate relationships and families as social constructions whose meanings have changed over time and from place to place. This course will aid students in developing a greater understanding of intimate relationships and families as institutions in contemporary U.S. society. Intersections of race, class, gender, sexual orientation, nationality, and other factors within these institutions will be addressed.

Student Learning Outcomes

1. Explain the sociological approaches to researching intimate relationships and families.
2. Describe important sociological research findings concerning intimate relationships and families.
3. Explain how intimate and familial relationships are affected by multiple intersecting inequalities and ongoing events in other social institutions.

SOCI 2250. Sociology of Race and Ethnicity

Course Description

This class will examine race and ethnicity as social constructs, including the history of race and ethnic relations in the United States and how and why these constructs continue to play such important roles in the lives of U.S. peoples today. This course will also explore how other types of social stratification, such as class, gender, nationality, and sexual orientation, intersect with race and ethnicity.

Student Learning Outcomes

1. Describe sociological methods used in researching race and ethnicity.
2. Explain sociological theories that are used to analyze race and ethnicity.
3. Evaluate how immigration, colonization, and social policies have affected racial and ethnic groups.
4. Describe how capitalism and other forms of social stratification, such as class, gender, nationality, disability, and sexual orientation, intersect with race and ethnicity.

SOCI 2255. Race, Class, and Gender

Course Description

An examination of the social bases of inequality and theories that explain the creation of systems and ideologies of subordination. Readings and topics explore the consequences of discrimination against others based on such factors as race, gender, sexual orientation, ethnicity, or appearance.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Explain the historical and ideological bases of prejudice and discrimination
2. Recognize the social behaviors and cognitive process that signal prejudice and discrimination against others
3. based on factors such as race, ethnicity, gender, sexual orientation, and age
4. Analyze the adaptive techniques that groups use to counter prejudice and discrimination
5. Propose individual and group behavioral modifications to alleviate tensions arising from prejudice and discrimination.

SOCI 2260. Sociology of Aging

Course Description

This is an introductory gerontology course for students interested in behavioral, social, or family studies. The course is designed to understand the separate processes of biological, psychological, and social aging and how these aging processes interact with each other and with our environment.

Student Learning Outcomes

Successful completion of the course implies the student will be able to:

1. Understand the foundational basis of the aging process and old age as a state of life as measured by 90% accuracy on a written examination.
2. Understand the impact of aging on society as measured by 90% accuracy on a written examination.

SOCI 2261. Issues in Death and Dying

Course Description

Major personal and social issues related to the process of dying in our culture.

Student Learning Outcomes

After completing this course, the student will:

1. Understand the diversity of the death experience and the various options available in coping with death and bereavement as shown by the student's participation in class discussions and field trips.
2. Better understand death and dying as social phenomena as shown by the student's reaction papers.
3. Have taken an in-depth look at her or his own death with a researched paper. Comprehension will be shown by the student's grade on the paper.

SOCI 2310. Contemporary Social Problems

Course Description

This course studies the nature, scope, and effects of social problems and their solutions. The course will concentrate on sociological perspectives, theories, and key concepts when investigating problems, such as inequality, poverty, racism, alienation, family life, sexuality, gender, urbanization, work, aging, crime, war and terrorism, environmental degradation, and mass media. This course is designed to build students' sociological understanding of how sociological approaches attempt to clarify various issues confronting contemporary life, as well as how sociologists view solutions to these problems.

Student Learning Outcomes

1. Identify and explain major social problems in the United States, and how social problems become constructed as problems.
2. Describe and analyze policy related solutions associated with social problems from various perspectives.
3. Critically examine social problems through the use of sociological theories, methods, and empirical techniques.

4. Identify connections, both national and global, between social problems and social inequalities (e.g., social class, race/ethnicity, and gender/sexuality).

SOCI 2315. The Dynamics of Prejudice

Course Description

This course is designed to help students understand how attitudes and beliefs of individuals shape intergroup relations and their impacts on the daily lives of individuals as well as the effects that these beliefs have on the larger social structure of American society. We will examine how profoundly our society and the groups to which we belong, influence us and our beliefs and ultimately how these beliefs shape prejudice in our society. In this course, students are encouraged to challenge ideologies that are considered "common sense" or that are taken for granted and this in turn will allow them to critically engage issues in society such as racism, classism, sexism, and will leave with an understanding on how privilege affects our views on disability, LGBTQ issues, religion and immigration. Rather than investigating these themes in the abstract, students will identify and unpack how these larger structural issues play integral roles in their everyday lives, interactions, and existence. Ultimately, this course aims to address the social inequalities that exists in our society as a result of prejudice and will challenge students to identify and engage in strategies to work towards changing these aspects of society.

Student Learning Outcomes

At the end of the semester, students will be able to:

1. Identify the sources of attitudes and beliefs of individuals pertaining to various social groups.
2. Understand the meaning of privilege as well as be able to identify and address the different intersections of privileges that are inherent to them on an individual level.
3. Apply theories covered in the course to understand contemporary trends in majority minority relations.
4. Identify the multiple forms of marginalization and oppression that exist in society.
5. Understand the structural nature of these inequalities in U.S. society.
6. Apply course theories in a critical manner to a social theme of their choice.
7. Change at least one habit to reduce prejudice on an individual level.

SOCI 2320. Contemporary Social Issues in Native American Societies

Course Description

This course will examine current issues, conditions, and contexts affecting Native Americans in the U.S. Students will examine the growth of urban indigenous groups and their adjustments to urbanization, as well as the social, economic, and political achievements of the Southwestern Indians. Students will explore current topics connected with life patterns and issues facing Native Americans, such as health, education, poverty, and traditional lifestyles in transition.

Student Learning Outcomes

1. Deepen understanding of contemporary topics in Native American studies pertaining to health, education, poverty, traditional lifestyles in transition, and other areas, such as tribal sovereignty, political activism, and current century policies along with their effects.
2. Recognize how cultural differences in worldviews constructed as Native and non-Native are influencing changes in contemporary Native society.
3. Analyze the concepts presented through coursework to examine how structures and changes in Native society connect to the lives of both Native and non-Native peoples.
4. Communicate understanding of one's own views and the views of others regarding contemporary Native American issues through class discussions, written assignments, and other methods as necessary.
5. Understand the use of Nation building lenses and indigenous research practices in examining contemporary Native American issues.

SOCI 2325. Introduction to Native American Studies

Course Description

This course examines the wide scope of Native American Studies across multiple disciplines and as a standalone academic field. The course explores various concentration areas: Art, Media, Literature, Education, Native Language, Sociocultural Studies, Sovereignty, Leadership, Self-Determination, and Global Indigenous Justice.

Student Learning Outcomes

1. Students will develop a general understanding of the various concentration areas in Native American Studies throughout the United States.
2. Students will identify the contributions of various academic disciplines to Native American Studies.
3. Students will understand the intricacies and intersections of Indigenous scholarship in Native American Studies.
4. Students will articulate the importance of Native American Studies as a stand-alone discipline in academia.
5. Students will be able to connect community issues in both Native and Non-Native America to concepts taught in Native American Studies.

SOCI 2330. Society and Personality

Course Description

From a sociological vantage point, this course will introduce students to the discipline of social psychology, which is the scientific study of how people think about, influence, and relate to one another. Special attention will be given to the applications of social psychological insights. The course will explore the many ways our social environment influences our behavior.

Student Learning Outcomes

The student will be able to:

1. Examine the theories, research and applications of social psychology.
2. Recognize the consequences of social influences on individuals and their understanding of the world.
3. Examine the concept of self as a social agent.
4. Recognize how social psychologists use theory, research and applied methods to help solve social problems.
5. Analyze the processes of group interaction and the effects on human relations, small group dynamics and organizational structure.
6. Relate social psychological principles to everyday happenings.

SOCI 2340. Global Issues

Course Description

Many of the problems we face on a daily basis are global in scope and global in origin. The world is now more interconnected than ever. The things that happen in China or in Saudi Arabia affect us in the United States, just as the things that we do here affect the people in Russia or Egypt. This course offers a sociological perspective on this phenomenon of globalization and explores its origins in the culture of capitalism. To this end, we will examine topics such as consumption, labor, migration and immigration, economic inequality, the natural environment, and health. We will also consider various ways in which these problems can, or cannot, be solved for us and for future generations.

Student Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. Discuss the global expansion of capitalism and its effects on different countries.
2. Recognize interactions among people, governments and corporations around the world.
3. Evaluate the increasing interconnectedness of global culture, politics and economics.
4. Recognize and analyze global dimensions of social issues, problems and networks.
5. Make connections between individuals' lives and global forces.
6. Analyze US issues within a global context.

SOCI 2345. Cultural Diversity

Course Description

The course will aid students in developing the ability to understand, respect, and value diversity and encourage the use of their sociological imaginations to gain a deeper understanding of how culture shapes our social world. Theory and application will be addressed through discussion, readings, and activities.

Student Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. Demonstrate diversity consciousness.
2. Identify the various elements of culture.
3. Develop strategies appropriate for problem-solving in a culturally diverse environment.

SOCI 2410. Introduction to Research Methods

Course Description

This course is a survey of qualitative and quantitative approaches to sociological research. The course provides an overview of the research process, focusing on research design, hypothesis formulation, measurement, and data collection. In this course, students will develop the ability to critically analyze social research, as well as design and execute their own research projects. At the conclusion of this course, students should also have more confidence critically analyzing, writing about, and otherwise discussing research findings they encounter, while also becoming better equipped to comprehend complex social structures and concerns.

Student Learning Outcomes

1. Explain the advantages and disadvantages of qualitative and quantitative approaches to sociological research.
2. Describe the social research process, including research design, hypothesis formulation, measurement, data collection, and analysis.
3. Evaluate and critique published research articles on the basis of methodological strengths and weaknesses.

SOCI 2415. Grant Writing

Course Description

This course brings order and simplicity to the grantsmanship process. It is designed for beginning grant writers concerned with securing funds for non-profit organizations. The class is skills oriented. Students learn to research government funding sources, match project ideas with grantor needs, approach grantors and submit winning proposals. Graded as "Pass/Fail".

Student Learning Outcomes

Not Available

SOCI 2610. Sociology of Health Care Access

Course Description

This course explores factors affecting access to health care in the United States, including socioeconomic, racial, geographic, and legislative issues.

Student Learning Outcomes

Upon completing the course, students will be able to discuss the impact on access to health care of:

1. Socioeconomic factors.
2. Access to insurance.
3. Racial factors.
4. Geographic factors.
5. Current State and Federal legislation.

SOCI 2611. Sociology of Health Care Innovation and Development

Course Description

This course explores the role of united states-based health care research and development on the health care system, including in the United States and globally. Consideration will be given the costs and pricing structures of research,

development, and testing of pharmaceuticals, medical equipment, and best practices, both in the domestic and global markets. The course will also consider the impact of patient laws, efforts to make emerging medication available to critically ill patients, and strategies to facilitate access for patients who lack resources.

Student Learning Outcomes

Upon completion of the course, students will be able to discuss:

1. The role of the United States pharmaceutical industry in the global health care system.
2. The relationships between pharmaceutical industry and health care providers, including the potential for benefits and risks to patients.
3. The impact of media coverage on prescribing patterns
4. The concept and impact of orphan drugs.

SOCI 2612. Sociology of Health Care in Global Context

Course Description

This course places health care in a global context, including ways in which United States resources contribute to global health issues, advantages and disadvantages, including issues of cost and efficacy, of the United States health care system as compared to those utilized in other nations, especially industrialized nations.

Student Learning Outcomes

Upon completion of the course, students will be able to discuss:

1. Contributions that the United States make in the global health care context, including financial, technological, and expertise.
2. How the United States health care delivery compares in cost and efficacy to those of other nations, especially industrialized nations.

SOCI 2992. Sociology Directed Study

Course Description

Varies

Student Learning Outcomes

Varies

SOCI 2993. Sociology Workshop

Course Description

Varies

Student Learning Outcomes

Varies

SOCI 2996. Sociology Topics

Course Description

A course exploring a topic not covered by the standard curriculum but of interest to faculty and students in a particular semester.

Student Learning Outcomes

Varies

SOCI 2998. Sociology Internship

Course Description

Varies

Student Learning Outcomes

Varies

SOCI 2999. Sociology and Criminology Capstone

Course Description
The Capstone class revolves around a central theme of public sociology and criminology. As you put your sociological/criminological perspectives into action, you will have opportunities to reflect on your previous training at CNM and how to best achieve your future education and career goals. You will participate in public sociology/criminology through a community engagement project. The project will allow you to practice and express the sociological perspective you've developed in past semesters. It will also be an opportunity for you to translate academic skills into professional terms that will be useful for whatever realm you enter next. To that end, you will also explore various jobs that sociologists and criminologists pursue, learn about professional networks that may further occupational goals, and prepare materials to use in applying for careers and/or academic programs.
Student Learning Outcomes
The student will be able to:

1. List career fields that employ sociology majors.
2. Develop a completed resume that could be provided to a prospective employer or academic program.
3. Prepare for an interview with a prospective employer or academic program.
4. List their own career goals and how lifelong education fits with those goals.

Soil (SOIL)

SOIL 1110. Fundamentals of Soils
Course Description
Focuses on the management and fertility of soils. Conditions affecting plant growth, nutrition and production will be discussed along with the production and properties of fertilizer material.
Student Learning Outcomes
Upon completion of this course, the student should be able to:

1. Describe the importance of soils.
2. Give basic account of soil chemical and physical properties.
3. Discuss applied aspects of soils, specifically plant and soil relationships.
4. Convey soil science terminology.

SOIL 1120C. Introduction to Soil Regeneration Lecture and Laboratory
Course Description
This course introduces principles and practices of soil regeneration and remediation for degraded or contaminated lands. Topics include soil structure and fertility, organic matter management, erosion control, bioremediation, phytoremediation, and sustainable land reclamation. Students gain practical experience in laboratory and field techniques to assess soil health, implement restoration strategies, and evaluate treatment effectiveness.
Student Learning Outcomes

1. Describe the physical, chemical, and biological properties of soils.
2. Assess soil health and fertility using laboratory and field tests.
3. Apply bioremediation and phytoremediation methods for contaminated soils.
4. Design soil restoration plans for degraded or mined lands.
5. Evaluate the effectiveness of soil regeneration strategies using measurable indicators.
6. Integrated soil regeneration principles into environmental management projects.

SOIL 2110. Introduction to Soil Science
Course Description
An overview of fundamental concepts in soil science and soils as a natural resource. Students will be introduced to the physical, chemical, and biological properties as it relates to soil management in environmental science, conservation, and agronomy.

Student Learning Outcomes
At the end of this course, students will be able to:

1. Understand and use the technical terminology associated with the use and management of soils.
2. Understand the classification of soils and the processes leading to their formation.
3. Identify key physical, chemical, and biological properties of soils.
4. Explain the impact of land use and management decisions as it relates to soil degradation and environmental problems.

SOIL 2110L. Introduction to Soil Science Laboratory
Course Description
Morphological, chemical, physical and biological properties of soil in the laboratory and field.
Student Learning Outcomes

1. Learn techniques for sampling and characterizing soils in the region.
2. Understand how soils are formed and the processes that occur within the soil profile.
3. Gain fundamental knowledge of soil physical, chemical, and biological properties and how each can influence the overall function of a particular soil.
4. Develop critical thinking and analytical skills within laboratory and field settings.
5. Encourage collaboration, inclusiveness and critical thinking.

SOIL 2996. Topics in Soil
Course Description
Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester. No more than 9 credits toward a degree. May be repeated up to 9 credits. Consent of Instructor required.
Student Learning Outcomes
Varies

Spanish (SPAN)

SPAN 1010. Introduction to Spanish
Course Description
Introduction to Spanish is a course for beginners who wish to become familiar with the sound system and conjugation of Spanish verbs. Basic vocabulary will be presented. This course is recommended as a prerequisite for students who have never had Spanish before and wish to enter the regular Spanish program.
Student Learning Outcomes

1. By the end of the semester, the student should be able to use simple greetings and expressions of courtesy in Spanish. (Spoken at a normal pace.)
2. Students should be able to ask and answer questions about ordering food in a restaurant, greet a friend, use vocabulary in the classroom, speak to and about families, use vocabulary as it relates to hotels, and speak about typical activities related to traveling in a foreign country.
3. Students should be able to recognize numbers from 0 – 1000.
4. Students should be able to conjugate simple verbs used in the Spanish language.

SPAN 1110. Spanish I
Course Description
Designed for students with little exposure to Spanish, this course develops basic listening, speaking, reading, and writing skills and basic intercultural competence in interpretive, interpersonal and presentational modes of communication at the Novice Level of proficiency based on ACTFL guidelines. During this course, students perform better and stronger in the Novice-Mid level while some abilities emerge in the Novice High range. This is an introductory course aimed at helping the

student to communicate in Spanish in everyday familiar situations via recognition and production of practiced or memorized words, phrases, and simple sentences.

Student Learning Outcomes

1. Students can communicate on very familiar topics using a variety of words and phrases that they have practiced and memorized.
2. Students can present information about myself and some other very familiar topics using a variety of words, phrases, and memorized expressions.
3. Students can write short messages and notes on familiar topics related to everyday life.
4. Students can often understand words, phrases, and simple sentences related to everyday life.
5. Students can recognize pieces of information and some- times understand the main topic of what is being said.
6. Students can understand familiar words, phrases, and sentences within short and simple texts related to everyday life.
7. Students can sometimes understand the main idea of what they have read.

SPAN 1120. Spanish II

Course Description

Designed for students with some degree of exposure to Spanish in high school and/or at home, this course continues to develop basic listening, speaking, reading, and writing skills and basic intercultural competence in interpretive, interpersonal and presentational modes of communication based at the Novice High Level of proficiency based on ACTFL guidelines, although a few abilities may emerge in the Intermediate Low Level. Students in this course communicate in Spanish in familiar topics using a variety of words, phrases, simple sentences and questions that have been highly practiced and memorized.

Student Learning Outcomes

1. Students can participate in conversations on a number of familiar topics using simple sentences.
2. Students can handle short social interactions in everyday situations by asking and answering simple questions.
3. Students can present basic information on familiar topics using language they have practiced using phrases and simple sentences.
4. Students can write briefly about most familiar topics and present information using a series of simple sentences.
5. Students can understand the main idea in short, simple messages and presentations on familiar topics.
6. Students can understand the main idea of simple conversations that they overhear.
7. Students can understand the main idea of short and simple texts when the topic is familiar.

SPAN 1125. Conversational Spanish I

Course Description

This third-semester Spanish course emphasizes oral communication, idiomatic usage and the development of vocabulary, with a review of basic syntax.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Be able, by learning dialogues, to converse freely in the present and past with pronunciation that closely resembles that of a native speaker.
2. Be more aware of Hispanic culture and civilization.
3. To introduce the student to Spanish language literature in Hispanic America.

SPAN 1125L. Conversational Spanish Laboratory I

Course Description

Independent development of listening skills and supplemental instruction through computer work. Study of culture and instruction in how to deal with travel situations in a foreign country.

Student Learning Outcomes

1. Use listening strategies to understand Spanish spoken in the context of real world situations.
2. Understand the content of authentic text not based on familiar material.
3. Use the Internet to explore topics in which more practice is needed.

SPAN 1126L. Spanish Laboratory

Course Description

A self-paced language lab designed to accelerate, reinforce, and support all levels of Spanish. The course provides an opportunity to practice and strengthen listening, speaking, reading, and writing skills using software, audio and video tapes, and other technologies

Student Learning Outcomes

Demonstrate progress in the following areas:

1. Pronunciation.
2. Vocabulary.
3. Grammatical structure.
4. Reading and listening comprehension skills.
5. Writing and speaking skills.
6. History and culture of the Spanish speaking world.

SPAN 1127. Intensive Spanish

Course Description

An intensive two-week course designed to prepare the beginning or intermediate-level student for travel and study in a Spanish-speaking country. The course addresses basic survival Spanish and cultural literacy for a successful trip.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Use survival Spanish for travel and the instructional classroom.
2. Use the present tense.
3. Identify important differences between United States culture and Spanish-speaking culture.
4. Demonstrate knowledge of cities to be visited and where he or she will study and tour.

SPAN 1210. Spanish for Heritage Learners I

Course Description

This is a beginning-level Spanish course designed for students who have a cultural connection to the Spanish language. Some students have had very little exposure to the language and enter the class to develop beginning-level skills. Other students may have grown up hearing the heritage language in the community and may understand some Spanish and speak at a basic level as a result. The objective is to draw upon the connection to the heritage language as a source of motivation and engagement for our learning communities. At the same time, we build upon the language base that students may already have as a result of their heritage learner experience in order to develop new proficiencies in Spanish and reactivate the Spanish that students have learned previously. By the end of this course, students will be able to describe their home, campus surroundings and common activities including cultural traditions. At the same time, students gain cultural competency and develop a critical understanding of their linguistic and cultural background.

Student Learning Outcomes

1. Interpersonal Communication: Students can engage in exchanges in culturally appropriate ways using understandable pronunciation on familiar topics using contextualized words, phrases, common idiomatic expressions, and simple sentences.
2. Written expression: Students can write an essay/poem/story/creative sketch/lyric in the target language that describes a past/present/future (fictional) event to the reader.

3. Interpretive listening: Students can understand familiar questions and statements from simple sentences in conversations.
4. Interpretive reading: Students can identify the topic and some isolated facts from simple sentences in informational and fictional texts.
5. Critical cultural awareness: Students can recognize and explain some of the issues facing bilingual communities in accordance with the instructor expertise and articulation with subsequent courses.

SPAN 1220. Spanish for Heritage Learners II

Course Description

Spanish as a Heritage Language II is a second semester class designed for students who have developed some basic Spanish proficiency from previous classes and/or from community experiences. This course provides students with the opportunity to develop their proficiency in the four language skills (speaking, listening, reading, and writing). Class activities are designed to strengthen oral communication skills (speaking and listening) through a variety of group activities. By the end of the course students will be able to understand and produce narrations of past events in oral and written Spanish. In order to foster a desire to revitalize and maintain the Spanish language in the US context we attempt to raise students' critical awareness of what it means to be part of a specific speech community.

Student Learning Outcomes

1. Interpersonal Communication: Students can engage in basic but authentic conversations through providing and obtaining information, expressing likes and dislikes, describing their daily lives, and narrating simple events in the past.
2. Written expression: Students can write an essay/poem/story/creative sketch/lyric in the target language, and that describes a past (fictional) event to the reader.
3. Interpretive listening: can identify the main idea in short conversations.
4. Interpretive reading: Students can identify the topic and related information from simple sentences in short informational and fictional texts.
5. Critical cultural awareness: Students can recognize and explain some of the issues facing bilingual communities in accordance with the instructor expertise and articulation with previous and subsequent courses.

SPAN 1224. Beginning Conversational Spanish I

Course Description

For non-native speakers of Spanish, simple conversation, designed primarily to give students extra practice in the oral use of the language.

Student Learning Outcomes

This course is designed to have students:

1. Learn basic vocabulary in Spanish in order to facilitate listening and speaking comprehension.
2. Learn some of the basic verbs, their meanings, their structure and use in the present tense and its various functions: present, historic present, present progressive, and the paraphrastic future.
3. Learn the basic grammatical components of the Spanish language.
4. Learn to speak at a basic level so that a sympathetic native speaker may understand.
5. Learn to listen and comprehend the discourse of a native speaker who works to communicate with a non-native speaker of the Spanish language
6. Learn to read and write Spanish at a basic level

SPAN 1310. Elementary Spanish I for Hotel, Restaurant and Tourism Managers

Course Description

Beginning Spanish for HRTM majors only. Will count towards HRTM degree language requirement. Does not count towards language requirement for other majors.

Student Learning Outcomes
Not Available

SPAN 1410. Spanish for Health Care Professionals
Course Description
This course is designed to develop the student's ability to understand, speak, read and write the Spanish language within a health profession framework because linguistic and cultural knowledge are essential for communication with patients.
Student Learning Outcomes
At the end of this course students will:

1. Demonstrate acquisition of basic communicative skills in the area of listening, speaking, reading, and writing.
2. Comprehend and participate in short conversations in Spanish.
3. Have a working vocabulary which enables to recognize and exchange some information in Spanish.
4. Be able to apply some basic grammar rules in Spanish.

SPAN 1420. Spanish for Health Care Professionals II
Course Description
Designed for students with some prior exposure to Spanish SPAN 1410 or SPAN 1110), this course continues to develop listening, speaking, reading, and writing skills, as well as intercultural competence in healthcare contexts. Instruction targets the novice-high level (ACTFL), with some emerging abilities in the intermediate-low range.

Students expand their ability to communicate in Spanish in common healthcare scenarios, including describing symptoms in more detail, giving simple instructions, discussing medical histories, and interacting with patients and colleagues. Greater emphasis is placed on comprehension, interaction, and culturally appropriate communication in healthcare settings.

Student Learning Outcomes

1. Participate in simple conversations related to healthcare settings using phrases and simple sentences (e.g., patient interviews, basic consultations).
2. Handle short interactions in clinical or service-oriented contexts by asking and answering simple questions.
3. Present basic information about health conditions, treatments, and patient needs using practiced language.
4. Write brief texts related to healthcare topics (e.g., patient notes, instructions, summaries) using a series of simple sentences.
5. Understand the main idea in short, simple-spoken messages and presentations related to healthcare contexts.
6. Understand the main idea of simple conversations between healthcare providers and patients.
7. Understand the main idea of short, simple healthcare-related texts when the topic is familiar (e.g., discharge instructions, informational brochures).

SPAN 1421. Spanish for Medical Personnel I
Course Description
An introductory course in Spanish medical vocabulary and terminology. The course focuses on situations commonly encountered by healthcare professionals, such as routine physical exams, basic laboratory tests, patient interviews, the delivery of a baby, and giving instructions regarding medication and follow-up procedures that patients should understand. Key vocabulary, grammatical structures and proper pronunciation are introduced in the context of a practical medical situation.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:

1. Use basic conversational and medical/health specific vocabulary and phrases.
2. Demonstrate the ability to discuss typical medical forms with Spanish-speaking patients or clients.

3. Integrate basic medical vocabulary in the work setting in order to be able to ask or answer simple questions of a medical nature.
4. Recognize significant cultural characteristics of their Spanish-speaking clientele/patients.
5. Employ Spanish competencies comfortably in the work setting with clients and colleagues.

SPAN 1422. Spanish for Medical Personnel II
Course Description
An advanced beginning level Spanish course aimed at improving the student's medical vocabulary and terminology. The course will further delve into situations commonly encountered by health care professionals as well as discuss the cultural sensitivity issues that exist in Hispanic/Latino societies.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Develop and improve Spanish writing skills in formal and literary styles.
2. Improve the knowledge and use of formal Spanish.
3. Develop and improve the student's knowledge of formal spoken Spanish.
4. Develop and improve grammar structures used in formal Spanish.
5. Extend the use of vocabulary used in formal, oral, and written Spanish.

SPAN 1425. Survival Spanish for the Educational Professional
Course Description
An introductory course in Spanish that introduces the education professional to the sound system/pronunciation, basic vocabulary, idiomatic expression/ and cultural issues of the language. A major goal of the course is the development of effective conversational skills for the educational setting although basic grammar, reading and writing are also addressed.
Student Learning Outcomes
At the conclusion of this course, the student should:
1. Demonstrate basic conversational Spanish with a corresponding vocabulary.
2. Use good pronunciation.
3. Recognize mood, tense, and parts of speech.
4. Perceive grammatical usage impractical conversational situations.

SPAN 1511. Spanish for Human Services
Course Description
An introductory Spanish course for professionals in the human services. The course focuses on pertinent vocabulary for situations commonly encountered by professionals in areas such as social work, counseling, case management, Social Security, Medicare, health services, food stamps, child support, vocational rehabilitation, senior citizen issues and other areas. Basic Spanish pronunciation and grammar are introduced in the context of practical social-services situations.
Student Learning Outcomes
At the conclusion of this course, the student should.be able to:
1. Augment basic vocabulary pertinent to professional roles (Vocabulary Journal).
2. Display increased confidence about pronunciation of Spanish and Spanish sentence structure (Role Play Interview).
3. Identify cultural norms working with Hispanic individuals and families (interview of Hispanic Professional).
4. Translate and explain agency forms and documents (Translation of Agency Form).
5. Display listening comprehension of typical dialogues which take place in a variety of human services agencies (Final Exam).

SPAN 1810. Spanish Abroad I
Course Description

This is a Level l intensive Spanish course. Students will study for a two-week period at a foreign language institute. The course includes approx. 40 hours of study in Spanish grammar, sentence structure and vocabulary development with additional hours of conversational tutoring. Excursions to selected historical and anthropological sites will be arranged through the Institute.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Use basic conversational vocabulary.
2. Demonstrate good pronunciation.
3. Formulate simple questions and requests.
4. Express familiarity with significant places in the foreign country.

SPAN 1816. Culture and Civilization of Spain: An Experiential Study Abroad

Course Description

Culture and Civilization of Spain: An Experiential Study Abroad Course will serve as the academic component of for the College's Study Abroad Program in Spain. The course will provide students participating in the program with an academic framework for their international experience and will connect classroom learning with direct cultural engagement in Spain. The course will support the Study Abroad Program by providing students with opportunities to explore Spanish culture, history, society, traditions, and contemporary life through both academic study and experiential learning. Students will connect course content with their experiences in Spain through cultural activities, observations, interactions with local communities, and reflection. The course will also support the Foreign Languages program by providing students with an immersive educational experience that strengthens their understanding of the cultural contexts of the Spanish-speaking world. While in Spain, students will have opportunities to apply their knowledge outside of the traditional classroom and develop greater cultural awareness and intercultural competence.

Student Learning Outcomes

1. Explain the historical events that have shaped the development of Spain.
2. Analyze Spain's cultural traditions, regional diversity, and contemporary society.
3. Interpret Spanish artistic, literary, architectural, and historical heritage through direct observation and experiential learning.
4. Demonstrate intercultural competence through meaningful engagement with Spanish communities and institutions.
5. Compare Spanish culture with student's own through reflective analysis.
6. Evaluate the impact of international education on their personal, academic, and professional development.

SPAN 1822. Spanish Beginners

Course Description

Beginning level class for students with a minimum background in Spanish. This course takes place in Spain as a study abroad opportunity. Students will develop beginning proficiency in the four skills of listening, speaking, reading and writing of Spanish and will be acquainted with the basic culture and geography of Spanish-speaking countries. This course covers infinitives, negative statements, adjectives, articles, word order, subject pronouns, plurals and present tense verb conjugation. Students will build up knowledge of Spanish vocabulary that can be used in communicative situations pertaining to the cultural and linguistic themes of the units covered in the class.

Spanish SPAN 1822 aims to give the student a command of the four basic skills: understanding, speaking, reading, and writing. Creative expression is encouraged, so that students will communicate in Spanish using authentic language while becoming familiar with the culture of the Spanish-speaking world.

Student Learning Outcomes

1. Students will be able to understand some Spanish spoken at a slower than normal pace, understand some Spanish at a normal pace, and have skills and coping strategies for filling in gaps when comprehension is not perfect. Students will be able to answer and ask questions on a variety of everyday topics, describe people and places, and narrate present and future events. Students will be able to conduct many daily routines in Spanish, such as greeting and leave-taking, telephoning, introducing others, and responding to directions. Students will demonstrate ability to read almost any simple, culturally nonspecific Spanish text and be able to profit from reading materials written for native speakers. Students will demonstrate writing skills that will usually be similar to their speaking skills in terms of ability to describe and narrate in the present tense using vocabulary emphasized during the course.
2. Students will exhibit knowledge of information about the various cultures of the Spanish-speaking world. Students will demonstrate learning strategies, including the use of multi-media technology, that aid in continued Spanish acquisition.
3. Students will demonstrate awareness of ethical themes pertaining to the cultures and history of target countries. Students will develop an understanding and lifelong appreciation for languages, cultures, value systems, educational systems, political systems and leadership systems other than their own.

SPAN 1996. Spanish Topics
Course Description
A course exploring a topic not covered by the standard curriculum but of interest to faculty and students in a particular semester.
Student Learning Outcomes
Varies

SPAN 1997. Spanish Independent Study
Course Description
A course exploring a topic not covered by the standard curriculum but of interest to faculty and students in a particular semester.
Student Learning Outcomes
Varies

SPAN 2088. Spanish Specialty
This course is used to transfer approved courses from other colleges and universities.. (Currently applicable for CNM only for transfer purposes).
Student Learning Outcomes
Varies

SPAN 2110. Spanish III
Course Description
This course is based on the integration of learning outcomes across Interpersonal, Interpretive, and Presentational Modes of Communication at the Intermediate Low Level of proficiency based on ACTFL guidelines. Students accomplish real-world communicative tasks in culturally appropriate ways as they gain familiarity with the target culture(s). This is an intermediate course aimed at helping the student to communicate in Spanish on familiar topics about self, others and everyday life at the same time that they recognize and handle short social interactions in interactions in everyday situations by asking and answering a variety of questions.
Student Learning Outcomes
1. Students can participate in conversations on familiar topics using sentences and series of sentences.
2. Students can handle short social interactions in everyday situations by asking and answering a variety of questions.
3. Students can usually say what they want to say about themselves and their everyday life.
4. Students can make presentations on a wide variety of familiar topics using connected sentences
5. Students can write on a wide variety of familiar topics using connected sentences.

6. Students can understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies.
7. Students can under- stand the main idea in conversations that they overhear.
8. Students can understand the main idea of texts related to everyday life and personal interests or studies.

SPAN 2120. Spanish IV

Course Description

This course is based on the integration of learning outcomes across Interpersonal, Interpretive, and Presentational Modes of Communication at the Intermediate High Level of proficiency based on ACTFL guidelines. Students accomplish real-world communicative tasks in culturally appropriate ways as they gain familiarity with the target culture(s). This is an intermediate course aimed at helping the student to communicate in Spanish on familiar topics about self, others and everyday life at the same time that they recognize and handle short social interactions in interactions in everyday situations by asking and answering a variety of questions.

Student Learning Outcomes

1. Students can participate with ease and confidence in conversations on familiar topics.
2. Students can usually talk about events and experiences in various time frames.
3. Students can usually describe people, places, and things.
4. Students can handle social interactions in everyday situations, sometimes even when there is an unexpected complication.
5. Students can make presentations in a generally organized way on school, work, and community topics, and on topics they have researched.
6. Students can make presentations on some events and experiences in various time frames.
7. Students can write on topics related to school, work, and community in a generally organized way.
8. Students can write some simple paragraphs about events and experiences in various time frames.
9. Students can easily understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies.
10. Students can usually understand a few details of what they overhear in conversations, even when something unexpected is expressed.
11. Students can sometimes follow what they hear about events and experiences in various time frames.
12. Students can easily understand the main idea of texts related to everyday life, personal interests, and studies.
13. Students can sometimes follow stories and descriptions about events and experiences in various time frames.

SPAN 2121. Spanish Grammar and Composition

Course Description

This course is designed to help students with advanced knowledge of Spanish understand and practice the formal structures of the Spanish language. In this course, students will read, study, analyze, and produce different literary styles that will help them expand their knowledge of the Hispanic culture and native Spanish speakers.

Student Learning Outcomes

1. Develop and improve Spanish writing skills in formal and literary style.
2. Improve the knowledge and use of formal Spanish.
3. Develop and improve the student's knowledge of formal spoken Spanish.
4. Develop and improve grammar structures used in formal Spanish.
5. Extend the use of vocabulary used in formal, oral and written Spanish.

SPAN 2123. Conversational Spanish

Course Description

This intermediate-level class helps students develop their conversational capacities in Spanish. The emphasis is primarily on speaking and listening, although the course will also include significant reading and writing components. Classroom activities and course assignments will develop students' capacity to use Spanish in real-life scenarios relating to everyday interactions with friends, family members, acquaintances, and strangers. It will also review vocabulary and grammar from both elementary and intermediate Spanish courses. At the end of this course, students will be able to carry out a broad range of simple conversations and will feel more comfortable listening to and understanding spoken Spanish.

Student Learning Outcomes:

1. Complete a variety of communicative tasks in straightforward social situations relating to everyday conversations between friends, acquaintances, and family members.
2. Engage in conversation in real-life scenarios and contexts, carrying out relatively predictable exchanges related to buying or ordering food; asking for directions and using public transportation; receiving a haircut; obtaining first-aid supplies or medical help; and other tasks related to everyday life in Spanish-speaking communities.
3. Ask and respond to a variety of questions about the past, present, and future to obtain simple information and express personal meaning.
4. Identify basic differences between the Spanish spoken in different parts of Latin America and Spain, including differences in accent, vocabulary, and grammar.

SPAN 2125. Conversational Spanish II

Course Description

A conversational Spanish course designed for the "intermediate" level student. The course provides intensive conversation practice and a review of selected grammar. It emphasizes vocabulary expansion and enhancement.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Use the indicative, the subjunctive and imperative moods accurately.
2. Converse freely with competencies which resemble that of a native speaker.
3. Identify, discuss and write about "issues" presented in reading selections.

SPAN 2125L. Conversational Spanish Lab II

Course Description

A continuation of Spanish Lab I. Independent development of listening skills and supplemental instruction.

Student Learning Outcomes

1. Use listening strategies to further develop understand Spanish relating to global issues and culture.
2. Understand and pronounce words, phrases, and simple sentences related to everyday life.
3. Recognize pieces of information from native speakers online and understand the main topic of what is being said.

SPAN 2130. Introduction to Public Speaking in Spanish

Course Description:

This course aims to help undergraduate students feel more comfortable become more effective "public speakers" and more critical "public receivers" of information in Spanish. The primary focus of the course is the practice of techniques to lessen speaker anxiety and to enhance speaker presentations in public settings with multiple audiences in mind. This course has been designed for undergraduates who speak Spanish as a daily basis with their own families and/or other personal networks in addition/outside educational settings.

Student Learning Outcomes:

1. Identify and describe unique characteristics of informative and persuasive speeches in Spanish following rhetoric principles. OE

2. Design informative and persuasive speeches in Spanish (and/or translanguaging Spanish English) for a specific purpose and audience.
3. Structure informative and persuasive speeches in Spanish using visual and audio artifacts.
4. Engage with diverse audiences and adapt content and style of speech accordingly.
5. Articulate a thesis and a purpose in speeches by means of presenting information and developing persuasion and synthesize information in a logical and organized structure.
6. Explain and analyze conceptual and ethical arguments in public speaking.

SPAN 2204. Spanish Language in Film

Course Description

Explores themes relevant to Spanish-speaking societies through the viewing and analysis of critically acclaimed films and documentaries. Such themes include cultural and/or religious conflict, rural vs. urban and migration issues, changing gender and social roles, marginalized peoples, and globalization.

Student Learning Outcomes

1. Students will be able to articulate the code of ethics for the profession.
2. Students will be able to identify the human rights and social justice goals for language interpretation.

SPAN 2210. Spanish for Heritage Learners III

Course Description

Intermediate Spanish for Heritage Speakers I is a third semester course designed for students who have been raised in a Spanish-speaking environment and speak, or understand, some Spanish as a result of hearing it in the home, and in the community by family, friends, and neighbors. Students in this course will continue to develop their ability to narrate events in the past and will be able to describe hypothetical situations. Students will also develop their ability to express wishes, desires, and necessities. This course will help the student build confidence in their Spanish abilities and expand the language use in the areas of writing, reading, oral production and listening comprehension. To foster a desire to revitalize and maintain the Spanish language we attempt to raise students' critical awareness of wider issues facing Spanish speakers in the US context.

Student Learning Outcomes

1. Interpersonal Communication: Students can exchange information on a wide variety of familiar topics in which the students use appropriate vocabulary to describe their daily lives and narrate events in the past with some degree of ease and confidence.
2. Written expression: Students can write an essay/poem/story/creative sketch/lyric in the target language, and that effectively conveys a series of past (fictional) events to the reader that may include recent and distant past.
3. Interpretive listening: Students can identify the main idea and key information in short straightforward conversations.
4. Interpretive reading: Students can understand the main idea and key information in short straightforward informational and fictional texts.
5. Critical cultural awareness: Students can recognize and explain some of the issues facing bilingual communities in accordance with the instructor expertise and articulation with previous and subsequent courses.

SPAN 2220. Spanish for Heritage Learners IV

Course Description

Intermediate Spanish for Heritage Speakers II is a fourth-semester course designed for students who have been raised in a Spanish-speaking environment and speak, or understand, Spanish as a result of having heard it in the home and in the community. It is also for students with a cultural connection to heritage language speech communities or who have achieved proficiency from study in previous courses. This course will help the student build confidence in their Spanish abilities and

expand the language use in the areas of writing, reading, oral production and listening comprehension. In addition to scaffolding skills that students already have, in this class they will expand their ability to describe abstract and hypothetical situations. Students will write essays, reaction papers, and creative pieces. Students will also examine formal and informal contexts of language use in speaking and writing. By studying the cultural and historical background shared by students as part of the program, students will develop an increased critical awareness of Spanish language speech communities.

Student Learning Outcomes

1. Interpersonal Communication: Students can exchange information on a wide variety of familiar topics in which the students use appropriate vocabulary to describe their daily lives, narrate events in the past, describe future events, and present a simple hypothetical situation with some degree of ease and confidence.
2. Written expression: Students can produce writing in the target language that state their viewpoint about familiar topics and give some reasons to support it, using sentences and series of connected sentences.
3. Interpretive listening: Students can usually understand the main idea and flow of events expressed in various time frames in conversations and discussions.
4. Interpretive reading: Students can usually follow the main message in various time frames in straightforward, and sometimes descriptive, paragraph-length informational and fictional texts.
5. Critical cultural awareness: Students can recognize and explain some of the issues facing bilingual communities in accordance with the instructor expertise and articulation with previous and subsequent courses.

SPAN 2224. Beginning Conversational Spanish II

Course Description

Beginning Conversational Spanish will concentrate on the acquisition of Spanish. In this course students will display a greater understanding of basic elements of the Spanish language. Class will consist of reading, practicing and writing to increase student's proficiency.

Student Learning Outcomes

Not Available

SPAN 2277. The Art and Skill of Translation

Course Description

Introduces the art and profession of translation with a focus on practical translation problems in Spanish. Studies texts from the area of journalism, law, business and literature for translation from Spanish to English and form English to Spanish. This course introduces the art of translation and an overall view of this field. Students will sharpen their insight on linguistic issues, vocabulary and grammatical structures of Spanish and English, and they will develop analytical thinking into the nature of translation. This course will examine basic techniques in translation and will develop student's competence in solving translation problems through practical examples. Throughout the course students will translate numerous texts from Spanish to English and English to Spanish from the fields of: journalism, business, law, computer science and medicine

Student Learning Outcomes

At the end of this course, students will be able to:

1. Produce translations of Spanish-language texts with increased proficiency at an intermediate level.
2. Identify and apply theoretical and practical tools to perform Spanish-English translation at an intermediate level.
3. Distinguish significant kinds of translation problems and develop strategies to solve them.
4. Demonstrate mastery of grammatical structures and lexicon through participation, quizzes and projects and exams.
    a. Students will identify basic syntactic elements (nouns, verbs, adjectives, prepositions etc.), grammatical markers (tenses, modes, and voice etc.) and their use in the target language.
    b. Students will identify cognates, false cognates, idioms and specialized vocabulary.
5. Demonstrate awareness of linguistic (stylistic, social and geographical) variation
6. Discuss the act of translation in an informed manner.

SPAN 2280. Introduction to Hispanic Literature

Course Description

Presents selected readings from literature written in Spanish by Spanish and Spanish-American authors. **Student Learning Outcomes**

Upon completion of the course, students will be able to:

1. Recognize and identify some of the masterpieces of Hispanic letters and their authors.
2. Use the techniques of literary analysis Identify the different currents and cultural movements in which the texts appear
3. Defend literary works as multifaceted texts that, besides being linguistic texts, can be read as cultural, historical, social, philosophical texts.
4. Demonstrate that they can speak and write eloquently about literature.

SPAN 2375. Accelerated Beginning Spanish

Course Description

Combines SPAN 1110 and SPAN 1120 in one term. Recommended for language enthusiasts or those who have had exposure to Spanish either in the home or from previous study. This course is a college-level accelerated introduction to Spanish that promotes language learning in a cultural context. It covers the material of two semesters in one. It is recommended for language enthusiasts or those who have had exposure to Spanish either in the home or from previous studies. This course will develop students' communicative language with clear and comprehensive grammatical coverage by the presentation of functional language, role-play, small group and personalized activities. Students will engage in cross-cultural comparisons in reading, writing, listening and interview activities. Students will make connections among discipline areas with document readings, internet research and interview activities.

Student Learning Outcomes

1. Students can participate in conversations on a number of familiar topics using simple sentences.
2. Students can handle short social interactions in everyday situations by asking and answering simple questions.
3. Students can present basic information on familiar topics using language they have practiced using phrases and simple sentences.
4. Students can write briefly about most familiar topics and present information using a series of simple sentences.
5. Students can understand the main idea in short, simple messages and presentations on familiar topics.
6. Students can understand the main idea of simple conversations that they overhear.
7. Students can understand the main idea of short and simple texts when the topic is familiar.
8. Students can demonstrate connections between beliefs, behaviors and cultural artifacts of the Spanish-speaking world and make informed cross-cultural comparisons to develop their sense of personal and social responsibility.

SPAN 2376. Accelerated Intermediate Spanish

Course Description

Recommended for language enthusiasts or those who have had exposure to Spanish either in the home or from previous study. Designed to meet the need for an accelerated course in Intermediate Spanish, this course covers the material of Spanish 2201 and 2202 in one term. It is recommended for language enthusiasts or those who have had exposure to Spanish either in the home or from previous studies. This course will develop students' communicative language with clear and comprehensive grammatical coverage by the presentation of functional language, role-play, small group and personalized activities. Students will engage in cross-cultural comparisons in reading, writing, listening and interview

activities. Students will make connections among discipline areas with document readings, internet research and interview activities.

Student Learning Outcomes

At the end of this course, students will be able to:

1. Students can participate with ease and confidence in conversations on familiar topics.
2. Students can usually talk about events and experiences in various time frames.
3. Students can usually describe people, places, and things.
4. Students can handle social interactions in everyday situations, sometimes even when there is an unexpected complication.
5. Students can make presentations in a generally organized way on school, work, and community topics, and on topics they have researched.
6. Students can make presentations on some events and experiences in various time frames.
7. Students can write on topics related to school, work, and community in a generally organized way.
8. Students can write some simple paragraphs about events and experiences in various time frames.
9. Students can easily understand the main idea in messages and presentations on a variety of topics related to everyday life and personal interests and studies.
10. Students can usually understand a few details of what they overhear in conversations, even when something unexpected is expressed.
11. Students can demonstrate connections between beliefs, behaviors and cultural artifacts of the Spanish-speaking world and make informed cross-cultural comparisons to develop their sense of personal and social responsibility.

SPAN 2420. Introduction to Medical Spanish

Course Description

This class has been designed, upon special request, specifically for those entering or already practicing in the medical field. The purpose of the class is to have each student become compliant with the Spanish language federal requirement to function better at the bedside with Spanish-speaking patients with little or no English abilities.

Student Learning Outcomes

At the end of this course, students will be able to:

1. Understand the spoken Spanish equivalent of phrases and useful words.
2. Speak basic phrases and words in Spanish for specific tasks in a medical setting.
3. Read Spanish phrases and vocabulary in context and comprehend their meaning.
4. Have a comprehension of the Latino cultural traditions or customs regarding illnesses of the body, mind and spirit (curanderismo) that some patients may have as a belief system.

SPAN 2421. Intermediate Spanish for Medical Personnel

Course Description

An intermediate level Spanish course introducing the principles of interpreting in medical settings. The course will focus on cultural sensitivity issues that exist in Hispanic/Latino societies and the linguistic variations encountered in our area. Emphasis will be placed on interpreting from English to Spanish and from Spanish to English in the medical setting.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Engage in interpretations in Spanish and English focused on discussing patient symptoms, questions, and/or concerns.
2. Recognize and be sensitive to cultural differences that may exist between U.S. and Hispanic/Latino societies.
3. Demonstrate knowledge of "real world" language used in discussing minor and serious illnesses as well as outpatient care and follow-ups.

SPAN 2510. Introduction to Hispanic Literature

Course Description

An introduction to the novels, poetry, short fiction and drama of Spain and Hispanic America. The emphasis is on interpretation with appropriate references to literary history. Lectures, discussion and compositions are in Spanish.

Student Learning Outcomes

At the conclusion of this course, the student will have considered the following questions:

1. What were the linguistic origins of a national "Spanish" literature?
2. What is the Black Legend and what role has it played in defining a Spanish history and literature?
3. What impact did the New World writing/literature have on Spanish literary developments or literary history?
4. How do we select and give meaningful placement to the most important writers, movements, ideas, and works, which have contributed to Hispanic literature?

SPAN 2511. Spanish Through Children's Literature

Course Description

A course for teachers and other students interested in teaching Spanish through children's literature from the Hispanic world including the Southwest. Hispanic history, folklore, and mythology provide much of the material that will be covered.

Student Learning Outcomes

1. To develop aural, oral, reading and writing skills in Spanish.
2. To teach Spanish through Hispanic culture.
3. To integrate oral and written Hispanic literature as sources of storytelling classroom material.

SPAN 2512. Chicano Literature and Expression

Course Description

A course taught in Spanish to present the Chicano experience through literature, journalism, chronicles, film and drama.

Student Learning Outcomes

At the conclusion of this course, the student should:

1. Demonstrate knowledge of the historical events and forces which influenced the writing of the literature treated.
2. Assess and compare the works selected for study in this course.
3. Incorporate Spanish language competencies.
4. Identify and analyze significant elements in Chicano culture (origins and development).

SPAN 2513. Latin American Feminist Expression

Course Description

Through literature, art, film, and journalism students explore the emerging Issues and women's perspectives on their place in Latin American culture. The course surveys the works of historic and contemporary artists, writers and filmmakers of Hispanic America.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Identify the major themes of women writers, journalists, artists and filmmakers of Latin America.
2. Evaluate, discuss and critique the historical context of their works.
3. Prepare written and oral summaries in Spanish of the readings and artistic traditions studied.

SPAN 2514. Southwest Culture through Film

Course Description

This course explores the Hispanic culture of the Southwest as depicted in documentary and popular entertainment films. A discussion of each film is held after viewing.

Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Interpret SW Hispano culture as presented in film.
2. Know the unique cultural traits of Hispano culture in the SW:
3. Identify the important films that portray Hispano culture.

SPAN 2515. Contemporary Latino Film
Course Description
This course explores the Latina/Hispanic culture of Spain, Latin America, and the United States as depicted in documentary and popular entertainment films. A discussion of each film is held prior to and after viewing.
Student Learning Outcomes
1. Interpret contemporary Latino/Hispanic culture as presented in film.
2. Know the cultural traits of Hispanics/Latinos worldwide.
3. Identify the important films, filmmakers, and actors that portray contemporary culture of country/region represented.

SPAN 2520. Short Readings in Hispanic Literature: Immersion
Course Description
This course seeks to familiarize students with the literature, culture and history of Spain. Focus on short stories and/or book segments of prominent Spanish writers allows students to learn the basic elements of the various genres of literature, literary interpretation techniques, and important topics in Hispanic culture.
Student Learning Outcomes
1. Read carefully and discuss stories.
2. Analyze in writing the works reach in the course.
3. Have fundamental knowledge of some of the most prominent authors in Spain.
4. Demonstrate his or her knowledge of history, customs, values, are, language, social iteration, literature, and other cultural aspects of Spain.

SPAN 2521. Short Readings in Hispanic Culture: Immersion
Course Description
This course seeks to familiarize students with the literature, culture and history of Spain. Focus on short stories and/or book segments of prominent Spanish writers all students to learn the basic elements of the various genres of literature, literary interpenetration techniques and important topics of Hispanic literature.
Student Learning Outcomes
1. Explore Spanish Literature and other topics that are fundamental to the identity of those in the Spanish-speaking world.

SPAN 2810. Spanish Abroad II
Course Description
Not Available
Student Learning Outcomes
Not Available

SPAN 2993. Workshop in Spanish
Course Description
Varies
Student Learning Outcomes
Varies

SPAN 2996. Topics in Spanish
Course Description
A course exploring a topic not covered by the standard curriculum but of interest to faculty and students in a particular semester.
Student Learning Outcomes
Varies

SPAN 2998. Spanish Internship
Course Description
Varies
Student Learning Outcomes
Varies

Spanish Language Interpreter (SPLI)

SPLI 1101. Fundamentals of Interpreting
Course Description
This introductory course to the program addresses fundamental philosophical, theoretical, and technical knowledge and skills necessary for the provision of professional cross-cultural linguistic services in the healthcare and legal sectors. The course covers the different aspects of interpreting in the legal and medical fields, including the role of the medical and court interpreter, ethical issues and best practices, research skills and job opportunities. The fundamentals of simultaneous, consecutive and sight interpretation will be introduced with an emphasis on legal and medical vocabulary and grammar.
Student Learning Outcomes
1. Students will acquire a working knowledge of the theoretical and practical framework of translation and interpretation in various contexts.
2. Students will demonstrate increasing fluency in Spanish and English medical and legal terminology.

SPLI 1102. Language Structure and Technologies in Interpretation and Translation
Course Description
This course examines how language works, the nature and structure of language, and aspects of linguistics relevant to the development of competence in the fields of Interpretation and Translation, especially grammatical competence, in English and Spanish. This course covers English and Spanish legal, medical and business translation. It focuses on building upon conceptual knowledge in these specialized contexts as well as language and translation competence in these settings, with the additional intent of guiding students in building their vocabulary in both languages. It introduces students to professional standards of translation practice using authentic materials and contextually meaningful situations.
Students will be introduced to the use of the technological equipment that facilitates the work of the interpreter. Includes computers for transcription/translation, information distribution techniques, file transfer technologies, using the World Wide Web in translation and interpretation, and applied projects.
Student Learning Outcomes
1. Students will demonstrate proper use of receivers and transmitters, as well as any other relevant technologies used in interpretation.
2. Students will read source texts and perform beginning sight translation.
3. Students will create a field-specific vocabulary glossary, utilizing research techniques.

SPLI 1103. Introduction to Medical Interpretation
Course Description

Interpreting in a medical context. Includes interpreting in a medical setting, pronunciation of Spanish and English names and medical terms, Spanish and English medical terminology, bicultural medical communication, and regional dialects.

Student Learning Outcomes

1. Students will demonstrate knowledge of and increasing ease with medical vocabulary in both languages.
2. Students will identify key components of the code of ethics for medical interpretation.
3. Students will recognize primary characteristics of professional venues, including personnel and procedures.

SPLI 1104. Introduction to Legal Interpretation

Course Description

Includes interpreting in a legal setting, knowledge of legal procedure and ancillary issues related to legal terminology in Spanish and English, bicultural legal communication, and regional differences.

Student Learning Outcomes

1. Students will demonstrate knowledge of and increasing ease with legal vocabulary in both languages.
2. Students will identify key components of the code of ethics for legal interpretation.
3. Students will recognize primary characteristics of professional venues, including personnel and procedures.

SPLI 1105. Ethics and Advocacy in the Profession

Course Description

This course provides an overview of human rights and social-justice goals for the provision of equal access and the role that language policies, translation and interpreting services for limited and non-English speaking populations play in attaining those goals. Additionally, this class emphasizes the standards of ethics and best practices in medical, court and community interpreting and translation. This class will also examine how interpreters can practice self-care when providing service to people experiencing trauma.

Student Learning Outcomes

1. Students will be able to articulate the code of ethics for the profession.
2. Students will be able to identify the human rights and social justice goals for language interpretation.

SPLI 1106. Beginning Simultaneous Interpretation

Course Description

This course begins the in-depth study of simultaneous interpretation (continued in Advanced Simultaneous Interpretation). Its focus is to build upon conceptual knowledge in the legal, medical, and business contexts as well as language and interpreting competence. Students are introduced to professional, nationally accepted standards of practice and performance using authentic materials and contextually meaningful situations.

Student Learning Outcomes

1. Student will begin to render messages into target language simultaneously with increasing accuracy and consistency.
2. Students will demonstrate knowledge of acquired notetaking, listening, and rendering skills.

SPLI 1107. Beginning Consecutive Interpretation

Course Description

This course begins the in-depth study of the theory and practice of consecutive interpretation and sight translation (continued in Advanced Consecutive Interpretation). It reviews legal and medical concepts and covers policy and law relevant to interpreter practice, theory, skill development, and special issues in legal, medical, and business settings using authentic materials and contextually meaningful situations.

Student Learning Outcomes

1. Student will begin to render messages into target language consecutively with increasing accuracy and consistency.
2. Students will demonstrate knowledge of acquired notetaking, listening, and rendering skills.

SPLI 2190. Community Practicum

Course Description

Community practicum is essential to skill building and preparation for certification exams. Students may carry out practicum in last term or over two terms for one-credit hour each.

Student Learning Outcomes

1. Students will apply the knowledge and skills necessary for medical and/or legal interpretation in the field.

SPLI 2206. Advanced Simultaneous Interpretation

Course Description

This course continues the in-depth study (begun in Beginning Simultaneous Interpretation) of simultaneous interpretation. Its focus is building conceptual knowledge in the legal, medical, and business settings as well as advancing language and interpreting proficiency. Students will review professional standards of practice and performance using authentic materials and contextually meaningful situations. Focus is on intensive skill development.

Student Learning Outcomes

1. Student will demonstrate increasing ability to render messages into target language simultaneously with advanced accuracy and consistency.
2. Students will demonstrate advanced knowledge of acquired notetaking, listening, and rendering skills.
3. Students will apply code of ethics consistently in practice.

SPLI 2207. Advanced Consecutive Interpretation

Course Description

This course continues the in-depth study of the theory and practice of consecutive interpretation and sight translation. It focuses on a review of complex legal and medical concepts; policy and law relevant to interpreter practice; theory; skill development; and special issues in interpretation in the legal, medical, and business settings. Focus is on intensive skill development.

Student Learning Outcomes

1. Student will demonstrate increasing ability to render messages into target language consecutively with advanced accuracy and consistency.
2. Students will demonstrate advanced knowledge of acquired notetaking, listening, and rendering skills.
3. Students will apply code of ethics consistently in practice.

Special Education (SPED)

SPED 2110. Introduction to Students with Exceptionalities

Course Description

This course is an introduction to special education with information regarding characteristics of individuals with exceptionalities, special education terminology, evidence-based instructional strategies, diversity of students with exceptional needs, relationships between personal and cultural perspectives, and legal policies pertaining to exceptional students' rights.

Student Learning Outcomes

1. Demonstrate familiarity with categories of exceptionalities and related accommodations and instructional methods appropriate for various exceptionalities.
2. Identify major laws, regulations, and responsibilities of schools related to special education.
3. Explain the components of Individualized Educational Plans (IEPs) and related roles of teachers, school specialists, students, and their families.

4. Identify the roles and resources of family, school, and community to serve exceptional students.
5. Participate in field experiences that include observations and interaction with special education students and school programs.
6. State the definition of each disability category covered by Individuals with Disabilities Education Act (IDEA).
7. Create lesson plans that demonstrate an understanding of differentiated instruction.

SPED 2120. Introduction to Special Education
Course Description
For paraprofessional students who will be working with a teacher in a Special Education classroom. This class will provide an overview of characteristics of children with special needs, legal issues, framework of effective instruction and a variety of practical teaching and learning strategies that are relevant to the tasks and academic demands required in inclusive classrooms.
Student Learning Outcomes
Not Available

SPED 2130. Culture, Learning and Academic Achievement in a Diverse Society
Course Description
Development of culturally responsive learning strategies, skills and utilization of support services, to enhance academic achievement.
Student Learning Outcomes
Not Available

SPED 2210. Education of the Exceptional Person
Course Description
This course is an introduction to special education with information regarding characteristics of individuals. A survey of the characteristics and educational needs of exceptional children. Includes definition, etiology, characteristics and various educational alternatives for each of the exceptionalities. Students will explore:

- the historical and legal basis for special education services for students with disabilities.
- the exceptionality categories included in the federal Individuals with Disabilities Act (IDEA 2004) and NM State laws.
- the basic responsibilities of educators and school systems to students with exceptional needs including documentation and IEP participation.
- the importance of, and strategies for, collaboration with families, students, and other professionals
- research-based strategies for differentiating instruction and planning for students with exceptional needs.

Student Learning Outcomes
1. Define and describe the roles and responsibilities of special educators regarding the six principles of IDEA & related law (e.g., FERPA, NCLB).
2. Become familiar with Universal Design for Learning (UDL) and its application in planning for academic success.
3. Explain special education procedural safeguards in parent-friendly language and answer relevant questions in an approachable way.
4. Model professional ethics and advocacy in a variety of presented scenarios.
5. Identify ways to collaborate with educational staff and families for academic success of students regardless of perceived abilities.
6. Construct a resource guide that: describes the exceptionality categories included in IDEA and NM State Law; provides information on how eligibility is determined for each category; describes general characteristics of each category and applicable teaching considerations; and provides high quality free or low-cost evidence-based teaching resources applicable to each category.

SPED 2220. Exploring Disability, Diversity, and Practice Across Learning Environments
Course Description
Field experience and seminar in special education settings. Need to check past applications vs. UNM description
Student Learning Outcomes

1. Develop an understanding of how special education services are implemented in the field.
2. Understand that students with disabilities are entitled to be full participants in education and other life activities along with their nondisabled peers.
3. Become familiar with and incorporate "people first" language into any discussions or writings about people with disabilities.
4. Recognize that the educational environment in which services are provided can have a lasting and significant impact on the lives of students with disabilities.
5. Identify the role and responsibility of teachers to meet the needs of students in the least restrictive environment (LRE).

SPED 2258. Classroom Behavior and Management for SPED
Course Description
This course is designed to prepare both future special education teachers with knowledge and skills to effectively manage and promote prosocial skills of students who present challenging behaviors. The course is structured around several theoretical underpinnings: (1) behavior is purposeful and fulfills a function; (2) behavior and environment affect each other reciprocally, (3) behavior can be predicted and managed based on principles of applied behavior analysis; and (4) self-management can be promoted through an understanding of various theories of human behavior including social learning, cognitive, and ecological theories.
STUDENT LEARNING OUTCOMES Upon successful completion of the course, the student will be able to…

1. Know the basic tenants for effectively managing children's behavior. 3
2. Identify impediments to managing children's behavior. 3
3. Describe different theoretical models for understanding human behavior. 3
4. Identify basic principles of behavior modification. 3
5. Analyze methods for conducting a functional assessment of challenging behavior. 3
6. Describe methods for counting and graphing behavior. 3
7. Describe techniques for increasing appropriate behavior. 3
8. Explain non-aversive techniques for reducing inappropriate behavior. 3
9. Explain techniques for teaching children self-management. 3, 8
10. Study preventative approaches as an antecedent for behavior problems. 3

SPED 2996. Topics in Special Education
Course Description
Offered under various subtitles that indicate the subject matter to be covered
Student Learning Outcomes
Varies

Speech & Hearing Science (SPHS)

SPHS 2110. Introduction to Communication Disorders
Course Description
This introductory course provides an overview of common speech, language, and hearing disorders in children and adults including etiologies, characteristics, prevention, identification, assessment and intervention. The course provides an overview of the field of speech-language pathology and audiology.

Student Learning Outcomes

1. Describe normal human communication anatomy and processes as they relate to speech and language production.
2. Describe the nature of speech, language, and hearing disorders and differences.
3. Describe the principles of prevention, assessment and intervention of communication disorders.
4. List requirements for licensure, certification, and other relevant professional credentials.
5. Exhibit basic knowledge of contemporary professional issues in speech-language pathology.
6. List possible psychosocial implications of various communication disorders.
7. Identify cultural, educational, legal, and ethical issues related to communication disorders.
8. Describe the scope of practice of speech-language pathologists and audiologists.

SPHS 2120. Language Development

Course Description

This course focuses on typical language development in children from infancy through school-age. It addresses science and theories of learning language, behavioral manifestations of learning language (milestones, skills), environmental influences, and preliminary language measurement approaches. Students have the opportunity to acquire skills including analysis, synthesis, and evaluation of typical language development, considering the child's age, culture, and other developmental accomplishments.

Student Learning Outcomes

1. Describe the development of the language sub-systems: phonology, semantics, morphology, syntax, and pragmatics.
2. Describe biological, cognitive, social aspects of language development.
3. Evaluate the current methods for studying language development and critically evaluate their contributions to our understanding of how children learn language.
4. Compare and contrast current theories of language development in relation to the available data and to each other.
5. Apply basic observational methods to draw conclusions about a child's level of language knowledge.

Sports Medicine (SPMD)

SPMD 1110. Introduction to Athletic Training

Course Description

Introduction to the principles of athletic training.

Student Learning Outcomes

1. Understand the historical development of athletic training and sports medicine.
2. Understand the knowledge and experiences needed to become a Certified Athletic Trainer.
3. Understand the specific responsibilities and duties of an athletic trainer.
4. Understand the diverse jobs settings within the profession of athletic training.
5. Understand the relationship between the athletic trainer and the sports medicine team.
6. Understand some of the general and specific injuries and medical conditions that occur in athletics, their causes, signs and symptoms, treatments, rehabilitation, and prevention.
7. Understand some of the contemporary issues and problems facing the athletic training profession.

SPMD 1120. Medical Terminology

Course Description

Study of the structure of medical language with emphasis on sports medicine-related terminology. To include analysis and interpretation of medical documentation.

Student Learning Outcomes

1. Master the fundamentals of word analysis, including the separation of terms into word roots or combining forms, common prefixes, and suffixes.
2. Differentiate types of medical terms and the relationships among terms.

3. Develop a proficiency in the use of physiological and anatomical terms as reflected in medical documents.
4. Master the terms, words, phrases, and symbols that describe the human body in its various states of health and disease, including essential anatomical terms.

SPMD 1190. Clinical Practicum I

Course Description

Introduction to the clinical aspects of the athletic training education program. Must maintain at least 3.0 GPA.

Student Learning Outcomes

1. The Athletic Training Program application procedures.
2. The ability to perform selected taping and wrapping techniques.
3. Knowledge of HIPAA guidelines, pre-participation physical examinations, environmental illnesses, the history of Athletic Training and its governing bodies, Evidence Based Practice and its implications in the field of athletic training, evaluation procedures for the injured athlete, NMSU AT program and its affiliated clinical sites.
4. Proper documentation for the athletic training environment including SOAP notes.

SPMD 1195. Clinical Practicum II

Course Description

Athletic training related content and psycho-motor skills are introduced, enhanced, and assessed in the classroom and clinical rotations. Emphasis is on competencies and proficiencies previously instructed in didactic courses while providing increased depth of understanding and clinical practice. Must maintain a 3.0 GPA.

Student Learning Outcomes

1. Demonstrate knowledge and skill in emergency situation prevention, recognition, and management.
2. Demonstrate proficiency in basic skills of musculoskeletal injury recognition and management.
3. Demonstrate competency in basic pre-participation exam skills, including but not limited to taking vital signs.
4. Demonstrate competency in wound care and first aid.

SPMD 1310. Introduction to Kinesiology

Course Description

An introduction to the field of Kinesiology which will explore areas such as exercise physiology, sport and exercise psychology, motor behavior, biomechanics, strength and conditioning, exercise prescription, as well as professional and graduate programs, and allied health and applied careers opportunities.

Student Learning Outcomes

1. Students will investigate various career paths in exercise science.
2. Students will search academic materials to better understand current research.
3. Students will compare and contrast the various disciplines within kinesiology.
4. Students will explore the public health benefits of exercise.
5. Students will document the historical impact of exercise science as a field.

SPMD 1350. Social Foundations of Physical Activity

Course Description

Historical and cultural foundations and vocational, scientific, and educational data on careers in health education, physical education, and recreation.

Student Learning Outcomes

1. Improve students' knowledge of foundations of physical education. (Research) (Standard 4 j, k, l, m, o, p)
2. Improve students’ abilities to analyze current physical activity issues based on historical, philosophical, sociological, and psychological perspectives. (Research) (Standard 4 l, m, e, g)

3. Improve students' knowledge of and ability to critically analyze how gender, race, social class, sexual orientation, and ability issues affect physical education and performance programs. (Research, Diversity) (Standard 4j, k, l, m, o; Standard 2 d, g, j, f, k)
4. Improve students' knowledge of forces influencing the development of physical education programs. In particular, attitudes, values, and beliefs about gender, race, social class, sexual orientation, and ability, etc. (Diversity, Practitioners, Reflection, Pedagogy) (Standard 1 a, b, h, I; Standard 4 j, k, l, m, o; Standard 2 a, d, g, j, f, k)
5. Improve students' knowledge of strategies for becoming an advocate in the school and/or community to promote a variety of physical activity opportunities. (Practitioners) (Standard 2 m, n; Standard 3 n, o, p, q, r; Standard 10 d, j, p
6. Improve students' knowledge of current educational issues and trends. In particular, socio-cultural issues that affect educational, fitness, and sports settings. (Diversity, Research) (Standard 4 j, k, l, m,o, p Standard 9 a, c, e, f m, n)
7. Improve students' knowledge of how students' learning is influenced by individual experiences, talents, and prior learning, including language and family/community values and conditions. (Diversity, Research) (Standard 1 b, h, I; Standard 2 d, g, j, k, m, n, o; Standard 3 l)
8. Improve students' knowledge of the impact of international changes on the content of physical education, fitness, and sports programs. (Research) (Standard 4 j, k, l, m, o, p)
9. Improve students' ability to critically analyze how gender, race, sexuality and social class issues affect how we view the body, and how these views can affect students' health and participation in physical education, fitness, and sports programs. (Diversity, Reflection) (Standard 2 d, g, j, f, k, m, o)
10. improve students' ability to become critically aware of how their feelings, beliefs, and values in relation to gender, race, social class, sexual orientation, and ability issues will affect their abilities to work as professionals in the fields of physical education, sport, or fitness. (Diversity, Reflection) (Standard 2-D, g, j, f, k, m, o Standard 9 e, d, g, I, m)
11. Improve students' knowledge of and ability to critically analyze cultural stereotypes of diverse populations of people. (Diversity) (Standard 2 d, g, j, f, k, m, o)
12. Improve students' knowledge of how cultural stereotypes influence the development of physical education, fitness and sport programs. (Research, Diversity) (Standard 2 d, g, j, f, k, m, o; Standard 4 j, k, m, o, p, q Standard 8 p)
13. Improve students' knowledge of how groups influence individuals, and how individuals influence groups in a democratic society. (Diversity) (Standard 2 d, g, j, f, k, m, o; Standard 4 m, p;)
14. Improve students' abilities to communicate in ways that demonstrate sensitivity to all learners. (Diversity, Effectiveness) (Standard 1 d, h, I; Standard 2 d, g, j, f, k, m, o)
15. Students will demonstrate through writing the ability to apply the issues discussed in class to their specific fields in ways that benefit society. (Evaluation) (Standard 9 e, g, I, m)
16. Students will improve their ability to take the content from readings and present it in thought provoking ways to their classmates. (Research, Evaluation, Reflection) (Standard 9 e, g, I, m; Standard 10 a, d, h, n)
17. Writing proficiency is required for a passing grade in this course. (Standard 4 l)
18. Improve students' abilities to use computers and other technologies to communicate, network, and/or foster inquiry. (Standard 10 g)
19. Consult professional literature, colleagues, and other resources to develop as a professional. (Standard 10 e, f, h, I, n, r)

SPMD 2130. Emergency Response in Sports Medicine

Course Description

Designed to provide knowledge and experience in emergency care procedures, blood borne pathogens, and first aid. Students will receive certification in CPR/AED for the Professional Rescuer and in First Aid, upon successful completion of course.

Student Learning Outcomes

1. Identify the individuals involved in the Emergency Response Team.
2. Construct the components of an effective emergency Action Plan.

3. Assess the scene and patient during an emergency situation.
4. Demonstrate proper universal precautions and wound care.
5. Demonstrate effective Cardiopulmonary Resuscitation, & AED use.
6. Demonstrate effective Rescue Breathing & Airway Management techniques.
7. Demonstrate effective splinting techniques.
8. Demonstrate understanding of the techniques utilized in cervical stabilization.
9. Identify components of acute care for general medical and orthopedic emergencies.

SPMD 2210. Anatomy & Physiology I

Course Description

Detailed study of the structure and function of the human musculoskeletal, cardiovascular, respiratory, and peripheral nervous systems. Designed specifically for students interested in allied health professions.

Student Learning Outcomes:

The student will gain an understanding (awareness) through hands on learning (practitioner) covering the following:

1. The student will learn and identify bones, connective tissue, joints and muscular structures of the human body.
2. The student will study joints and associated structures of the body.
3. The student will learn about skeletal muscle, origins, insertions, and actions.
4. The student will learn about the fundamentals of the nervous system and associated structures.
5. The student will learn about smooth and cardiac muscle and their association actions.
6. The student will learn the structures associated with the cardiovascular system (heart and blood vessels).
7. The student will learn the location of all visceral organs.
8. Evaluation of knowledge is determined through practical identification of anatomical structures via written opened ended exams.

SPMD 2210L. Anatomy & Physiology Laboratory

Course Description

Students will engage in activities designed to enhance appreciation of the anatomical structures related to the content areas for SPMD 2210.

Student Learning Outcomes

The student will gain an understanding (awareness) through hands on learning (practitioner) covering the following:

1. The student will learn and identify bones, connective tissue, joints and muscular structures of the human body.
2. The student will study joints and associated structures of the body.
3. The student will learn about skeletal muscle, origins, insertions, and actions.
4. The student will learn about the fundamentals of the nervous system and associated structures.
5. The student will learn about smooth and cardiac muscle and their association actions.
6. The student will learn the structures associated with the cardiovascular system (heart and blood vessels).
7. The student will learn the location of all visceral organs.
8. Evaluation of knowledge is determined through practical identification of anatomical structures via written opened ended exams.

SPMD 2225. Anatomy and Physiology II

Course Description

This course is the second of two that serve as an introduction to human anatomy and physiology for any student interested in allied health and/or kinesiology. The course entails describing, explaining, and analyzing structure and function from the submicroscopic to the organismal level with emphasis on specific cellular, tissue, and organ structure and physiology, and organ system structure and function; specifically the endocrine, urinary, digestive, integumentary, renal, central nervous,

and reproductive systems. Additionally, an analysis of these concepts is included: fluid and electrolyte balance, pregnancy, growth and development from zygote to newborn, and heredity.

Student Learning Outcomes

1. Identify and describe the major anatomical features of the endocrine, lymphatic, digestive, integumentary, renal, urinary, and reproductive systems.
2. Analyze the physiological roles of the endocrine, lymphatic, digestive, urinary, central nervous, immune, and reproductive systems in maintaining homeostasis in the human body.
3. Explain how fluid and electrolyte balance is maintained in the human body.
4. Compare and contrast the anatomy and physiology of male and female reproductive systems.
5. Describe pregnancy from conception to parturition including human growth and development from zygote to newborn.
6. Explain heredity and genetic control.

SPMD 2225L. Anatomy and Physiology II Laboratory

Course Description

This is the second in a series of two laboratory courses designed to introduce laboratory practices and techniques for human anatomy and physiology, from the basic cell structure through the organ system level; specifically the endocrine, digestive, lymphatic, respiratory, urinary, and reproductive systems.

Student Learning Outcomes

1. Apply the scientific method correctly.
2. Collect, analyze, and interpret scientific data.
3. Use laboratory equipment correctly and safely.
4. Identify the anatomical components of human tissues, organs, and organ systems using models, diagrams, illustrations, or cadaver specimens.
5. Describe the functional characteristics of human tissues, organs, and organ systems using models, diagrams, illustrations, or cadaver specimens.
6. Analyze the physiological processes of the endocrine, lymphatic, respiratory, digestive, urinary, and reproductive systems.
7. Analyze the physiological processes of fluid and electrolyte balance and acid base balance in the human body.
8. Analyze heredity and genetic control.

SPMD 2250. Fitness for Health and Sport

Course Description

A study of the fitness needs for health enhancement and sport participation.

Student Learning Outcomes

1. Recognize the importance of incorporating positive fitness/wellness habits within one's lifestyle in terms of enhancing longevity, disease prevention, and overall quality of life.
2. Examine various physiological benefits and adaptations to such factors as muscular strength, muscular endurance, cardiovascular fitness, flexibility, and body composition when certain stimuli are applied to each. Assessment of these characteristics will be witnessed primarily in practical experiences within the course's laboratory settings.
3. Identify current trends and/or health patterns within society in regards to scientific findings, declination in health habits, and increases in health ailments.
4. Compare various nutritional concepts, specifically proper dietary habits and their impact on weight management aspects.
5. Describe the role physical activity and sport specific training play on competitive athletic performance.

SPMD 2310. Career Preparation

Course Description

From concept to implementation: Career exploration, setting up degree plans, finding graduate programs, developing professional resumes, writing letters of application, seeking letters of recommendation, and interview preparation

Student Learning Outcomes

The student will explore, learn, implement and apply:

1. Career opportunities within human movement and allied health fields.
2. Chose both a primary and secondary career of their interest.
3. Search for appropriate graduate schools to match their career choices.
4. Create a plan by aligning their undergraduate curriculum with their career choices.
5. Explore additional education (dual majors, minors, and certifications specific to their chosen field).
6. Study and create a professional resume.
7. Create a curriculum vita as a historical reference for future job prospects.
8. Write a professional letter of application for jobs and school applications.
9. Learn how to seek “outstanding’ letters of recommendation.
10. Study appropriate interview protocol.
11. Interviews (one on one, panel and group).

Sterile Processing Tech (STPT)

STPT 1100. Basics of Sterile Processing

Course Description

Course provides instruction on Sterile Processing Technician roles and responsibilities, anatomy & physiology, microbiology, infection control, decontamination, medical terminology, sterilization, sterile storage, preparation packaging & instrumentation, and inventory control.

Student Learning Outcomes

1. Explain the basic structures and functions of the body systems.
2. Interpret and apply medical terminology and anatomical terms as the relate to equipment.
3. Recognize and apply basic principles of infection control/microbiology.
4. Cite the importance of quality control. List the agencies involved with the development of standards and their application to sterile processing.

STPT 1100L. Sterile Processing Laboratory

Course Description

Provides opportunity to practice skills and competencies developed in the classroom. Includes processing, maintaining, and dispensing instruments, supplies, and equipment in an operating room or central supply department.

Student Learning Outcomes

1. Demonstrate the use of sterilization process monitors, including termperature and frequency of appropriate chemical indicators and bacterial spore tests for all sterilizers.
2. List the processes and steps of decontamination.
3. List the assembly and packaging systems and discuss their advantages and disadvantages.
4. List the processess and steps of sterilization.
5. Cite the importance of quality control.
6. List the means of preventing safety hazards.
7. List the agencies involved witht he development of standards and their application to sterile processing.

8. Identify and classify basic surgical instrumentation.

Structural Integration (Massage) (SHIN)

SHIN 2200. Structural Integration Principles I

Course Description

This foundational course introduces the key concepts that will be taught throughout the program, namely, the five principles of structural integration: holism, adaptability, support, resonance and integration.

Student Learning Outcomes

1. Apply their knowledge of a specific SI principle, adaptability, to themselves.
2. Apply basic principles of structural integration in embodiment exercises and summarize their experience verbally in group.
3. Assess the interdependent principles of structural integration with a practice client (fellow student) and write down specific modalities of treatment.

SHIN 2201. Structural Integration Principles II

Course Description

The introduction of the five principles of structural integration: holism, adaptability, support, resonance and integration, and how to apply them to the first three sessions with a client, from macro to micro applications.

Student Learning Outcomes

1. Demonstrate their knowledge of a specific SI principle, adaptability, by applying it directly to another student while observed by the instructor.
2. Apply assessment of adaptability with a practice client and be observed by faculty.
3. Assess the interdependent principles of structural integration with a practice client and write down specific modalities of treatment to be reviewed by faculty.

SHIN 2202. Structural Integration Principles III

Course Description

This course will focus on introducing the principles of structural integration holism, adaptability, support, resonance and integration vital for sessions four through six, at both the micro and macro level.

Student Learning Outcomes

1. Apply their knowledge of a specific SI principle, support, to themselves in movement and write a summary of experience to be reviewed by the instructor.
2. Apply basic principles of structural integration in embodiment exercises and summarize their experience verbally in group.
3. Assess the interdependent principles of structural integration with a practice client (fellow student) and write down specific modalities of treatment.

SHIN 2203. Structural Integration Principles IV

Course Description

This course will focus on introducing the principles of structural integration pertinent to sessions seven through ten, laying the groundwork for the next three courses.

Student Learning Outcomes

1. Apply their knowledge of support and adaptability, principles of structural integration, to a practice client and write a summary of treatment to be reviewed by the instructor.
2. Describe how support and adaptability are implemented in a session verbally in group.
3. Assess the interdependent principles of structural integration with a practice client (fellow student) and write down specific modalities of treatment.

SHIN 2204. Structural Integration Principles V

Course Description

This course will focus on session ten in the lineage of the 10 series by Dr. Ida Rolf. Students will apply the principles of structural integration--holism, adaptability, support, resonance and integration.

Student Learning Outcomes

1. Demonstrate their knowledge of a specific SI principle, holism and resonance, by applying it directly to another student while observed by the instructor.
2. Apply assessment of holism and resonance with a practice client and observed by faculty.
3. Assess the interdependent principles of structural integration with a practice client and write down specific modalities of treatment to be reviewed by faculty.

SHIN 2210. Integration and Practice Session I

Course Description

This course will cover assessment of a client/model, anatomy specific to session one, and the application of the overarching theme of adaptability from the lineage of the 10 series by Dr. Ida Rolf.

Student Learning Outcomes

1. Demonstrate their knowledge of a specific SI principle, adaptability, by applying it directly to another student and observed by the instructor.
2. Apply assessment of adaptability with a practice client and observed by faculty.
3. Assess the interdependent principles of structural integration with a practice client and write down specific modalities of treatment to be reviewed by faculty.

SHIN 2220. Integration and Practice Session II

Course Description

This course will focus on session two in the lineage of the 10 series by Dr. Ida Rolf, covering the assessment of a client/model, anatomy and the application of the overarching theme of support.

Student Learning Outcomes

1. Demonstrate their knowledge of a specific SI principle, support, by applying it directly to another student while observed by the instructor.
2. Apply assessment of support with a practice client and observed by faculty.
3. Assess the interdependent principles of structural integration with a practice client and write down specific modalities of treatment to be reviewed by faculty.

SHIN 2230. Integration and Practice Session III

Course Description

This course will focus on session three in the lineage of the 10 series by Dr. Ida Rolf, covering the assessment of a client/model, anatomy and the application of the overarching theme of resonance.

Student Learning Outcomes

1. Demonstrate their knowledge of a specific SI principle, resonance, by applying it directly to another student while observed by the instructor.
2. Apply assessment of resonance with a practice client and observed by faculty.
3. Assess the interdependent principles of structural integration with a practice client and write down specific modalities of treatment to be reviewed by faculty.

SHIN 2240. Integration and Practice Session IV

Course Description

This course will focus on session four in the lineage of the 10 series by Dr. Ida Rolf, covering the assessment of a client/model, specific anatomy and the application of the overarching theme of support.

Student Learning Outcomes

1. Demonstrate their knowledge of a specific SI principle, support, by applying it directly to another student while observed by the instructor.
2. Apply assessment of support with a practice client and observed by faculty.
3. Assess the interdependent principles of structural integration with a practice client and write down specific modalities of treatment to be reviewed by faculty.

SHIN 2250. Integration and Practice Session V

Course Description

This course will focus on session five in the lineage of the 10 series by Dr. Ida Rolf, covering the assessment of a client/model, specific anatomy and the application of the overarching theme of support and adaptability.

Student Learning Outcomes

1. Demonstrate their knowledge of a specific SI principle, support and adaptability, by applying it directly to another student while observed by the instructor.
2. Apply assessment of support and adaptability with a practice client and observed by faculty.
3. Assess the interdependent principles of structural integration with a practice client and write down specific modalities of treatment to be reviewed by faculty.

SHIN 2260. Integration and Practice Session VI

Course Description

This course will focus on session six in the lineage of the 10 series by Dr. Ida Rolf, and apply the principles of structural integration: holism, adaptability, support, resonance and integration, from a macro to micro application.

Student Learning Outcomes

1. Demonstrate their knowledge of a specific SI principle, support and resonance, by applying it directly to another student while observed by the instructor.
2. Apply assessment of support and resonance with a practice client and observed by faculty.
3. Assess the interdependent principles of structural integration with a practice client and write down specific modalities of treatment to be reviewed by faculty.

SHIN 2270. Integration and Practice Session VII

Course Description

This course will focus on session seven in the lineage of the 10 series by Dr. Ida Rolf. Students will learn how to apply the principles of structural integration: holism, adaptability, support, resonance and integration.

Student Learning Outcomes

1. Demonstrate their knowledge of a specific SI principle, support and adaptability, by applying it directly to another student while observed by the instructor.
2. Apply assessment of support and adaptability with a practice client and observed by faculty.
3. Assess the interdependent principles of structural integration with a practice client and write down specific modalities of treatment to be reviewed by faculty.

SHIN 2280. Integration and Practice Session VIII

Course Description

This course will focus on session eight in the lineage of the 10 series by Dr. Ida Rolf. Students will learn how to apply the principles of structural integration: holism, adaptability, support, resonance and integration.

Student Learning Outcomes

1. Demonstrate their knowledge of a specific SI principle, adaptability, by applying it directly to another student and observed by the instructor.
2. Apply assessment of adaptability with a practice client and observed by faculty.
3. Assess the interdependent principles of structural integration with a practice client and write down specific modalities of treatment to be reviewed by faculty.

SHIN 2290. Integration and Practice Session IX

Course Description

This course will focus on session nine in the lineage of the 10 series by Dr. Ida Rolf. Students will learn how to apply the principles of structural integration: holism, adaptability, support, resonance and integration.

Student Learning Outcomes

1. Demonstrate their knowledge of a specific principle, adaptability, of structural integration by applying it directly to another student and observed by the instructor.
2. Apply assessment of adaptability with a practice client and observed by faculty.
3. Assess the interdependent principles of structural integration with a practice client and write down specific modalities of treatment to be reviewed by faculty.

SHIN 2300. Structural Integration Advanced Training I

Course Description

This course continues to develop concepts in structural integration with a principals-basedapproach to seeing holism, adaptability, support, resonance and integration. This course will teach how to palpate and treat neurovascular relationships and tissues in the client's body. The neurovascular approach will be integrated with the domes of lift and diaphragms of the body—feet, pelvic, respiratory, thoracic inlet and tentorium. Students will learn through didactic lecture, experiential movement and dyad partnering.

Student Learning Outcomes:

1. Students will apply their knowledge of a specific neurovascular SI technique in treatment within the dyads.
2. Students will apply the treatment to the five diaphragms.
3. Students will assess the interdependent principles of structural integration with a practice client (fellow student) and write down specific modalities of treatment.

SHIN 2310. Structural Integration Advanced Training II

Course Description

This course continues to develop concepts in structural integration with a principals-based approach to seeing holism, adaptability, support, resonance and integration. This course will focus on embodiment and movement paradigms in advance series work in structural integration. Specifically developing advanced forms of movement that support breath, gait patterning, tracking and how one embodies the concepts of structural integration to support clients. Students will learn through didactic lecture, experiential movement, and dyad partnering.

Student Learning Outcomes:

1. Students will apply their knowledge of a specific movement SI technique in treatment within the dyads.
2. Students will apply the embodiment exploration to themselves.
3. Students will assess the interdependent principles of structural integration with a practice client (fellow student) and write down specific modalities of treatment.

SHIN 2996. Structural Integration Topics

Course Description

Varies

Student Learning Outcomes

Varies

Supply Chain Management (SCMT)

SCMT 1110. Fundamentals in Supply Chain Management.

Course Description

This course provides an overview of the basic theoretical concepts and principles of supply chain management. Students will learn the role of supply chain management in business operations, as well as the components of supply chain management at all levels of business; large and small. The course will also cover the importance of technology in managing the supply chain, and strategies for managing supply chain risks and disruptions as well as the concept of globalization in regard to supply chain management.

Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Understand the role of supply chain management in business operations. [Traits 1 & 3]
2. Recognize the terminology used in supply chain management. [Traits 1, 2, 3, & 4]
3. Understand different supply chain models. [Traits 1, 3, & 4]
4. Obtain an understanding of the key components of supply chain management, including procurement, transportation, inventory management, sustainability, and distribution. [Traits 1, 2, & 3]
5. Obtain an understanding of the impact of technology on supply chain management. [Traits 1, 3, & 4]
6. Understand the term, globalization, its relationship to supply chain management. [Traits 2, & 4]

Surgical First Assistant (SUFA)

SUFA 2230. Surgical Anatomy

Course Description

Course prepares student for the advanced detail of surgical anatomy, physiology. Includes a review of the common function and structures of the human body including the surface anatomy. Other topics include relevant medical terminology, pathophysiology, etiology, disease, chemistry, microbiology, physics, and the technological sciences and congenital anomalies commonly encountered during surgical related interventions. In addition, pathology classification, cellular injury, types of necrosis, inflammation, types of injury, nutritional and metabolic pathologies, immunological disorders, neoplastic disorders, circulatory pathologies, hemodynamic management, and pain management will be included.

Student Learning Outcomes

1. Demonstrate detailed knowledge of human anatomy, emphasizing structures and systems pertinent to surgical practice, including but not limited to the cardiovascular, musculoskeletal, nervous, and gastrointestinal systems.
2. Analyze anatomical variations and their potential impact on surgical procedures, patient outcomes, and complication management.
3. Integrate anatomical knowledge with clinical scenarios to inform surgical decision-making and enhance operative planning.
4. Utilize anatomical landmarks to accurately identify and navigate to target tissues or organs during simulated surgical procedures.
5. Apply anatomical principles to execute fundamental surgical techniques, such as incisions, dissections, and closures, with precision and safety.
6. Demonstrate the ability to maintain the integrity of vital structures while assisting in complex surgical interventions.
7. Assess and respond to anatomical challenges encountered during surgery, such as unexpected variations or pathological findings, by adapting surgical approaches accordingly.
8. Collaborate effectively with the surgical team to anticipate and address potential anatomical complications during procedures.
9. Engage in self-directed learning to stay abreast of advancements in surgical anatomy and related technologies.
10. Reflect on surgical experiences to identify areas for improvement and implement strategies to enhance anatomical knowledge and surgical skills.

SUFA 2232. Surgical Assisting Business Practice

Course Description

This course is designed to introduce students to the business practice of Surgical Assisting. Course examines ethics in business including business models, marketing, the use of liability coverage, maintaining medical records and case information. This course also addresses surgical case selection for the Surgical Assistant, Informed consent, CPT and ICD-10 codes, submission of medical claims and proper documentation, including the use of software and billing companies.

Student Learning Outcomes

1. Explain the reimbursement process for surgical assistants, including private insurance, Medicare, and Medicaid guidelines.
2. Accurately apply CPT, ICD-10, and HCPCS codes relevant to surgical assisting services.
3. Differentiate between in-network and out-of-network billing practices for surgical assistants.
4. Identify federal and state regulations governing surgical assisting billing, including Stark Law, Anti-Kickback Statute, and HIPAA.
5. Describe the role of compliance programs and audits in a surgical assisting business.
6. Discuss ethical considerations and legal responsibilities in documentation and claim submission.
7. Develop a business plan for an independent surgical assisting practice.
8. Compare different employment models, including independent contractor, employed surgical assistant, and locum tenens.
9. Evaluate surgical assisting contracts, including fee schedules, non-compete clauses, and liability considerations.
10. Outline the revenue cycle for a surgical assistant, from patient encounter to reimbursement.
11. Analyze financial reports and key performance indicators to assess practice profitability.
12. Implement strategies for claim denials, appeals, and collections.
13. Develop strategies for networking and establishing relationships with surgeons and healthcare facilities.
14. Utilize digital marketing and branding techniques to promote a surgical assisting business.

15. Discuss continuing education and certification requirements for professional growth.

SUFA 2233. The Art of Teamwork in Surgery

Course Description

This course will introduce student to the principles of Human Factors science as applied to the system of care, teaching them about the skills needed to function effectively and safely in teams in a modern surgical environment. The course will cover the background psychology of interpersonal interactions and the evidence from other industries on the barriers to safe and effective team communication and cooperation. Students will develop their teamwork and communication skills, explore the principles of hierarchy and power distance, personal styles and coping strategies, situational awareness, secure communications loops, use of checklists and standard operating procedures, how to deal with team dysfunction, leadership, follower-ship, effective briefing and debriefing, models of risk and error in health care, and the principles of risk minimization in systems involving humans.

Student Learning Outcomes

1. Effective Communication in the OR – Demonstrate clear and concise verbal and nonverbal communication strategies to enhance collaboration among surgical team members.
2. Interdisciplinary Collaboration – Analyze the roles and responsibilities of surgical team members, including surgeons, first assists, nurses, anesthesiologists, and technicians, to foster a cohesive working environment.
3. Conflict Resolution and Professionalism – Apply conflict resolution techniques to address challenges in the surgical setting while maintaining professionalism and patient-centered care.
4. Decision-Making and Critical Thinking – Utilize critical thinking skills to anticipate the needs of the surgical team and respond effectively to intraoperative situations.
5. Situational Awareness and Adaptability – Demonstrate situational awareness by recognizing potential complications or inefficiencies and adjusting teamwork dynamics accordingly.
6. Leadership and Followership in Surgery – Explore the balance between leadership and followership in surgical teamwork and how each role contributes to patient safety and surgical success.
7. Cultural Competency and Diversity in the OR – Recognize the impact of cultural, generational, and professional diversity on surgical team dynamics and implement inclusive communication practices.
8. Error Prevention and Patient Safety – Apply teamwork principles to reduce surgical errors, enhance procedural efficiency, and contribute to a culture of safety.
9. Application of Human Relations Theories – Integrate principles from Effective Human Relations to enhance interpersonal effectiveness and strengthen teamwork in the surgical environment.
10. Compliance with Ethical and Legal Standards – Adhere to ethical, legal, and institutional policies that guide teamwork and collaboration in surgery.

SUFA 2234. Principles of Surgical Assisting

Course Description

Course provides an in-depth study of the Surgical First Assistant role including history, professional, legal, moral, and ethical responsibilities. Review of healthcare facility information, documentation, and risk management. Topics include instrument usage, trocar/incisions, tissue handling, dissection, exposure, hemostasis, retraction, suturing, wound healing, tissue replacement materials, irrigation, specimen care, catheter/drain placement, surgical hazard management, IV fluid/auto-transfusion techniques, medication administration, and wound management. Patient care skills include interview/history techniques, physical assessment, diagnostic exams, planning, patient education, patient monitoring, and perioperative patient care skills. Application of principles includes: the technological sciences, infection control, sterile technique,

disinfection and sterilization and problem solving regarding the prevention and treatment of potential complications or emergencies.

Student Learning Outcomes

1. Apply principles of sterile technique and infection control to maintain a safe surgical environment.
2. Differentiate between the roles and responsibilities of the surgical assistant, surgeon, scrub tech, and circulator in various surgical procedures.
3. Utilize proper techniques for tissue retraction, manipulation, and exposure to optimize surgical field visibility and minimize trauma.
4. Assist in achieving and maintaining hemostasis using appropriate methods, including suturing, electrocautery, and hemostatic agents.
5. Perform basic and advanced suturing, knot tying, and stapling techniques in accordance with procedural requirements.
6. Assist in wound closure, including selection of appropriate suture materials and techniques for optimal healing.
7. Integrate anatomical and physiological knowledge to anticipate surgical needs and improve patient outcomes.
8. Identify and use surgical instruments, retractors, and devices correctly to facilitate efficient surgical procedures.
9. Collaborate with the surgical team to enhance efficiency, patient safety, and procedural success.
10. Recognize and respond to surgical complications, instrument malfunctions, or unexpected intraoperative events.
11. Assist in proper patient positioning to prevent complications and ensure optimal surgical exposure.
12. Adhere to professional, ethical, and legal guidelines governing the role of a surgical assistant.

SUFA 2235L. Surgical Simulation Laboratory

Course Description

Course introduces student to instrumentation usage and identification, completion of core mock surgical procedures to facilitate the student's ability to anticipate the steps of the procedure and permits the evaluation of the student's performance regarding the critical elements of the surgical First Assistant responsibilities.

Student Learning Outcomes

1. Apply principles of surgical asepsis, including gowning, gloving, and sterile field maintenance, to simulate real-world surgical scenarios.
2. Identify, handle, and use surgical instruments and devices appropriately in a simulated operative environment.
3. Practice and refine suturing, knot-tying, and tissue approximation techniques commonly used in various surgical procedures.
4. Correlate anatomical structures with surgical procedures to enhance decision-making and precision in simulated operations.
5. Utilize closed-loop communication, anticipate the surgeon’s needs, and function effectively within a surgical team.
6. Recognize and respond to potential surgical complications, such as bleeding control and tissue handling challenges, within a simulation setting.
7. Demonstrate standardized surgical procedures, safety guidelines, and best practices.
8. Develop and refine motor skills essential for surgical assistance, including laparoscopic and open surgical techniques.
9. Assess personal and peer performance using self-reflection, feedback, and simulation-based metrics for continuous improvement.
10. Demonstrate professionalism, accountability, and ethical decision-making in all aspects of the simulated surgical environment.

SUFA 2244. Pharmacology and Anesthesia

Course Description

This course is designed to introduce students to most commonly used pharmacological agents utilized for surgical patients in each phase of the perioperative experience and those utilized in the treatment of complications and emergencies. Emphasis is placed on preoperative medications, anesthetics and medications utilized within the sterile field stressing identification, preparation, measurements, management within the sterile field, handling/transfer, and usage. Other topics include pain management, airway and respiratory management, IV fluid and electrolyte replacement therapy, and a comparison of the types of anesthesia, physiological effects, complications and treatment.

Student Learning Outcomes

1. Explain the principles of pharmacokinetics and pharmacodynamics as they relate to surgical and anesthetic agents.
2. Identify the mechanisms of action, indications, contraindications, and potential side effects of commonly used perioperative medications.
3. Compare and contrast the pharmacological profiles of general, regional, and local anesthetic agents.
4. Describe the physiological effects of anesthetic agents on major organ systems.
5. Recognize signs of anesthesia-related complications and appropriate intervention strategies.
6. Evaluate different classes of analgesics, including opioids, NSAIDs, and adjunctive pain management strategies.
7. Discuss multimodal analgesia and its role in enhanced recovery after surgery (ERAS) protocols.
8. Assess patient-specific factors influencing pain management choices.
9. Identify commonly used reversal agents for anesthesia-related complications, including opioid and neuromuscular blockade reversal.
10. Describe pharmacologic interventions for managing perioperative emergencies such as malignant hyperthermia and anaphylaxis.
11. Apply principles of medication safety, including proper Labeling, handling, and administration of perioperative drugs.
12. Explain the role of the surgical first assist in medication management and collaboration with anesthesia providers.
13. Demonstrate adherence to regulatory guidelines and institutional protocols for perioperative pharmacology.

SUFA 2245. Surgical Procedures I

Course Description

Course is designed to prepare students for surgical procedures including the review of surgical anatomy, physiology, pathophysiology, relevant equipment, supplies, and techniques regarding general surgery, endoscopic surgery, gynecological and obstetrical surgery, genitourinary surgery, and otorhinolaryngological surgery (ear, nose and throat), diagnostic procedures and relevant equipment, supplies, and techniques.

Student Learning Outcomes

1. Describe the phases of surgery, including preoperative, intraoperative, and postoperative considerations.
2. Explain the principles of aseptic technique and infection control in the surgical setting.
3. Identify the roles and responsibilities of the surgical first assistant in various procedures.
4. Correlate surgical procedures with relevant anatomical structures and physiological functions.
5. Discuss common pathological conditions that require surgical intervention.
6. Demonstrate knowledge of wound healing, tissue handling, and hemostasis.
7. Identify and describe the use of basic surgical instruments, sutures, and stapling devices.
8. Explain the principles of electrosurgery, laser surgery, and minimally invasive surgical techniques.
9. Demonstrate proper handling and passing of surgical instruments.

10. Outline the key procedural steps for common general surgical procedures, such as appendectomy, cholecystectomy, and hernia repair.
11. Explain the indications, contraindications, and potential complications of these procedures.
12. Assist in positioning, prepping, and draping the patient for various surgical procedures.
13 Identify risk factors for surgical complications and strategies to prevent them.
14 .Apply patient safety measures, including correct site verification and adherence to surgical checklists.
15. Discuss the principles of anesthesia management and its impact on surgical procedures.
16. Demonstrate effective communication and teamwork skills within the surgical team.
17. Recognize the importance of collaboration with surgeons, anesthesiologists, nurses, and other healthcare professionals.
18. Apply ethical and legal considerations in surgical patient care.

SUFA 2246. Surgical Procedures II

Course Description

Course is designed to prepare students for specialty surgical procedures including the review of surgical anatomy, physiology, pathophysiology, relevant equipment, supplies, and techniques regarding ophthalmic surgery, orthopedic surgery plastic and reconstructive surgery, maxillary/mandibular surgery, oral surgery, neurosurgery, cardio thoracic surgery, peripheral vascular surgery, trauma and surgery for all ages.

Student Learning Outcomes

1. Describe the procedural steps, indications, contraindications, and potential complications for complex general surgical procedures.
2. Demonstrate an understanding of open versus laparoscopic techniques for procedures such as bowel resections, gastrectomy, and splenectomy.
3. Explain the key steps and considerations for cardiovascular and thoracic procedures, including coronary artery bypass grafting (CABG), valve repair/replacement, and lung resections.
4. Identify surgical interventions for vascular conditions, including aneurysm repair, carotid endarterectomy, and arterial bypass procedures.
5. Describe the indications, procedural steps, and postoperative considerations for common orthopedic procedures, including joint arthroplasty, fracture fixation, and spinal surgeries.
6. Discuss neurosurgical procedures, including craniotomy, spinal decompression, and shunt placement, with emphasis on neurological monitoring and patient positioning.
7. Outline surgical procedures related to the female reproductive system, including hysterectomy, oophorectomy, and cesarean section.
8. Discuss minimally invasive gynecologic techniques, such as laparoscopic myomectomy and hysteroscopy.
9. Explain key procedures related to the urinary system, including nephrectomy, prostatectomy, and cystectomy.
10. Identify indications and techniques for minimally invasive approaches, including transurethral resection of the prostate (TURP) and robotic-assisted urologic surgeries.
11. Describe surgical procedures for the ear, nose, and throat, including tonsillectomy, laryngectomy, and sinus surgery.
12. Explain ophthalmic procedures such as cataract extraction and retinal detachment repair.
13. Identify key steps in maxillofacial surgeries, including mandibular fracture repair and orthognathic procedures.
14. Discuss the principles of reconstructive surgery, including flap procedures, skin grafting, and breast reconstruction.
15. Explain cosmetic surgical techniques, including abdominoplasty, liposuction, and rhinoplasty.
16. Recognize patient-specific considerations, such as comorbidities and anatomical variations, that impact surgical planning and execution.

17. Demonstrate knowledge of intraoperative complications and strategies for prevention and management across various surgical specialties.

SUFA 2250. Surgical First Assistant Clinicals

Course Description

This is a combined clinical course designed to prepare students for preoperative, intra-operative, and postoperative surgical procedure experiences. Preconference and case preparation prepares students to gain experiences in the role of the scrub, assistant circulator, and second assistant. Performance evaluation includes surgical techniques, sterile technique, medication administration, prevention of wrong site surgery, prevention of foreign body retention, safe work practices, work attitudes, professional ethics, legal requirements, reporting, documentation, and efficiency in the work arena. Students gain hands-on experience in the application of surgical techniques under the supervision of their preceptor and surgeon for the case. The current edition of the Core Curriculum determines depth of coverage, role performance,and case completion requirements for graduation for Surgical Technologists as published by theAssociation of Surgical Technologists.

Student Learning Outcomes

1. Demonstrate proficiency in reviewing and interpreting patient surgical records, including patient history, test results, and diagnostic imaging.
2. Coordinate with the surgical team to confirm the functionality and placement of all necessary equipment and supplies.
3. Accurately communicate the surgeon's preferences regarding suture requirements, specialty tools, and patient positioning to the surgical team.
4. Assist in preoperative patient care tasks, including catheterization, skin preparation, and positioning, tailored to the surgeon’s requirements.
5. Confirm the avaiLaboratoryility and correct placement of all diagnostic materials, including X-rays and MRIs, within the operating room.
6. Assist with patient draping and provide intraoperative updates on the surgeon's preferences.
7. Execute specific technical skills such as local anesthesia injection, incision dissection, or placement of trocars as part of the procedure entry.
8. Apply knowledge of anatomical and pathological variations to respond appropriately to surgical events, enhancing patient safety.
9. Facilitate operative site visibility by performing tasks such as retraction, knot tying, suctioning, and managing hemostasis tools and agents effectively.
10. Participate in postoperative tasks, including dressing application, splinting, immobilization, and patient transfer to recovery areas.
11. Ensure wound care readiness by assisting with the insertion of drains or wound closure as required by the procedure.

Surgical Technology (SURG)

SURG 1110 Introduction to Surgical Technology I

Course Description

Includes scope of practice, technologist role, medical ethics and medical terminology, basic principles of aseptic technique and anatomy and physiology applied to surgical procedures.

Student Learning Outcomes

1. Verbalize of the role of each team member in the surgical environment.
2. Define the meaning of surgical consciousness.

3. Describe the design of the operating room related to function.
4. Apply the principles of microbiology to sterilization, disinfection, sterility, and infection control.
5. Apply the scientific principles of aseptic technique.
6. Describe the scope of practice of the surgical technologist in the operating room.
7. Describe the use of accessory supplies and their pertinence to specific procedures.
8. Define the mechanisms of wound healing and classification of surgical procedure.
9. Correlate the principles of pharmacology in Labeling and using medication during surgical procedures.
10. Demonstrate knowledge of medical terminology.
11. Discuss the reasons for patient fear and anxiety in the adult and pediatric patient.
12. Identify the basic components of a computer system.
13. Demonstrate the operation of a computer utilizing word-processing, Internet browser, and e-mail software.
14. Define electricity and identify components of an electrosurgical system.
15. Demonstrate comprehension and application of appropriate principles of physics as related to tasks performed by the surgical technologist.
16. Recognize the purpose of minimally invasive surgery.
17. List the four basic types of surgical robots.
18. Follow directions as it applies in the classroom.
19. Demonstrate knowledge of medical terminology.
20. Discuss the reasons for patient fear and anxiety in the adult and pediatric patient.
21. Identify the basic components of a computer system.
22. Demonstrate the operation of a computer utilizing word-processing, Internet browser, and e-mail software.
23. Define electricity and identify components of an electrosurgical system.
24. Demonstrate comprehension and application of appropriate principles of physics as related to tasks performed by the surgical technologist.
25. Recognize the purpose of minimally invasive surgery.
26. List the four basic types of surgical robots.
27. Follow directions as it applies in the classroom.

SURG 1110L. Introduction to Surgical Technology I Laboratory

Course Description

Provides opportunity to practice clinical skills and competencies developed in the classroom. Includes surgical technique,setting up the sterile field, scrubbing, gowning and glovingand standards of practice. Infection prevention and control will be covered plus care of the surgical patient.

Student Learning Outcomes

1. Verbalize of the role of each team member in the surgical environment.
2. Define the meaning of surgical consciousness.
3. Apply the principles of microbiology to sterilization, disinfection, sterility, and infection control.
4. Apply the scientific principles of aseptic technique.
5. Describe the scope of practice of the surgical technologist in the operating room.
6. Describe the use of accessory supplies and their pertinence to specific procedures.
7. Demonstrate knowledge of medical terminology.
8. Demonstrate the properly technique of donning OR attire and PPEs.
9. Demonstrate techniques of opening and preparing supplies and instruments needed for any operative procedure with the maintenance of sterile technique at all times.

10. Demonstrate the proper techniques for the surgical hand scrub, gowning and gloving, and assisting of team members.
11. Demonstrate the proper technique for preparing supplies and instruments on the sterile field.
12. Demonstrate and explain in detail the procedure for counting instruments, sponges, needles, and other items on the sterile field.
13. Demonstrate the initial steps for starting a procedure.
14. Demonstrate intra-operative handling of sterile equipment and supplies.
15. Follow directions as it applies in Laboratory.

SURG 1110C. Introduction to Surgical Technology Lecture nd Laboratory I

Course Description

Students will learn tasks and responsibilities of the surgical technologist. They will learn the practice of sterile technique. They will learn surgical scrub, gown and glove, patient positioning, draping and surgical prep on patients. They will know the practice of standard precautions in the O.R. When they are finished with this class they will know how to set-up cases, open sterile supplies, perform counts, and pass instruments. They will do some pracThis introductory course provides students with a broad overview of the responsibilities of a surgical technologist and the operating room environment. Emphasis is placed on developing fundamental skills necessary for success in the Surgical Technology Program.

Students will learn the basics of sterile technique, including surgical scrubbing, gowning, gloving, patient positioning, draping, and surgical site preparation. They will also gain an understanding of standard precautions in the operating room and develop foundational skills in setting up surgical cases, opening sterile supplies, performing counts, and passing instruments.

Hands-on Laboratory activities and a practicum component will reinforce classroom instruction, allowing students to apply their skills in a structured learning environment. This course is designed to prepare students for next level of the Surgical Technology Program and provide them with the essential knowledge and skills required for further trainingticum to compliment this course. Acceptance into the Surgical Technology Program.

Student Learning Outcomes

1. Define the Role of a Surgical Technologist: Define the basic responsibilities and duties of a surgical technologist in the operating room environment.
2. Verbalize Sterile Technique Procedures: Verbalize the essential steps of surgical scrubbing, gowning, and gloving, highlighting their importance in maintaining a sterile environment.
3. Apply Basic Patient Positioning and Draping Techniques: Apply basic patient positioning and draping techniques, following guidelines to ensure comfort and safety in the operating room.
4. Describe Surgical Site Preparation: Describe the steps for preparing the surgical site, emphasizing sterile procedures to reduce the risk of infection.
5. Demonstrate Standard Precautions: Demonstrate a basic understanding of standard precautions and infection control practices to maintain a sterile operating room environment.
6. Identify Surgical Case Set-Up Steps: Identify the basic steps involved in setting up a surgical case, including organizing sterile instruments and supplies.
7. Demonstrate Basic Surgical Counts: Demonstrate the basic procedure for performing surgical counts, including instruments, sponges, and needles, under supervision.
8. Pass Instruments in a Controlled Setting: Pass instruments to the instructor/surgeon in a basic, controlled manner, practicing proper technique during Laboratory exercises.
9. Participate in Hands-On Laboratory Activities: Participate in hands-on Laboratory exercises to practice fundamental skills such as sterile technique and surgical setup in a structured

environment.

10. Describe the Pathway to Advanced Surgical Technology Training: Describe the skills and knowledge necessary to advance to the next level of the Surgical Technology Program.

SURG 1111. Introduction to Surgical Technology

Course Description

This course is designed to give the student a broad overview of the responsibilities of the Surgical Technologist and the operating room environment. This will prepare the student for entrance into the Surgical Technology program.

Student Learning Outcomes

1. Discuss the history of the operating room and the team who work in this environment.
2. Apply medical terminology as related to the operating room.
3. Apply the principles of microbiology to acheive infection control in the healthcare environment.
4. Explain the difference between medical and surgical asepsis.
5. Discuss the reason for specific operating room design and the surgical equipment found in the the operating room.
6. Identify safety concerns for both the patient and the staff in the operating room.
7. Explain the importance of treating every patient with dignity and compassion.
8. Discuss various procedures performed in the operating room.
9. Identify emergencies that can occur in the operating room and the different roles in such emergencies.
10. Describe tasks performed in the instrument room.

SURG 1150. Surgical Procedures I

Course Description

This course is an introduction to surgical procedures and its related pathologies. Emphasis on surgical procedures related to general, obstetrics/gynecology, genitourinary, otorhinolaryngology and orthopedic surgical specialties incorporating instruments and equipment. It is designed to prepare students to function actively in the surgical environment with entry-level knowledge of surgical procedures. This course expands the foundation principles and combines the study of common surgical procedures to include anatomy, physiology and pathophysiology. Specific patient care concepts, medications, instrumentation, equipment, supplies and complications related to selected surgical procedures will be discussed.

Student Learning Outcomes

1. Identify the physical, interpersonal, legal and ethical aspects of the perioperative environment.
2. Distinguish between varied job roles and duties of surgical personnel and their responsibilities
3. Identify, evaluate, and perform patient care concepts.

SURG 1155. Pharmacology for Surgical Technology

Course Description

This is an orientation to surgical pharmacology and anesthesia and is designed to prepare the student to enter the surgical environment with knowledge necessary to categorize the classification of drugs, calculate drug dosages and identify the therapeutic use, routes of administration, indications, contraindications and adverse effects of pharmacologic agents used in the perioperative setting. This course is the foundation for the acquisition of program specific competencies as identified by the AST Core Curriculum.

Student Learning Outcomes

1. Discuss basic concepts of surgical pharmacology and anesthesia.
2. Analyze principles of anesthesia administration and explain the necessity of each component of anesthesia preparation of the surgical patient.

3. Compare and contrast methods, agents and techniques of anesthesia administration and preparation.
4. Correlate anesthesia monitoring devices with patient homeostasis.
5. Explain anesthesia complications and interventions.
6. Calculate medication conversions and dosages.
7. Apply general terminology to medication use.
8. Prepare and manage medications and solutions.
9. Identify medications in the care of the surgical patient.

SURG 1160. Surgical Procedures II

Course Description

This is an introduction to surgical procedures and related pathologies. Emphasis on surgical procedures related to thoracic, peripheral vascular, plastic/reconstructive, ophthalmology, cardiac and neurological surgical specialties incorporating instruments. The course is designed to prepare the student to continue to function actively in the surgical environment with entry-level knowledge of more complex surgical procedures. This course expands the basic foundation principles and combines the study of complex surgical procedures to include anatomy, physiology, and pathophysiology. Specific patient care concepts, medications, instrumentation, equipment, supplies, and complications related to specific surgical procedures will be discussed. Realities of clinical practice and concepts of death and dying will also be discussed

Student Learning Outcomes

1. Demonstrate principles and practices of aseptic/sterile techniques.
2. Relate pathophysiology to the noted surgical interventions.
3. Analyze the relationship between cell pathology and disease.
4. Examine hemodynamic disorders, inflammation and infection.
5. Compare and contrast the various surgical pathologies of each of the following body systems.

SURG 1210. Surgical Technology II

Course Description

This second-level course builds upon foundational surgical technology concepts by introducing students to specialized instrumentation, surgical procedures, with more advanced clinical skills. Students will explore the use of electrocautery and laser technology, the care and handling of endoscopic instruments, and the selection of appropriate instruments for various surgical procedures. Instruction will also cover commonly used Laboratory and radiologic tests essential to the surgical setting.

Emphasis will be placed on surgical instrumentation and procedural considerations for abdominal and laparoscopic surgeries, urology, and setups for ear, nose, throat, and eye procedures. Additionally, students will gain an introduction to surgical specialties, including general surgery, obstetrics and gynecology, ophthalmic surgery, otorhinolaryngologic surgery, oral and maxillofacial surgery, and plastic and reconstructive surgery. Relevant anatomy, procedural history, and special patient considerations will be discussed for each specialty.

Student Learning Outcomes

1. Verbalize the principles of electrocautery and laser technology, including their indications, safety precautions, and applications in surgical procedures.
2. Define the functions, classifications, and proper handling techniques of endoscopic instruments used in minimally invasive procedures.
3. Describe the selection and use of surgical instruments specific to abdominal, Minimally invasive, as well as ear, nose, throat, and eye procedures. + General, GYN, oral maxillofacial.
4. Recognize commonly used Laboratory and radiologic tests in the surgical setting, explaining their significance in perioperative decision-making.

5. Describe proper setup and handling of surgical instrumentation for general surgery, obstetrics and gynecology, ophthalmic, otorhinolaryngologic, oral and maxillofacial, and plastic and reconstructive procedures.
6. Verbalize the procedural steps and considerations for various surgical specialties, including relevant anatomy and historical advancements in surgical techniques.
7. Define patient safety protocols and special considerations when preparing for surgeries involving different patient populations and surgical specialties.
8. Describe the role of the surgical technologist in assisting with advanced procedures, emphasizing aseptic technique and teamwork within the surgical team.
9. Recognize and differentiate between various types of sutures, stapling devices, and hemostatic agents used in surgical procedures.
10. Identify surgical instruments, passing techniques, and sterile field management in a simulated clinical setting.

SURG 1210L. Surgical Technology II Laboratory

Course Description

Emphasis will be placed on surgical instrumentation and procedural considerations for abdominal and laparoscopic surgeries, urology, and setups for ear, nose, throat, and eye procedures. Additionally, students will gain an introduction to surgical specialties, including general surgery, obstetrics and gynecology, ophthalmic surgery, otorhinolaryngologic surgery, oral and maxillofacial surgery, and plastic and reconstructive surgery. Relevant anatomy, procedural history, and special patient considerations will be discussed for each specialty.

Through hands-on Laboratory sessions and experiences, students will continue developing their clinical competencies by practicing surgical techniques, instrument handling, and procedural setups. This course provides the opportunity to apply theoretical knowledge in a simulated clinical environment, preparing students for advanced coursework and clinical rotations.

Student Learning Outcomes

1. Verbalize the principles of electrocautery and laser echnology, including their indications, safety precautions, and applications in surgical procedures.
2. Define the functions, classifications, and proper handling techniques of endoscopic instruments used in minimally invasive procedures.
3. Describe the selection and use of surgical instruments specific to abdominal, Minimally invasive, as well as ear, nose, throat, and eye procedures. + General, GYN, oral maxillofacial.
4. Recognize commonly used Laboratory and radiologic tests in the surgical setting, explaining their significance in perioperative decision-making.
5. Demonstrate proper setup and handling of surgical instrumentation for general surgery, obstetrics and gynecology, ophthalmic, otorhinolaryngologic, oral and maxillofacial, and plastic and reconstructive procedures.
6. Verbalize the procedural steps and considerations for various surgical specialties, including relevant anatomy and historical advancements in surgical techniques.
7. Define patient safety protocols and special considerations when preparing for surgeries involving different patient populations and surgical specialties.
8. Describe the role of the surgical technologist in assisting with advanced procedures, emphasizing aseptic technique and teamwork within the surgical team.
9. Recognize and differentiate between various types of sutures, stapling devices, and hemostatic agents used in surgical procedures.
10. Demonstrate competency in instrument identification, passing techniques, and sterile field management in a simulated clinical setting.

SURG 1310. Surgical Technology III

Course Description

This advanced-level course builds on previous surgical technology knowledge, focusing on specialized surgical procedures, instrumentation, and equipment used in plastic, orthopedic, peripheral vascular, genitourinary, cardiothoracic, and neurosurgical procedures. Students will learn the names, functions, and applications of surgical instruments used in these specialties, along with procedural considerations for each type of surgery.

The course also explores the history, relevant anatomy, and unique patient considerations associated with these advanced surgical procedures. Emphasis will be placed on understanding the complexities of orthopedic and peripheral vascular surgeries, as well as specialized techniques in genitourinary, cardiothoracic, and neurosurgical interventions.

Student Learning Outcomes

1. Verbalize the procedural steps, patient considerations, and historical advancements associated with plastic, orthopedic, peripheral vascular, genitourinary, cardiothoracic, and neurosurgical procedures.
2. Define the names, functions, and applications of specialized surgical instruments used in orthopedic, vascular, genitourinary, cardiothoracic, pediatrics and neurosurgical procedures.
3. Describe the anatomical structures relevant to advanced surgical specialties and their significance in surgical interventions.
4. Recognize the unique challenges and patient considerations involved in complex surgical procedures, including trauma, congenital abnormalities, and reconstructive surgeries.
5. Demonstrate proficiency in setting up instrument trays and sterile fields for plastic, orthopedic, pediatrics, peripheral vascular, genitourinary, cardiothoracic, and neurosurgical cases.
6. Verbalize the indications, contraindications, and procedural considerations for specialized surgical techniques, including microsurgery, grafting, and robotic-assisted procedures.
7. Define the key principles of hemostasis, wound closure, and implant selection in orthopedic and vascular surgeries.
8. Describe the functions and safety considerations of specialized surgical equipment, such as tourniquets, bone saws, endoscopic cameras, and cardiopulmonary bypass machines.
9. Recognize potential complications in complex surgical procedures and discuss strategies to assist the surgical team in preventing and managing intraoperative challenges.
10. Demonstrate competency in assisting with advanced procedural techniques, including draping, instrument passing, and maintaining aseptic technique in high-risk surgical environments.

SURG 1310L. Surgical Technology III Laboratory

Course Description

The course explores the history, relevant anatomy, and unique patient considerations associated with these advanced surgical procedures. Emphasis will be placed on understanding the complexities of orthopedic and peripheral vascular surgeries, as well as specialized techniques in genitourinary, cardiothoracic, and neurosurgical interventions.

Through hands-on Laboratory sessions and practicum experiences, students will refine their surgical skills, including instrument handling, case setup, and procedural techniques. This course provides a strong foundation for transitioning into clinical rotations, ensuring students are well-prepared for advanced surgical environments.

Student Learning Outcomes

1. Verbalize the procedural steps, patient considerations, and historical advancements associated with plastic, orthopedic, peripheral vascular, genitourinary, cardiothoracic, and neurosurgical procedures.
2. Define the names, functions, and applications of specialized surgical instruments used in orthopedic, vascular, genitourinary, cardiothoracic, pediatrics and neurosurgical procedures.

3. Describe the anatomical structures relevant to advanced surgical specialties and their significance in surgical interventions.
4. Recognize the unique challenges and patient considerations involved in complex surgical procedures, including trauma, congenital abnormalities, and reconstructive surgeries.
5. Identify procedures for setting up instrument trays and sterile fields for plastic, orthopedic, pediatrics, peripheral vascular, genitourinary, cardiothoracic, and neurosurgical cases.
6. Verbalize the indications, contraindications, and procedural considerations for specialized surgical techniques, including microsurgery, grafting, and robotic-assisted procedures.
7. Define the key principles of hemostasis, wound closure, and implant selection in orthopedic and vascular surgeries.
8. Describe the functions and safety considerations of specialized surgical equipment, such as tourniquets, bone saws, endoscopic cameras, and cardiopulmonary bypass machines.
9. Recognize potential complications in complex surgical procedures and discuss strategies to assist the surgical team in preventing and managing intraoperative challenges.
10. Explain competent methods in assisting with advanced procedural techniques, including draping, instrument passing, and maintaining aseptic technique in high-risk surgical environments.

SURG 1410. Surgical Technology IV

Course Description

Students will continue to learn instrumentation & equipment used in Cardiac & Pulmonary Surgery. They will learn the difference in the physiology of the Pediatric patient. They will also be able to identify & select proper instrumentation and equipment for Neurological procedures They will do Laboratory and some practicum to compliment this course. This didactic course provides a continued in-depth study of advanced surgical procedures, instrumentation, and equipment used in cardiac, pulmonary, and neurological surgeries. Students will refine their ability to identify and select the appropriate instruments and technology necessary for these complex procedures. Emphasis will also be placed on the physiological differences in pediatric patients and the unique considerations required when performing surgery on this patient population. Students will develop a deeper understanding of specialized surgical techniques, patient care strategies, and operative protocols in high-risk surgical environments. Through hands-on Laboratory sessions and practicum experiences, students will continue honing their clinical skills, ensuring proficiency in advanced instrument handling, case preparation, and procedural execution. This course serves as the final didactic component of the program, integrating knowledge and skills in preparation for clinical rotations and professional practice in the surgical setting.

Student Learning Outcomes

1. Explain the procedural steps, patient considerations, and specialized techniques associated with cardiac, pulmonary, and neurological surgeries.
2. Identify and define the names, functions, and applications of instrumentation and equipment specific to cardiac, pulmonary, and neurological procedures.
3. Compare and contrast the physiological differences between pediatric and adult patients, emphasizing their implications for surgical intervention and patient management.
4. Discuss the specialized considerations for pediatric surgery, including anesthesia concerns, fluid management, and temperature regulation.
5. Explain the principles of selecting, handling, and preparing instrumentation and equipment used in cardiac, pulmonary, and neurosurgical procedures.
6. Describe the role of the surgical technologist in high-risk surgical environments, including maintaining sterility, assisting with specialized techniques, and responding to intraoperative complications.

7. Outline the principles of cardiopulmonary bypass, ventricular assist devices, and other life-sustaining technologies used in cardiac surgery.
8. Eplain the indications, contraindications, and procedural considerations for common neurological surgeries such as craniotomies, spinal fusions, and neuroendoscopic procedures.
9. Recognize and discuss potential intraoperative complications unique to cardiac, pulmonary, and neurological surgeries, and explain the surgical technologist's role in assisting the surgical team in managing these situations.
10. Demonstrate comprehension of the foundational knowledge necessary for setting up, assisting, and maintaining sterility in complex surgical environments, providing the groundwork for success in lab practice and future clinical rotations.

SURG 1410L. Surgical Technology IV Laboratory

Course Description

Students will learn instrumentation & equipment used in Cardiac & Pulmonary Surgery. They will learn the difference in the physiology of the Pediatric patient. They will also be able to identify & select proper instrumentation and equipment for Neurological procedures They will do Laboratory and some practicum to compliment this course.

This didactic course provides an in-depth study of advanced surgical procedures, instrumentation, and equipment used in cardiac, pulmonary, and neurological surgeries. Students will refine their ability to identify and select the appropriate instruments and technology necessary for these complex procedures.

Emphasis will also be placed on the physiological differences in pediatric patients and the unique considerations required when performing surgery on this patient population. Students will develop a deeper understanding of specialized surgical techniques, patient care strategies, and operative protocols in high-risk surgical environments.

Through hands-on Laboratory sessions and practicum experiences, students will continue honing their clinical skills, ensuring proficiency in advanced instrument handling, case preparation, and procedural execution. This course serves as the final didactic component of the program, integrating knowledge and skills in preparation for clinical rotations and professional practice in the surgical setting.

Student Learning Outcomes

1. Verbalize the procedural steps, patient considerations, and specialized techniques associated with cardiac, pulmonary, and neurological surgeries.
2. Define the names, functions, and applications of instrumentation and equipment specific to cardiac, pulmonary, and neurological procedures.
3. Describe the physiological differences between pediatric and adult patients, emphasizing the implications for surgical intervention and patient management.
4. Recognize the specialized considerations for pediatric surgery, including anesthesia concerns, fluid management, and temperature regulation.
5. Demonstrate the proper selection, handling, and setup of instrumentation and equipment used in cardiac, pulmonary, and neurosurgical procedures.
6. Verbalize the role of the surgical technologist in high-risk surgical environments, including maintaining sterility, assisting with specialized techniques, and responding to intraoperative complications.
7. Define the principles of cardiopulmonary bypass, ventricular assist devices, and other life-sustaining technologies used in cardiac surgery.
8. Describe the indications, contraindications, and procedural considerations for common neurological surgeries, such as craniotomies, spinal fusions, and neuroendoscopic procedures.
9. Recognize potential intraoperative complications unique to cardiac, pulmonary, and neurological surgeries, and discuss the surgical technologist's role in assisting the surgical team in managing these situations.

10. Demonstrate competency in setting up, assisting, and maintaining sterility in complex surgical environments, ensuring readiness for clinical rotations and professional practice.

SURG 2150. Surgical Technology Clinical I

Course Description

This first-level clinical course provides students with the opportunity to apply surgical theory and foundational skills in a hands-on clinical environment. Under the guidance of a preceptor, students will learn essential tasks such as scrubbing in, assisting with the second and possibly first scrub roles, and contributing to the setup and teardown of surgical procedures. The course emphasizes practical exposure to various aspects of surgical operations, enabling students to build confidence and competence in supporting surgical teams while adhering to best practices in patient safety and aseptic technique.

Student Learning Outcomes

1. Demonstrate proper aseptic technique, including scrubbing, gowning, and gloving, to maintain a sterile surgical environment.
2. Demonstrate the setup and breakdown of a sterile field, ensuring proper organization and adherence to surgical protocols.
3. Demonstrate basic skills in the second scrub role, including instrument handling, retraction, and assisting with intraoperative tasks.
4. Demonstrate the correct passing of instruments, sutures, and supplies to the surgeon in a timely and efficient manner.
5. Select key surgical instruments and their appropriate use in various procedures.
6. Identify proper patient positioning, draping, and skin preparation techniques under supervision.
7. Practice safety protocols, including counting procedures and the proper handling of sharps to prevent errors and contamination.
8. Recognize the roles and responsibilities of the surgical technologist within the surgical team and their impact on patient care.
9. Recall the steps involved in setting up, maintaining, and breaking down a sterile field.
10. Recall the principles of aseptic technique and infection control as they apply to the surgical environment.

SURG 2230. Professional Readiness

Course Description

This course transitions the student into professional readiness for employment, professional readiness for attaining certification and professional readiness for maintaining certification status.

Student Learning Outcomes

1 Apply the theory, concepts and skills involving specialized materials, tools, equipment, procedures as they relate to the occupation and the business/industry.
2. Apply the theory, concepts and skills involving regulations, laws, and interactions within and among political, economic, environmental, social and legal systems associated with the occupation and business/industry.
3. Demonstrate legal and ethical behavior, safety practices, interpersonal and teamwork skills.
4. Demonstrate appropriate use of written, verbal and non-verbal communication skills using terminology of the occupation and the business/industry.

SURG 2250. Surgical Technology Clinical II

Course Description

This second-level clinical course builds on foundational surgical skills, offering students increased responsibility and exposure in the clinical setting. Students will rotate through key departments, including Central Sterile, and will be involved in more complex tasks such as room setup, second scrubbing, and, depending on progress, first scrubbing. Additionally, students will have the opportunity to gain experience in specialty areas, such as Laboratoryor and delivery and gastroenterology. With continued guidance from a preceptor, students will apply surgical theory to practice, refining their techniques and preparing for advanced clinical roles in a variety of surgical settings.

Student Learning Outcomes

1. Demonstrate intermediate level skills in room setup, including organization of surgical instruments, equipment, and sterile supplies.
2. Demonstrate the ability to perform the second scrub role with increased independence, assisting with instrumentation, retraction, and suctioning.
3. Demonstrate proper aseptic technique in a variety of surgical settings, ensuring infection control and patient safety.
4. Demonstrate the correct procedures for processing, sterilizing, and handling surgical instruments while rotating through Central Sterile.
5. Identify instruments and equipment specific to specialty areas, including Laboratoryor and delivery and gastroenterology.
6. Identify proper protocols for handling surgical specimens, ensuring accurate Labeling and transport.
7. Recognize the responsibilities of the surgical technologist in first scrubbing, including anticipation of surgeon needs and intraoperative decision-making.
8. Recognize the workflow and interdisciplinary collaboration required in surgical specialty areas.
9. Recall key surgical procedures and their required instrumentation, reinforcing knowledge of surgical theory through hands-on experience.
10. Recall patient safety protocols and emergency procedures in the operating room, ensuring preparedness for advanced clinical roles.

SURG 2350. Surgical Technology Clinical III

Course Description

In this third-level clinical course, students will take on advanced responsibilities in the surgical setting, working closely with a preceptor to refine their skills. Students will perform a significant amount of first scrubbing, along with second scrubbing, gaining comprehensive hands-on experience in surgical procedures. This course emphasizes the application of advanced surgical techniques, allowing students to further develop their confidence and competence in the operating room while continuing to receive expert guidance and feedback. Students will also focus on enhancing their role in supporting the surgical team and ensuring smooth, efficient procedures.

Student Learning Outcomes

1 Demonstrate increased proficiency in the first scrub role, including anticipating surgeon needs and managing instrumentation efficiently, while working toward completing the required minimum of 120 cases.
2. Demonstrate advanced aseptic technique, ensuring strict adherence to sterile protocols throughout surgical procedures.
3. Demonstrate the ability to set up and maintain a sterile field independently, ensuring proper organization and readiness for surgical interventions.
4. Demonstrate effective communication and teamwork within the surgical team, contributing to procedural efficiency and patient safety.
5. Identify complex surgical instruments, equipment, and supplies required for a variety of advanced surgical procedures.

6. Identify potential intraoperative complications and appropriate responses to maintain a controlled and sterile environment.
7. Recognize the critical role of the surgical technologist in assisting with intraoperative decision-making and problem-solving.
8. Recognize the importance of efficiency and adaptability in the operating room, adjusting to changes in surgical procedures as needed.
9. Recall the procedural steps for a wide range of surgical specialties, reinforcing knowledge through hands-on first and second scrubbing experience while progressing toward the required 120 cases.
10. Recall patient positioning, draping techniques, and equipment requirements for different types of surgical interventions.

SURG 2450. Surgical Technology Clinical IV

Course Description

Student will independently 1st scrub majority of cases with a minimal number of 2nd scrub cases, with a preceptor observing. The student will have accumulated a minimum total of 120 cases from all clinical courses combined.
This final-level clinical course provides students with the opportunity to independently perform first scrubs on the majority of surgical cases, with minimal second scrubbing required. Under the observation of a preceptor, students will demonstrate proficiency in all aspects of surgical preparation, technique, and aseptic practice. By the end of the course, students will have completed a minimum of 120 cases across all clinical courses, showcasing their readiness to transition to professional practice. This course is designed to refine skills, enhance confidence, and ensure students are fully prepared for the demands of a career in surgery.

Student Learning Outcomes

1. Demonstrate proficiency in performing first scrubs for the majority of surgical cases, ensuring full preparation and aseptic technique, while minimizing second scrub roles.
2. Demonstrate advanced aseptic technique in all phases of surgical preparation, including scrubbing, gowning, gloving, and maintaining a sterile field.
3. Identify and select appropriate instruments, equipment, and supplies for a variety of surgical procedures, demonstrating expertise in case setup.
4. Recognize the critical importance of patient safety protocols and the role of the surgical technologist in maintaining a safe and sterile operating environment.
5. Recall the procedural steps for complex surgical specialties, ensuring accuracy and efficiency when performing first scrub roles.
6. Demonstrate the ability to anticipate the needs of the surgical team, including managing instrumentation, assisting with retraction, and handling specimens with precision.
7. Recognize the complexities of diverse surgical procedures and adapt to changes in the operating room, adjusting techniques as needed.
8. Demonstrate the ability to effectively communicate with the surgical team, ensuring smooth coordination and timely delivery of required instruments and supplies.
9. Recall the importance of ongoing observation and feedback from the preceptor, refining skills and adjusting techniques based on expert guidance.
10. Demonstrate completion of a minimum of 120 cases across all clinical courses, showcasing readiness for independent professional practice in the surgical environment.

SURG 2550. Advanced Review in Perioperative

Course Description
This course is designed to prepare students for success on the national certification examination for surgical technologists. Emphasis is placed on reviewing and reinforcing knowledge of perioperative care, including preoperative preparation, intraoperative procedures, and postoperative responsibilities. Additional focus is given to ancillary duties, equipment sterilization and maintenance, and foundational concepts in anatomy and physiology as they relate to surgical practice. Through structured review, practice questions, and test-taking strategies, students will strengthen their ability to recall, apply, and integrate essential concepts required for certification and professional practice.
Student Learning Outcomes

1. Review and apply principles of preoperative preparation including patient assessment, operating room setup, documentation, and equipment management.
2. Reinforce knowledge of intraoperative procedures by demonstrating understanding of aseptic technique, surgical instrumentation, suturing, hemostasis, and surgical team responsibilities.
3. Summarize postoperative care responsibilities including patient transfer, debriefing, equipment disposal, and room turnover.
4. Evaluate ancillary duties and professional responsibilities such as preference card revision, disaster protocols, cost containment, ethical and legal considerations, and cultural competence.
5. Apply principles of equipment sterilization and maintenance by reviewing processes for cleaning, testing, packaging, and troubleshooting surgical instruments and devices.
6. Integrate basic science knowledge of anatomy, physiology, and medical terminology across all surgical specialties to support accurate exam performance.
7. Demonstrate readiness for the national certification exam through practice tests, case-based review, and test-taking strategies that promote accuracy, speed, and confidence.

SURG 2996. Surgical Technology Topics
Course Description
Varies
Student Learning Outcomes
Varies

Swahili (SWAL)

SWAH 1110. Swahili I
Course Description
Foundation course for all beginning students interested in reading or speaking the language.
Student Learning Outcomes
The SLOs for Swahili 101 are consistent with the Intermediate Mid level of the NCSSFL-ACTFL Can-Do Benchmarks. Upon completion of this course, students will be able to develop:

1. Interpersonal Communication in Swahili: Communicate on familiar topics using a variety of words and phrases they have acquired through the course.
2. Presentational Speaking in Swahili: Present information about themselves, their environments, and other familiar topics using a variety of words, phrases, and expressions acquired in the course.
3. Presentational Writing in Swahili: Demonstrate novice-mid level writing in Swahili on familiar topics.
4. Interpretive Listening in Swahili: Recognize and respond to familiar words, phrases, and expressions when they hear them spoken, in song, and on other media.

SWAH 1120. Swahili II
Course Description

This course builds directly upon SWAH 1110 and is designed to bring the students beyond a novice-intermediate or intermediate level of competence.

Student Learning Outcomes

The SLOs for 1120 are consistent with the Intermediate Mid level of the NCSSFL-ACTFL Can-Do Benchmarks. Upon completion of this course, students will be able to:

1. Interpersonal communication: Communicate and exchange information about familiar topics using phrases and simple sentences, sometimes supported by memorized language. Hold short social exchanges in everyday situations by asking and answering simple questions.
2. Presentational speaking: Present basic information on familiar topics using language they have practiced using phrases and simple sentences.
3. Presentational writing: Write short messages and notes on familiar topics related to everyday life.
4. Interpretive listening: Understand words, phrases, and simple sentences related to everyday life. Recognize pieces of information and sometimes understand the main topic of what is being said.
5. Interpretive reading: Understand familiar words, phrases, and sentences within short and simple texts related to everyday life. Understand the main idea of what they have read.

Sustainability (SUST)

SUST 1110. Renewable Energy in Buildings

Course Description

This course is an introduction to Renewable/Sustainable Energy Systems and their appropriate use; well established technologies, such as Solar Hot Water and Space Heating, Photovoltaic Electrical Systems, Passive Solar Design, and Wind Energy Systems will be examined and observed if possible. The course will provide students with sufficient background for furthering their studies in specific Energy-System disciplines. Course materials will consist of books and online resources, and homework will include papers and projects. Classes will focus on discussion and, as a “hybrid” course, significant online research, work, and reading will be required.

Student Learning Outcomes

1. Understand terminology related to building energy use.
2. Understand the basic principles of sizing an RE energy system.
3. Understand the better known and established RE technologies and their appropriate use.
4. Learn about RE incentive programs.
5. Provide exposure to RE systems

SUST 1120. Power Generation, Transmission and Distribution

Course Description

Provides a firm technical foundation for students interested in design, operation, and management of electric power systems. The course covers the technical, economic, and environmental considerations of power generation, transmission, distribution, and consumption and introduces power engineering.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Analyze the existing structure of a power grid and make rudimentary power flow calculations.
2. Describe the function, operating parameters, and selection criteria for power system equipment.
3. Explain the concepts of reliability, security, and ancillary services as they relate to power generation, transmission, and distribution.
4. Determine the electrical, economic, and environmental considerations for generation, transmission, distribution, and consumption system choices.
5. Apply occupational and personal health and safety standards.

SUST 1130. Sustainable Energy Technologies

Course Description

Designed to provide students with a basic understanding of sustainability as an environmental and economic concept. The course will describe and analyze current and emerging sustainable energy technologies. Additionally, information about basic skill requirements required to begin working in renewable energy fields are provided.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Understand the history and terminology used in the field of Energy.
2. Identify and describe various energy systems.
3. Calculate energy costs, substitution analysis, resource valuation.
4. Demonstrate understanding of sustainability and energy economics.

SUST 1134. Introduction to Sustainability Studies

Course Description

This course provides a broad survey of various aspects of sustainability. Students will explore topics such as climate change, renewable energy, water, agriculture, green building, socially responsible business, micro lending, environmental justice, smart growth and alternative progress indicators. Students will examine both contemporary challenges to sustainable development and examples of successful sustainability initiatives on local, national, and global levels.

Student Learning Outcomes

1. Explain the concept of sustainability using the "3 E's" -- environmental health, social equity, and economic vitality.
2. Describe examples of successful sustainability initiatives.
3. Identify current environmental, social, and economic issues.
4. Propose sustainable solutions to current problems by analyzing issues, recognizing multiple stakeholders, and evaluating likely outcomes.
5. Apply course concepts and promote sustainability in the community.
6. Understand and explain the importance of sustainable practices.
7. Demonstrate an understanding of the scientific aspects of sustainability practices and issues.

SUST 1144. Sustainability In Film

Course Description

This class examines pressing questions of climate change, inequality, racism, and sexism (among others) through the language of global film. We will analyze some of the most innovative pathways to sustainability and regeneration that are currently being practiced and implemented.

Student Learning Outcomes

1. Demonstrate understanding of how the language of film is utilized in cinematic storytelling in sustainability-oriented films.
2. Demonstrate in speech and writing, a complex understanding of the interconnection of social and environmental issues.
3. Demonstrate comprehension of narrative as power, both in wider society and within film.
4. Analyze innovative interventions for sustainability and environmental justice from a systems perspective.

SUST 2110. Climate Change & Sustainability

Course Description

At the nexus of science, society, and sustainability, this course is an in-depth exploration of the causes and consequences of modern global warming. Topics include stakeholder analysis, environmental justice, economics, politics, energy sources, adaptation and mitigation at local, national and global scales. In the past, humanity was transformed by the Agricultural, Industrial, and Technological Revolutions. We are currently undergoing an Energy Revolution with direct consequences on

the climate crisis. Will it be in time to stabilize the rapidly changing hydrological and ecological systems upon which Earth's biodiversity depends?

Student Learning Outcomes

1. Students understand how the chemical composition of Earth's atmosphere influences the amount of heat that it can hold.
2. Students understand what human activities are increasing the amount of greenhouse gases in the atmosphere.
3. Students learn how Earth's current systems and biodiversity are affected by increasing average atmospheric temperatures.
4. Students learn what local, state, and national actions are being taken to adapt to climate change and to decrease the amount of greenhouse gases in the atmosphere.

Technical Communication (TCOM)

TCOM 1110. Community Service

Course Description

Proposing and reporting in writing on a semester long community service activity with any nonprofit organization.

Student Learning Outcomes

Students will gain:

1. professionalism within the field of TC (e.g., skills in written communication, visual communication, technical writing, editing, critical thinking, and oral presentation).
2. the ability to conduct original research in TC and related fields intellectual breadth and depth in TC.
3. the ability to work collaboratively and understand the way TC projects are products of negotiated interaction.

TCOM 1120. Orientation to Technical Communication

Course Description

Guest speakers introduce students to the myriad activities and career paths of technical communicators.

Student Learning Outcomes

By the end of this course, you will be able to

1. Speak about the activities of technical communicators.
2. Speak about career paths open to technical communicators.
3. Dialogue with technical communicators working in the field.
4. Explain the difference between technical communication for technical communicators and for other professionals.
5. Explain your motivations for pursuing a career in technical communication.
6. Use basic features of three Adobe® programs.

TCOM 1130. Visual Communication and Graphic Design

Course Description

This course supports students' personal and professional development by exploring the principles and practices of visual communication and graphic design. Students learn best practices for creating human-centered, ethical, appealing, and effective visual communication—from presentations and data displays to signage, posters, and tutorials—for research, education, and industry. Working individually and in groups, students create various small graphic and communication design projects that aspire to make a difference. By the end of the semester course, students showcase their work in a professional online portfolio.

Student Learning Outcomes

By the end of this course, students should have developed or enhanced these Student Learning Outcomes:

1. Visual communication: Ability to tell compelling visual stories in multiple media for different rhetorical situations.
2. Graphic design: Ability to employ the design basics and the design process creatively to produce visual design projects.

3. Technical skills: Ability to use basic visual communication and graphic design tools. Ability to create and maintain a multimodal and multimedia learning website.
4. Metacognitive skills: Ability to plan and monitor their own learning, and to modify their approach based on evolving outcomes.
5. Research and organization: Ability to research audiences, content-sharing platforms, brands and social media strategies, and to integrate the results in their work. Ability to create and maintain social media profiles and projects.
6. Flexibility, responsibility, and creativity: Ability to build and sustain team dynamics and projects by being flexible and responsible.
7. Peer review: Ability to provide feedback based on active listening and careful analysis of peers' work.

TCOM 2110. Technical Editing

Course Description

Grammar review. Description of types and levels of editing. Responsibilities of editors. Use of editing and proof-reading symbols, usage guides, style guides and style sheets; Production aspect of editing. Practice online and hard copy of short manuscripts.

Student Learning Outcomes

By the end of the course, you should be able to:

1. Understand the difference between being a good editor and being a “language maven.”
2. Develop effective marking skills and use a variety of print and electronic commenting and editing options.
3. Use a style guide and understand the differences in stylistic and documentation standards across style guides.
4. Gain expertise in English grammar and style.
5. Edit a text for a range of grammatical, stylistic, and formatting concerns.
6. Understand the procedural and logistical issues involved in preparing copy for print.

TCOM 2120. Branding and Social Media

Course Description

This course helps students build their brand identity and apply the process to an organization of their choice. It also helps students harness the power of social media to build and consolidate both a personal brand and that of organizations. This class prepares students to make branding and social media an integral part of their day-to-day activities.

Student Learning Outcomes

By the end of this course, students should have developed or enhanced these Student Learning Outcomes:

1. Effective communication: Ability to develop a brand and use social media to effectively communicate with audiences.
2. Technical and digital competence: Ability to use tools and technologies to communicate with audiences; ability to create and maintain a multimodal and multimedia learning website.
3. Metacognitive skills: Ability to plan and monitor their own learning, and to modify their approach based on evolving outcomes.
4. Research and organization: Ability to research audiences, content-sharing platforms, brands and social media strategies, and to integrate the results in their work. Ability to create and maintain social media profiles and projects.
5. Flexibility, responsibility, and creativity: Ability to build and sustain team dynamics and projects by being flexible and responsible.
6. Peer review: Ability to provide feedback based on active listening and careful analysis of peers' work.

Theater (THEA)

THEA 1110. Introduction to Theatre

Course Description
This course introduces the study of theatre. Students will examine various components that comprise theatre, such as acting, directing, playwriting, dramaturgy, scenic and costume design, stagecraft, spectatorship, history, theory, and criticism.

Student Learning Outcomes

1. Define and discuss basic theater terms and concepts.
2. Discuss the fundamental elements of theatre, and the ways in which theatre differs from other art forms.
3. Analyze and critique the elements of a live theatrical production.
4. Identify and describe the roles of various theatre artists including actors, directors, playwrights, dramaturges, and designers.

THEA 1130. Introduction to Film

Course Description
This course introduces the study of film. Students will examine the formal properties of film through four basic categories: history, genre, visual/composition design, and production processes.

Student Learning Outcomes

1. Define and describe basic film terms, forms, methods, and concepts.
2. Identify and analyze the significance of film historically, culturally, and worldly.
3. Analyze and evaluate the aesthetic, structural, and thematic aspects of film.
4. Analyze and critique films.

THEA 1210. Acting for Non-majors

Course Description
This class gives non-majors experience in the depth and craft of the actor's art. Students will learn various terms, techniques, and practices of acting and will demonstrate their understanding in class. Through exercises and improvisations, partnered scenes, and group work, students will be better able to appreciate the work of others as they learn techniques of performing.

Student Learning Outcomes

1. Develop fundamental physical, vocal, analytical, and imaginative skills for acting for the stage.
2. Apply fundamental techniques of voice and movement for the stage.
3. Apply principles of play text analysis to understand story, character, and meaning.
4. Gain a better understanding of an actor's approach to goals, tactics, and obstacles.
5. Engage in character creation and development while preparing and performing monologues and scenes.
6. Learn a common vocabulary to help discuss the process of acting.
7. Employ collaborative methods of work with a partner and in groups.
8. Observe and evaluate acting skills of other actors.

THEA 1220. Beginning Acting

Course Description
This course serves as an introduction to the theory and practice of acting. Students will learn various terms, techniques, and practices of acting and will demonstrate their understanding in class. Through exercises and improvisations, partnered scenes, and group work, students will be better able to appreciate the work of others as they learn techniques of performing.

Student Learning Outcomes

1. Develop fundamental physical, vocal, analytical, and imaginative skills for acting for the stage.
2. Apply fundamental techniques of voice and movement for the stage.
3. Apply principles of play text analysis to understand story, character, and meaning.

4. Gain a better understanding of an actor's approach to goals, tactics, and obstacles.
5. Engage in character creation and development while preparing and performing monologues and scenes.
6. Learn a common vocabulary to help discuss the process of acting.
7. Employ collaborative methods of work with a partner and in groups.
8. Observe and evaluate acting skills of other actors.

THEA 1221. Beginning Acting

Course Description

Basic understanding of self-expression through a variety of physical exercises, improvisation, and character study, culminating in scene or monologue work..

Student Learning Outcomes

1. Apply a common vocabulary that serves as a foundation in acting for the theatre major and minor.
2. Communicate effectively in front of an audience, applying learned concepts while exercising freedom and control of voice, body, and imagination.
3. Analyze the written character and live performance.
4. Provide objective feedback to your classmate's work as well as your own, that supports a greater understanding of our craft while building trust within the collaborative ensemble.

THEA 1222. Stage Movement

Course Description

Physical techniques for the actor to develop kinesthetic awareness and skills in characterization, archetypes, and stage combat. Restricted to: THTR majors.

Student Learning Outcomes

1. To provide fundamental training in a variety of movement techniques which can be applied to both theatrical performance and physical communication in everyday life.
2. Observation and critical skills will be advanced through class participation and outside assignments.
3. Class exercises are aimed at guiding participants to uncover their own creative expression, while working with efficient, healthy body alignment.

THEA 1223. The Art of Theatre

Course Description

This course introduces the variety and scope of theatre professions, the value and goals of the theatre major and an analysis of the art form from script to stage. Restricted to: Required for THTR majors.

Student Learning Outcomes

Not Available

THEA 1310. Introduction to Costuming

Course Description

This course introduces students to basic skills generally used in creating costumes for theatre. During the semester students will be introduced to the costume shop, equipment, supplies, and processes. They will learn the process of sewing a garment and running a stage production.

Student Learning Outcomes

1. Demonstrate basic hand and machine sewing skills.
2. Use basic costume craft tools and techniques.
3. Analyze fabric selection for the stage.
4. Draft and use patterns.
5. Take body measurements for patterning and construct a costume from those measurements.

6. Combine interpersonal communication skills with costume construction skills.
7. Analyze a script for costume design purposes.
8. Build a garment.

THEA 1310L. Costume Craft Laboratory

Course Description

Class members will assist in construction for productions in a studio environment.

Student Learning Outcomes

1. This laboratory class compliments THEA 1310. Introduction to Costuming.
2. It gives the student an opportunity to put into practice the skills learned in THEA 1310 as well as be introduced to and participate in the day-to-day operations of the Costume Shop.

THEA 1320. Intermediate Costume

Course Description

Provides students with more advanced training in cutting and sewing techniques, as well as knowledge of fabric. Trains student in building complex clothing patterns.

Student Learning Outcomes

Upon completion of this course students will be able to:

1. Demonstrate intermediate hand and machine sewing skills.
2. Design, create renderings, and draft pattern for a costume.
3. Construct a new costume or apparel piece from new designs.
4. Construct a more complex apparel piece from a pattern.
5. Combine interpersonal communication skills with costume construction skills.
6. Alter and retrofit an existing garment.

THEA 1330. Advanced Costuming and Sewing

Course Description

Students who take this class will build upon previous sewing knowledge to construct advanced garments. They will learn techniques for building garments with alternative materials.

Student Learning Outcomes

Upon completion of this course students will be able to:

1. Utilize alternative fabrics such as leather, paper-clay, felt, worbla, plastics, decoupage, applique, and latex to build garments.
2. Demonstrate proper tailoring methods.
3. Design and build a corset. Alter and retrofit an existing garment.

THEA 1410. Everything Technical

Course Description

An introduction to the various aspects of play production including set construction and painting, lighting for theater, costumes, and sound for theater with practical application in the current semesters play production.

Student Learning Outcomes

1. Students will be able to analyze and identify significant theatrical texts.
2. Students will engage in an analysis and comparison of historical periods and how each period relates to theater.
3. Students will be able to recognize the diversity of human experience as it relates to theater across a range of historical and cultural periods.
4. Students will be able to relate cultural perspectives and modes of thinking and expression to contemporary thought regarding theater.

THEA 1415. Running Crew I

Course Description

Students learn about backstage and front of house production positions and work on a technical aspect of a production in a rehearsal and performance environment.

Student Learning Outcomes

1. Students will learn one, or more, of the basic technical elements of theatrical crew work.

THEA 1990. Theater Practicum

Course Description

This course introduces student to the various principles of play production. Students will participate within the elements of on stage or backstage categories: acting, designing, front of house, and/or production staff. Theatre Practicum provides hands-on experience(s) for all elements of theatrical productions.

Student Learning Outcomes

1. Identify and analyze theatrical terms, forms, and practices.
2. Apply various concepts and skills as part of the production or acting staff.
3. Identify and demonstrate a variety of skills that will enhance the presentation of the theatrical event.
4. Explain the process from page to stage.

THEA 2110. Theatre History I

Course Description

Theatre History I serves as an introduction to the literatures, histories, theories, and practices of world theatre, drama, and performance from antiquity to through the early modern period.

Student Learning Outcomes

By the end of the course, students will be able to:

1. Demonstrate basic familiarity with global performance forms within their historical context.
2. Analyze and critically interpret significant primary texts related to theatre history from antiquity to the early modern period.
3. Identify key figures and define important terms related to theatre history between antiquity and the early modern period.
4. Understand and discuss major developments and movements in theatre history between antiquity and the early modern period.
5. Compare and contrast various performance theories and practices across a broad global context as pertaining to the history of theatre between antiquity and the early modern period.

THEA 2120. Theatre History II

Course Description

Theatre History II serves as an introduction to the literatures, histories, theories, and practices of world theatre, drama, and performance from the early modern period to the present.

Student Learning Outcomes

By the end of the course, students will be able to:

1. Demonstrate basic familiarity with global performance forms within their historical context.
2. Analyze and critically interpret significant primary texts related to theatre history from the early modern period to the present.
3. Identify key figures and define important terms related to theatre history between the early modern period to the present.

4. Understand and discuss major developments and movements in theatre history between the early modern period to the present.
5. Compare and contrast various performance theories and practices across a broad global context as pertaining to the history of theatre between the early modern period to the present.

THEA 2130. Race Ethnicity and the Drama of Diversity

Course Description

The course will examine sociological theory, with particular focus on race, ethnicity and the oppression and marginalization of people in the United States throughout history and today. This will be done through the exploration of dramatic literature and devised performance techniques.

Student Learning Outcomes

1. Analyze the forces, which create of oppression throughout history through today
2. Define the differences between race and ethnicity
3. Define the differences between racism, prejudice, stratification and discrimination.
4. Understand the vicious cycles of discrimination and how they play out in systems on both a micro and macro scale.
5. Learn the concepts of Image Theatre, and apply the techniques learned to the creation of a final performance project.
6. Read a variety of significant historical plays, which explore the above concepts.
7. Learn and site examples of how art and live performance have served throughout history as agents of social change.
8. Create an original “theatre of the oppressed” performance, which will reflect in depth learning of the above concepts.

THEA 2210. Acting for the Camera

Course Description

Acting for the Camera introduces students to techniques specific to performing for the camera. Students acquire acting skills that can be used on both the stage and screen. Students develop techniques through various exercises in front of a camera. Covers audition techniques, readings, shot size, eye-line, and industry vocabulary.

Student Learning Outcomes

1. Demonstrate acting techniques specific to performing for the camera.
2. Perform audition techniques for the camera.
3. Perform in front of the camera.
4. Critique on-screen performances.
5. Create and critique an acting resumé.
6. Understand the basic acting vocabulary that translates from stage to screen.
7. Adjust acting performances to fit the screen.

THEA 2220. Intermediate Acting

Course Description

Provides students with the opportunity to deepen physical, vocal, imaginative, and collaborative skills to which they were exposed in Beginning Acting. During the course of the semester, students will be introduced to techniques for working on script and character analysis, moment-to moment work, physical transformation, breath work, and truthful playing of the scene.

Student Learning Outcomes

1. Apply fundamental techniques of voice and movement for the stage.
2. Employ text analysis from an actor’s point of view.
3. Perform specific choices to create and perform goal-driven characters.
4. Demonstrate various physical and mental relaxation techniques.

5. Identify internal and external techniques to increase actor's emotional range.
6. Demonstrate sensory exercises and apply this technique to scene work.
7. Articulate and implement key terminology of modern acting techniques.
8. Begin to develop professionalism and development of a critical eye—practice with giving and receiving peer feedback, adherence to deadlines, memorization, flexibility and coachability.

THEA 2221. Intermediate Acting: Scene Study and Monologues

Course Description

Monologues and scene work, using character and script analysis.

Student Learning Outcomes

1. Students will gain further insight into the craft of acting and the techniques and skills required to present a successful stage performance.
2. Via the presentation of varied scenes and monologues, students will be exposed to a variety of theatrical literature.
3. Via research, students will gain knowledge of successful actors, acting techniques, and career advice.

THEA 2222. Intermediate Acting for Non-Majors

Course Description

A continuation of THEA 1210 with an emphasis on monologues, scenes and characterization.

Student Learning Outcomes

The successful student will:

1. Apply fundamental techniques of voice and movement for the stage.
2. Analyze a dramatic text and interpret a character and develop the skills necessary to score a script for character development.
3. Perform specific choices to create and perform goal-driven characters.
4. Demonstrate various physical and mental relaxation techniques.
5. Identify internal and external techniques to increase actor's emotional range.
6. Demonstrate sensory exercises and apply this technique to scene work.
7. Articulate and implement key terminology of modern acting techniques.
8. Develop and articulate a basic personal artistic process.
9. Demonstrate the ability to work cooperatively on a creative/interpretative project.
10. Begin to develop professionalism and development of a critical eye through practice giving and receiving peer feedback, adherence to deadlines, memorization, flexibility and coachability.

THEA 2225. Creative Dramatics

Course Description

Techniques for developing creativity and original dramatizations through improvisations and informal drama activities for all age groups. Emphasis on using creative drama as a development tool with children and youth in educational and recreational settings. This course will also explore methods of using drama as an interdisciplinary educational tool.

Student Learning Outcomes

Upon specific completion of the course, the student will be able to…

1. Release creative imagination
2. Explore and exercise creativity through theatre games, activities, and improvisation
3. Expand the range of vocal and physical communication skills
    a. Perform vocal and physical warm up exercises
4. Use creative drama as an interdisciplinary educational approach
    b. Respond in writing to each chapter in the text with an original project or game
    c. Prepare lesson plans for each chapter in the text

5. Integrate the cultural community into activities for the classroom
    d. Prepare and perform in a classroom production
    e. Develop a portfolio of lesson plans and evidence of the final production
    f. Attend a live production and write a review of it

THEA 2230. Ensemble Improvisation
Course Description
Introduces students to the structure and rules of short and long-form improvisation, allowing them to create original ensemble theatrical productions.
Student Learning Outcomes
1. Explore basics of improv comedy.
2. Describe standard improv terminology.
3. Investigate different forms of improve including short-form and long-form.
4. Develop a cohesive improv ensemble.
5. Perform for an audience.

THEA 2235. Introduction to Shakespeare
Course Description
As the name suggests, this course is intended as an introduction to the study of Shakespeare for both majors and non-majors. It will focus primarily on five of his plays which are most typically taught in Secondary and postsecondary education. Although one of Shakespeare's comedies will be included, particular emphasis will be placed upon four of his major tragedies. Students will study both traditional and contemporary adaptations of the plays. This course will approach Shakespeare as a combination of both literature and drama (performance), thus making the material relevant to students of both Theatre and English.
Student Learning Outcomes
Not Available

THEA 2240. Musical Theatre Performance
Course Description
Not Available
Student Learning Outcomes
1. Analyze and apply a step-by-step method for acting in musical theatre.
    a. Apply the 'theory of safe space'
    b. Demonstrate believability and truth using the concept of the 'Magic IF' and the Konstantin
2. Stanislavski acting school of thought
    c. Demonstrate the concept of 'acting is believing' -the difference between acting and performing.
    d. Apply the theory of 'playful work, disciplined play'
    e. Sing/act a scene applying the aforementioned method
    f. Give and receive feedback respectively and truthfully
3. Understand the musical and music analysis of score and libretto.
    a. Listen and understand the concept that 'the music never lies'
    b. Read composer's markings and analyze their relationship to emotional qualities and melodic shape
    c. Learn the elements of musical key, modulations, accents and dynamics
    d. Demonstrate musical "Voice" of a song and of a character
    e. Sing/act a scene applying the aforementioned elements
4. Analyze the language of the lyric and libretto creating the elements of storytelling.
    f. Analyze the story of a musical through lyric rhythm

g. Analyze language usage of rhetoric, simile and metaphor, punctuation and period
h. Create a breakdown of a musical using story events, French scenes, and musical moments
i. Devise a plot outline through events seen and unseen, your characters events, back-story, thematic conflict, and location and time

5. Demonstrate the staging of songs through character analysis and the four basic structures of a journey.
    j. Stage a song using the exposition of characters and character facts
    k. Map out the journey of a song through character objectives
    l. Map out the journey of a song through beat breakdowns and visible discovery
    m. Sing/act a scene applying the four basic structures of a scene
6. Evaluate the style and overall preparation through the do's and don'ts of professional audition guidelines.
    n. Demonstrate an external expression of the inner journey of an audition piece
    o. Choose appropriate song choices for audition pieces that fit musical type and style
    p. Present audition song portfolio with optional song length cuttings
    q. Apply the anatomy of an audition
    r. Perform a prepared piece with all appropriate audition materials

THEA 2245. Storytelling
Course Description
Storytelling is a course that will offer the student the competencies in effective public speaking.
Student Learning Outcomes

1. Students will analyze and evaluate oral and written communication in terms of situation, audience, purpose, aesthetics, and diverse points of view.
2. Students will express a primary purpose in a compelling statement and order supporting points logically and convincingly.
3. Students will use effective rhetorical strategies to persuade, inform, and engage.
4. Students will employee writing and/or speaking processes such as planning, collaboration, organizing, organizing, composing, revising, and editing to create presentations using correct diction, syntax, grammar, and mechanics.
5. Students will integrate research correctly and ethically from credible sources to support the primary purpose of a communication.
6. Students will engage in reasoned civic discourse while recognizing the distinctions among opinions, facts, and inferences.

THEA 2250. The Company Class
Course Description
The Company Class has been created to allow the student actor the opportunity to create a character by participating in a full theatrical production. This course will be designed for intense rehearsal culminating in several performances during the fall semester. Focus on character development, bodywork, and vocal work emphasizing accents will be explored this semester.
Student Learning Outcomes
Not Available

THEA 2255. Beginning Screenwriting
Course Description
Provides the critical ingredients of great dramatic writing that are then adapted to a dramatic form manageable for the emerging screenwriter: the narrative short film.
Student Learning Outcomes
At the end of this course, students will be able to:

1. Describe basic elements of dramatic structure
2. Perform screenwriting format and techniques
4. Analyze short contemporary films
5. Critique other's written works

THEA 2310. Stagecraft

Course Description

Student will explore basic skills for scenic designers and techniques of set construction for the stage, including building scenery, rigging, painting and properties.

Student Learning Outcomes

1. Demonstrate a range of technical skills, which will qualify them to assist in the basic technical production of a play.
2. Demonstrate and apply how to safely and competently use hand tools, power tools, electrical, and electronic stage equipment.
3. Analyze the technical aspects of a play in performance.
4. Read and construct scenery from ground plans, elevations, and drawings.
5. Analyze a script from the perspective of a designer, artistic, and/ or technical director.

THEA 2310L. Stagecraft Laboratory

Course Description

Class members will assist with construction for productions in a studio environment.

Student Learning Outcomes

Students will learn:

1. History of scenic design and the development of present day stage design.
2. How to create and interpret basic scenic ground plans, elevations, and detail drawings.
3. To construct basic scenic structures to include flats and platforms.
4. Various techniques of scenic painting and decorating.
5. The installations of theatre lighting instruments and sound equipment.

THEA 2315. Basic Stage Combat

Course Description

In this course, students will learn basic hand-to-hand and sword fighting techniques for the stage. They will explore the elements necessary for safe and believable fighting on stage: collaboration, communication, concentration, eye-hand coordination, physical control of speed and force, and sensitivity to balance and reflexes.

Student Learning Outcomes

1. Demonstrate basic hand-to-hand and sword fighting techniques:
    a. Demonstrate parries 1-8 in armed fighting, as well as other armed techniques
    b. Demonstrate various techniques in unarmed fighting including: shoulder rolls, jumps, falls, kicks, punches, slaps
    c. Apply armed fighting techniques into a stage fight
    d. Apply unarmed fighting techniques into a stage fight
    e. Incorporate both armed and unarmed techniques into one stage fight
2. Incorporate techniques that ensure safe and believable fighting on stage:
    a. Define the basic rules of stage fighting
    b. Demonstrate the basic rules of stage fighting
    c. Identify the importance of these rules for stage fighting
    d. Use these rules to execute safe and believable fights on stage
    e. Discern when these rules are being used, and when they are not

3. Choreograph and integrate fighting techniques into a believable stage fight:
    a. Apply fighting techniques learned to choreograph a new fight with a partner
    b. Execute the fight using safe and believable fighting techniques
4. Illustrate physical strength, control, balance, and coordination with his/her body when learning and executing fighting techniques:
    a. Illustrate the three C's: Collaboration, Concentration, and Communication
    b. Exercise sharp and focused eye-to-hand coordination
    c. Exercise physical control of speed and force
    d. Exercise sensitivity to balance and reflexes
    e. Exercise alert thinking and physical stability
    f. Identify your limits in these elements and work to improve them
    g. Identify your partners' limits with these elements and work with them to improve them
5. Analyze and evaluate fighting techniques and choreography:
    a. Apply principles learned in class to analyze your own and others' fighting techniques
    b. Give feedback critically, constructively, clearly, and respectfully
    c. Accept feedback graciously and with trust
6. Maintain creative concentration when working individually and with a partner:
    a. Illustrate how we can use stage combat to present and communicate feelings and ideas
    b. Illustrate how we can foster creative traits in ourselves by learning the techniques of stage combat
    c. Illustrate how we can develop skills in creative problem sensing and solving with a partner

THEA 2320. Lighting for the Theatre

Course Description

This course is a comprehensive introduction to theatre lighting. Students will explore all areas of stage lighting, which include creating a light plot, hanging, circuiting, focusing, patching, and programming a lighting console.

Student Learning Outcomes

1. Demonstrate a range of technical lighting skills, which will qualify them to assist in the basic technical production of a play.
2. Identify types of light sources, components, and uses.
3. Demonstrate how to safely and competently use hand tools, lighting instruments, and lighting consoles.
4. Analyze the technical lighting aspects of a play for performance.
5. Demonstrate knowledge of the electrical equations necessary in stage lighting.
6. Demonstrate and apply knowledge to hang and focus using a light plot.
7. Analyze a script from the point of view of the lighting designer.

THEA 2325. Lighting Methods and Equipment

Course Description

Theory and practice of lighting for the stage. Crew assignment on departmental production required.

Student Learning Outcomes

1. Understand the principles of theatrical lighting technology for the stage.
2. Understand the principles of electricity for the stage.
3. Understand the principles of CAD (computer aided drafting).

THEA 2330. Introduction to Theatre Makeup

Course Description

Learn basic techniques of theatre makeup. Students will explore applications for various stylizations including period, fantasy, and special effects. This may include practice in productions during the semester.

Student Learning Outcomes

By the end of the course, students will be able to:

1. Demonstrate knowledge of makeup techniques and styles through practical application.
2. Demonstrate accepted techniques of stage makeup application.
3. Recognize and understand the fundamental roles of makeup design in the creation of characters.
4. Demonstrate and apply skills in relation to face shape, contours, color and different historical eras.
5. Analyze a script for makeup design purposes.

THEA 2335. Rendering for Stage, Screen, and New Media

Course Description

Introduction to basic drawing skills used in the presentation of theatrical designs for stage, film, and digital media. Emphasis is given to accurate representation of the human figure, perspective, and lighting using different mediums.

Student Learning Outcomes

1. Develop fundamental sketch and rendering techniques in both monochromatic and color using various art media from dry to wet media
2. Learn terms and theories of perspective drawing both one and two vanishing points
3. Explore mood (light and shadow) in various lighting situation

THEA 2340. Introduction to Design

Course Description

Introduction into our visual world via the language of designers, focusing on collaboration, creative thinking and presentation skills. The varied design professions in theatre and the performing arts will be explored.

Student Learning Outcomes

1. Apply design vocabulary and descriptions when speaking about design.
2. Identify design tools and make choices about where to use them.
3. Apply the foundation information in understanding how design tools work.
4. Apply correct terminology in assessing design and script analysis.
5. Read and understand some of the design documents commonly used in the industry.

THEA 2345. Voice for Actor I

Course Description

Basic vocal and physical skills with emphasis on relaxation, breath, and freeing the voice. Consideration of placement, articulation and support. Voice work is combined with movement to connect the expressive impulse to the entire body.

Student Learning Outcomes

By the end of the course, students will be able to:

1. Demonstrate practical knowledge of advanced singing techniques.
2. Show competency in the precision of tunings, rhythms, melodic intervals, and harmonies.
3. Recognize the difference between timbers and resonators.
4. Sing collectively.
5. Unite body impulses with rhythmic qualities.
6. 1105
7. Develop physical actions related to a song score.

THEA 2350. Movement for the Stage

Course Description

An exploration of the art of acting primarily through the focus on body awareness, dynamic movement techniques, and physical characterization.

Student Learning Outcomes

By the end of the course, students will be able to:

1. Demonstrate an understanding of anatomy and how their bodies work.
2. Show competence in their ability to build physical strength and flexibility.
3. Discuss the fundamentals of physical storytelling, choreography, and physical theatre.
4. Demonstrate a theoretical and practical understanding of the connection between language and the body.
5. Apply diverse tools and strategies to self-direct their physical work on the stage.

THEA 2415. Running Crew II

Course Description

Students learn about backstage and front of house production positions and work on a technical aspect of a product in a rehearsal and performance environment.

Student Learning Outcomes

1. To provide students with “hands on” experience participating in being a member of a running crew on a theatrical production.
2. Students will learn one, or more, of the basic technical elements of theatrical crew work.

THEA 2420. Voice & Movement

Course Description

Students are introduced to basic techniques, which aid in vocal and physical strength, variety, flexibility, and stamina, and gain understanding of harmful or limiting vocal and physical habits in stage acting.

Student Learning Outcomes

1. Explain and apply effective vocal and physical warm-ups to all rehearsals and performances.
2. Perform speech and articulation exercises to strengthen speaking voice.
3. Apply relaxation, breathing, resonance, projection, and language skills in performance.
4. Create and perform characters through clear movement and vocal choices.
5. Explain the harmful potential of physical habits that can hinder vocal and physical strength.

THEA 2421. Vocal Production for the Actor

Course Description

Exploration and development of the actor's vocal instrument, including relaxation, projection, diction and articulation. May be repeated up to 3 credits. Restricted to: THTR majors.

Student Learning Outcomes

1. Apply concepts of alignment, relaxation, breath support, resonance, projection, and articulation for your personal and professional benefit
2. Refine vocal 'problem solving' which will carry into your personal and professional life
3. Apply vocal concepts to a variety of text in order to understand and appreciate your voice and its capabilities, both intellectually and sensorially
4 . Apply the vocal/speech tools consciously and behavior-ally, as an aid in the search for musicality of the voice in conjunction with truth and believability

THEA 2430. Principles of Stage Management

Course Description

Functions, duties, and responsibilities of the stage manager in rehearsal and performance. Students will experience the role of stage manager by working on a running crew.

Student Learning Outcomes

Upon specific completion of the course, the student will be able to…

1. Demonstrate an understanding of the duties and responsibilities of stage managers:
    a. Perform safety and fire extinguisher training,
    b. Organize a rehearsal schedule for an actual production,
    c. Demonstrate competency on concepts of stage management by taking an exam,
    d. Stage manage an actual production,
    e. Call cues for an actual production,
2. Develop a working knowledge of Equity rules and guidelines:
    a. Read about and discuss Equity, LORT, and URTA,
3. Prepare pre and postproduction worksheets:
    a. Write a production analysis.
    b. Compile an actor's information packet.
    c. Prepare rehearsal reports for an actual production.
    d. Prepare cue sheets for an actual production.
4. Use technical theatre terminology:
    a. Demonstrate competency by taking an exam on terminology.

THEA 2435. Directing

Course Description

Play analysis, visual composition, blocking, and interpretation for the beginning director. Work in current productions and Studio Scenes

Student Learning Outcomes

Upon specific completion of the course, the student will be able to…

1. Think and write analytically and critically about plays
    a. Describe the cultural and economic background in which a play is written
    b. Evaluate works by a playwright
    c. Evaluate criticism of a playwright's work
    d. Break a script into units
    e. Interpret a playwright's meaning
2. Demonstrate research skills
    a. Gather information on playwrights and critics
    b. Research geographical regions where a play takes place
    c. Investigate cultures and societies in which a play takes place
    d. Research political and economic climates in which a play takes place
    e. Research the people about whom a play is written
3. Describe visual and aural conceptualization of a play
    a. Plot necessary costume and makeup designs for each character
    b. Draw a floor plan for the set(s)
    c. List necessary props
    d. Determine sound and lighting requirements
4. Demonstrate organizational skills
    a. Schedule deadlines and build timelines
    b. List technical requirements called for in scripts
    c. List staffing needs
    d. Discuss budget requirements and adhere to a budget
5. Demonstrate interpersonal communication skills
    a. Conduct auditions and cast a play
    b. Carry out rehearsals

    c. Direct designers and actors
    d. Cooperate with other directors, producer, stage manager, and technicians
6. Evaluate a production
    a. Write a self-evaluation of the process and outcome of the production

THEA 2450. Playwriting
This course provides students with the critical, fundamental ingredients of dramatic writing for the stage. Students will write their own plays as well as learn how to offer constructive criticism for each other's work.
Student Learning Outcomes
1. Apply principles of play structure and playwriting techniques to original written works for the stage
2. Execute correct play manuscript format
3. Analyze contemporary published plays
4. Demonstrate a vocabulary of constructive criticism of the written works of self and classmates.

THEA 2990. Theatre Practicum
Course Description
This course introduces student to the various principles of play production. Students will participate within the elements of on stage or backstage categories: acting, designing, front of house, and/or production staff. Theatre Practicum provides hands-on experience(s) for all elements of theatrical productions.
Student Learning Outcomes
1. Identify and analyze theatrical terms, forms, and practices.
2. Apply various concepts and skills as part of the production or acting staff.
3. Identify and demonstrate a variety of skills that will enhance the presentation of the theatrical event.
4. Explain the process from page to stage.

THEA 2993. Theatre Workshop I
Course Description
Varies.
Student Learning Outcomes
Varies

THEA 2996. Topics in Theater
Course Description
Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 9 credits.
Student Learning Outcomes
Varies

THEA 2998. Theater Internship
Course Description
Varies
Student Learning Outcomes
Varies

THEA 2999. Theater Capstone
Course Description
This course will prepare students for admission to a four-year college or career in the theatre. Students will assemble a resume and portfolio and execute a capstone project in one of the following areas: set, lighting, costume, sound

construction or design; stage management; or publicity. The capstone project can be completed with a professional, reputable theatre company or in an educational theatre setting. Capstone project must be approved by technical director and theatre director.

Student Learning Outcomes

1. Create a resume and portfolio (1 credit hour)
    a. Write a resume including objective, educational and work experience, special skills, references, etc.
    b. Compile a portfolio of designs, drafting, renderings, descriptions, photographs of completed projects and assignments, etc. of all work completed within the theatre program
    c. Compile list of references and secure letters of recommendation participants
2. Demonstrate expertise in your area of concentration, e.g. acting, set, light, costume design or construction, stage management, backstage crew, publicity, etc. (3 credit hours)
    a. Design or plan a theatre capstone project which can be carried out by working on a theatre production or for a theatre related business
    b. Propose project to a professional or educational theatre company or a theatre related business
    c. Secure confirmation of proposed project from the theatre company or theatre related business
    d. Prepare all preparation materials for project
    e. Set up work schedule, responsibilities, expectations, goals/objectives, etc. for the project with the theatre company or theatre related business
    f. Execute the theatre capstone project
    g. Write a descriptive and evaluative report assessing the experience and the work completed
    h. Receive feedback from theatre company or theatre related business
3. Apply organizational, communication, and interpersonal skills
    a. Schedule a timeline of execution and completion of theatre capstone project
    b. Convey information in meeting with production crew and/or staff on the project
    c. Direct production crew and/or staff on how to carry out the project
    d. Troubleshoot complications and challenges with execution and completion of project
    e. Work well with others on the execution and completion of project
4. Plan professional career goals
    a. After completion of #1-3 above, write a list of goals for future career in the theatre
    b. Set guidelines and a timeline on pursuing those goals for future career in the theatre

Traditional Arts (TRDA)

TRDA 1110. Traditional Arts & Ecology

Course Description

Not Available

Student Learning Outcomes

Not Available

Veterinary Technology (VETT)

VETT 1103. Preparation for Professional Success

Course Description

Open to students considering, or preparing to enter, a HWPS Professional Program. Students will explore professional aspects specific to their field of interest, considering various professional attitudes, ethics, and basic client or patient communications. Opportunities will be offered for students to make personal physical or mental adjustments in preparation to succeed in the HWPS Program. CR/NC; VT 1003 is taught almost entirely online. IT 1004 is recommended for any student interested in VT 1003 who is not familiar with the online environment.

Student Learning Outcomes

1. Engage with peers through on-line communication.
2. Investigate personal professional motivation.
3. Assess personal learning habits.
4. Explore instructor and student responsibilities.
5. List suggested steps in technical writing.
6. Examine role models.
7. Identify personal leadership qualities.
8. Create peer support systems.
9. Describe public speaking skills.
10. Investigate the need for professional enthusiasm.
11. Troubleshoot potential burn out and stress.
12. Explain professional appearance.
13. Describe professional behavior.
14. Describe patient and/or client communications.
15. Analyze personal health needs.
16. Explain wise financial principles.

VETT 1105. Veterinary Reception Basic Skills

Course Description

Presents essential veterinary / animal care receptionist front office skills. Emphasizes customer service and professionalism, and introduces vocabulary applicable to veterinary, agricultural, and retail animal care fields.

Student Learning Outcomes

1. Manage the receptionist responsibilities in a veterinary services office.
2. Manage medical records and communicate instructions to pet owners.
3. Manage veterinary client invoicing, billing, and handling of finances.
4. Maintain veterinary office filing systems.
5. Exhibit professional communication skills and confidentiality while working with various individuals.
6. Exhibit veterinary professional appearance and behaviors.
7. Utilize proper vocabulary/terminology supporting the 9 species involved in animal care fields.

VETT 1108. Applied Mathematics for Veterinary Technicians

Course Description

This course introduces conversions between metric and household systems and common abbreviations used in preparing medications. Presents applications in disciplines such as calculating medication dosages, percentage of weight loss, oral medications, intravenous fluid therapy, solutions and dilutions.

Student Learning Outcomes

1. Perform calculations involving fractions and decimals.
2. Demonstrate use of percentages.
3. Demonstrate use of scientific notation.
4. Solve ratios and proportions.
5. Solve calculations using dimensional analysis.
6. Convert between metric and household systems.
7. Calculate:

a. oral medication dosages
b. parenteral medication dosage
c. concentrations of solutions
d. dilution problems
e. energy requirements

8. Discuss administration of intravenous fluids.
9. Determine infusion rates.
10. Explain anesthesia gas flow rates.
11. Discuss statistics and quality control.

VETT 1110. Introduction to the Veterinary Profession

Course Description

Introduces veterinary medical team opportunities for the paraprofessional. Includes legal, ethical, and professional topics. Presents veterinary medical terminology including phylogenetic and taxonomic relationships of domestic, laboratory, and exotic animals.

Student Learning Outcomes

I. Medical Terminology as applied by the Veterinary Technician and in Medical Records
   a. Identify prefix, suffix, and combining form word parts
   b Spell medical terms
   c. Identify frequently used veterinary abbreviations
   d. Identify anatomical positional terms
   e. Identify taxonomic names
   f. Define anatomical & physiological terms of various body systems
   g. Define testing, diagnostic, pharmacologic, and disease terms
2. General Overview
   a. Define technician, technologist, assistant, job duties, accredited training facilities
   b. Explain careers and career paths
   c. Describe various job settings
   d. Compare economics and finances of veterinary businesses
   e. Demonstrate professional attitudes
   f. Describe professional expectations
   g. Define professional organizations for veterinary technicians
   h. Discuss safety issues consistent with CVTEA Policy on Safety and OSHA regulations
   i. Explain general housekeeping principles
   j. Describe sanitation and nosocomial protocols
   k. Demonstrate understanding of zoonotic diseases
   l. Describe ethical responsibilities
   m. Compare animal welfare versus animal rights
   n. Demonstrate understanding of organizations concerned with animals
3. Domestic and Exotic Animals
   a. Demonstrate understanding of taxonomic terms
   b. Differentiate between species and breeds
   c. Describe breed specific behavioral characteristics, both normal and abnormal
4. Basic Medical Care Techniques

a. Define and demonstrate understanding of applications of the term triage
b. Demonstrate understanding of species-specific behavior to medical care
c. Explain situations warranting euthanasia
d. Explain neonatal care
e. Explain basics of the immune system
f. Outline gestation tables
g. Outline basic pharmacologic principles

VETT 1111. Introduction to Animal Nursing Care

Course Description

Introduction to Animal Nursing Care is an entry-level course which provides discussion and introduction of concepts involved with safety, animal handling and restraint, animal behavior, basic nursing skills utilized by veterinary technicians, and to act as a foundation of knowledge for subsequent program courses.

Student Learning Outcomes

1. Identify potential personal, patient and workplace safety hazards.
2. Perform a basic physical examination on common domestic animal species.
3. Accurately record patient history, vital signs, and examination findings.
4. Demonstrate safe and effective restraint and handling techniques for common domestic animal species.
5. Recognize and interpret the behavior and body language of common domestic animal species.
6. Identify and describe basic treatment procedures and common medical conditions.
7. Apply proper animal husbandry and grooming care techniques for common domestic animal species.

VETT 1113.

Small Animal Diseases I

Course Description

Small Animal Disease and Medical Care 1 is an entry-level course designed to develop the basic knowledge of mammalian diseases and disease processes that may be encountered by a veterinary technician.

Student Learning Outcomes

1. Explain principles of patient and personal safety, disease transmission, and epidemiology in small animals.
2. Classify and differentiate microorganisms, including bacteria, viruses, fungi, and protozoa, based on their characteristics and pathogenicity.
3. Identify and analyze common infectious and zoonotic diseases affecting dogs and cats including their etiology, clinical signs, diagnosis, and treatment.
4. Evaluate the fundamentals of immunology and the role of vaccines in disease prevention and control.
5. Research and present findings on specialized topics related to small animal infectious diseases with a focus on Rabies prevention strategies, clinical progression, affected species, and occupational safety measures.

VETT 1114. Pharmacology and Medical Therapeutics I

Course Description

Pharmacy and Medical Therapeutics 1 is an entry-level course designed to teach the student the basic classification and properties of the common pharmaceuticals used in veterinary medicine.

Student Learning Outcomes

1. Describe routes and techniques available for drug administration.
2. Apply knowledge of veterinary pharmaceutical drug classes introduced in this course.

3. Recognize different types of needles and syringes and describe their common use.
4. Properly prepare and dispense veterinary prescriptions.
5. Perform basic pharmaceutical and dosage calculations.

VETT 1115. Vet Anesthia and Surgical Assisting I

Course Description

Veterinary Anesthesia and Surgical Assisting 1 is an entry-level course designed to help develop a strong foundation in anesthetic skills, surgical assisting skills, and perioperative procedures.

Student Learning Outcomes

1. Recognize basic workplace safety protocols, including safety concerns in the operating room and during perianesthetic period.
2. Identify and understand the purpose and function of anesthetic and surgery-related equipment, and various perianesthetic drugs, including their uses, contraindications, and potential side effects.
3. Describe basic anesthetic monitoring principles, including manual and equipment-assisted techniques, and anesthesia stages across different species (dog, cat, horse, ruminant).
4. Define asepsis principles, the role of the surgical assistant, and basic surgical assisting techniques.
5. Differentiate between common surgical procedures and patient management strategies, including preoperative, intraoperative, and post-operative care.

VETT 1116. Introduction Veterinary Diagnostic Imaging

Course Description

Presentd veterinary radiography basics including safety measures, image production and storage, radiographic quality, patient positioning for imaging, and an introduction to advanced imaging techniques for common domestic animal species.

Student Learning Outcomes

1. Recall the historical significance in the development of radiology, identify the key components of radiographic technique charts, and list the procedures for proper maintenance of radiographic equipment.
2. Describe the role of correct Labeling and filing in maintaining accurate patient records and ensuring compliance with radiological standards.
3. Recall the key safety protocols for both patients and staff in veterinary radiology, including PPE (personal protective equipment) usage, exposure limits, and shielding techniques.
4. Identify the principles behind each specialty radiographic technique and how they differ from traditional radiography.
5. Explain the importance of proper animal positioning for accurate radiographs.
6. Define the principles that determine diagnostic image quality (e.g., contrast, resolution, exposure).

VETT 1117. Veterinary Clinical Pathology I

Course Descrtiption

This an entry-level course designed to develop the student's knowledge and skills in basic Laboratory and diagnostic procedures.

Student Learning Outcomes

1. List common workplace hazards in the veterinary setting, identify required personal protective equipment (PPE) for safety, and explain the safety rights and responsibilities of employees to ensure adherence to safety protocols and regulations.

2. Understand basic components involved in red blood cell (RBC) and white blood cell (WBC) count evaluations and perform calculations related to RBC indices.
3. Describe basic principles of parasitology, including identifying common internal and external parasites encountered in veterinary practice.
4. Understand basic principles of urinalysis, including identification of cells and other constituents found during a microscopic examination of a urine sample.
5. Describe and apply techniques for identifying common bacterial pathogens and cytological methods, including preparation, staining, and interpretation.

VETT 1118. Veterinary Medical Terminology

Course Description

This entry level course designed to provide the student with a foundation in the language of veterinary medicine, focusing on pre-fixes, suffixes, word roots and their combining forms.

Student Learning Outcomes

1. Define commonly used prefixes, suffixes, root words, and combining forms used within the veterinary medical terms.
2. Utilize knowledge of word parts to construct and interpret medical terms.
3. Identify and explain positional terms, directional terms, and body surface/planes terms.
4. Identify and describe the terminology of major structures/functions of the primary organs/body systems and associated procedures, diagnoses, and pathology.
5. Define and explain medical terms related to physical examinations of animals, common veterinary Laboratory procedures, and disease processes.

VETT 1119. Veterinary Business Procedures I

Course Description

Veterinary Business Procedures I is an entry-level course designed to introduce the student to veterinary medicine as a business and profession.

Student Learning Outcomes

1. List concepts in managing client interactions and records, observing legal boundaries, and respect for the veterinary-client-patient relationship.
2. Define qualities which show a commitment to high-quality patient care and identify the contributing factors to improve interpersonal skills and team dynamics.
3. Utilize practice management software and identify regulatory agency roles to effectively meet facility and patient needs.
4. Explore the most common canine and feline breeds and differentiate between breed characteristics.
5. Define credentialing and continuing education requirements for veterinary technicians, and demonstrate effective job search strategies, including resume building and interviewing skills

VETT 1130. Veterinary Nursing Care II

Course Description

An intermediate level course designed to instruct students in comprehensive and compassionate nursing care techniques, including bandages and casts, administration of medications, and sample collection. Emphasis will be placed on ensuring optimal animal health through effective restraint, nutrition, and understanding of body systems.

Student Learning Outcomes

1. Demonstrate ability to provide proper restraint and handling of patients; administer medications using various routes and techniques; Perform venipuncture; Place intravenous catheters.
2. Evaluate pet foods, describe feeding methods best used for specific conditions; compare nutritional support provided by nutrients. Assess patient body condition and communicate with clients regarding nutrition topics.
3. Gather patient history and perform physical exams; provide basic husbandry care.
4 .Perform clinical procedures involving the digestive, cardiovascular, respiratory, and urinary systems.
5. Identify special considerations for and explain proper care of neonatal, geriatric, and infirm patients; identify pain in patients using pain assessments.
6 .Identify select toxicants and assist in managing poison emergencies.

VETT 1132. Small Animal Desease and Medical Care II

Course Description

An intermediate level course which builds on foundational knowledge of Small Animal Disease and Medical Care 1. This course explores a selection of diseases in greater depth, emphasizing their anatomical and physiological basis. Students will develop a deeper understanding of disease mechanisms, progression, and clinical implications in small animal patients.

Student Learning Outcomes

1. Demonstrate proper restraint and handling techniques; apply muzzles and E-collars; provide basic husbandry care; demonstrate ophthalmic diagnostic tests and administer medications using various routes and techniques.
2. Explain the organization of the body at the cellular and tissue levels; identify mechanisms of disease; and apply proper sanitation practices.
3. Describe key oncology concepts; recognize and assess signs of pain in animals.
4. Identify anatomical structures, explain their functions, as well as describe select diseases, including diagnostic procedures and common medical treatments for disorders affecting the eye and ear, integumentary, musculoskeletal, and endocrine systems.
5. Research and develop reports on selected topics related to small animal diseases and medical care.

VETT 1133. Pharmacy and Medical Therapeutics II

Course Description

Pharmacy and Medical Therapeutics II is an intermediate course designed to instruct students in the cardiovascular, respiratory, and integumentary systems, the pharmaceuticals that affect those systems, and pharmacological calculations.

Student Learning Outcomes

1. Demonstrate knowledge of clinical use and actions of veterinary pharmaceuticals.
2. Apply knowledge of physiological processes of the cell, digestive system, cardiovascular system, respiratory system, and endocrine system.
3. Properly prepare and dispense veterinary prescriptions.
4. Perform measurement conversions and drug dosage calculations.

VETT 1134. Veterinary Anesthesia and Surgical Assisting II

Course Description

Veterinary Anesthesia and Surgical Assisting II is an intermediate course designed to instruct students in the preanesthetic evaluation of patients, the induction of anesthesia, and the monitoring of anesthetized and post-anesthetic patients.

Student Learning Outcomes

1. Identify and explain the function and maintenance of each part of the anesthesia machine and other ancillary anesthetic equipment.

2. Explain principles of aseptic techniques, including the proper preparation of surgical sites and personnel entering the operating room.
3. Identify and describe the use of various surgical instruments, and demonstrate proper OR setup, maintenance, and cleaning of equipment.
4. Demonstrate ability to select and safely utilize appropriate anesthetic-related medications and protocols; including use of proper administration and the ability to describe their indications, contraindications, and common side effects.
5. Manage patients under anesthesia using both hands-on monitoring and monitoring equipment, including identifying anesthetic stages and understanding normal vital signs according to species.

VETT 1135. Veterinary Diagnostic Imaging II

Course Description

Veterinary Diagnostic Imaging II is an intermediate course designed to instruct students in radiographic safety techniques, developing radiographs, the proper use of contrast media, specialized radiographic procedures, and an introduction to veterinary diagnostic ultrasound.

Student Learning Outcomes

1. Analyze and utilize radiographic technique charts, demonstrate proper care and maintenance of radiographic equipment, and apply radiology safety measures to minimize exposure,
2. Demonstrate proper positioning techniques for small animal patients during radiological procedures across various body regions.
3. Recognize, identify, and differentiate primary skeletal structures and soft tissue organs in images in common small animal species.

VETT 1136. Veterinary Clinical Pathology II

Course Description

Veterinary Clinical Pathology II is an intermediate course designed to instruct students in parasitology and advanced cytological and hematological procedures.

Student Learning Outcomes

1. Identify various blood cell types, analyze white blood cell (WBC) differentials, and interpret hematology results to assist in diagnosing blood-related disorders in veterinary patients.
2. Define and describe disorders of hemostasis; apply appropriate blood transfusion and cross-matching techniques to ensure safe and effective treatment of veterinary patients.
3. Perform sample collection and evaluation techniques for small animal and large animal parasites.
4. Identify the microscopic and macroscopic appearance of small animal and large animal parasites while being able to describe their zoonotic potential.

VETT 1137. Veterinary Business Procedures II

Course Description

Veterinary Business Procedures II is an advanced course designed to build on the knowledge and skills covered in Business Procedures I, with an emphasis on veterinary business operations.

Student Learning Outcomes

1. Performing basic filing and maintenance of medical records including patient records, radiographs, Laboratory reports, maintain appropriate controlled substance logs, and maintain daily client-based financial transactions.
2. Participating in hospital inventory control processes.

3. Recognizing roles of appropriate regulatory agencies and identify disposal protocols for hazardous materials in compliance with regulatory guidelines.
4. Acquiring and conveying information utilizing appropriate interpersonal and public relation skills.
5. Developing and providing client education in a clear and accurate manner at an appropriate level.
6. Applying crisis intervention/grief management skills utilizing an understanding of the human-animal bond.

VETT 1170. Animal Comparative Anatomy and Physiology

Course Description

Comparative anatomy and physiology of canine, bovine, equine, feline species including circulatory, respiratory, digestive, muscular/skeletal, nervous, endocrine, exocrine, urogenital systems. Also includes a brief anatomy and physiology of avian and reptile species. Requires hands on Laboratory experience including dissection.

Student Learning Outcomes

1. Organize the taxonomic relationships of 9 species of domestic animals.
2. Compare and contrast the structure of components of 11 body systems in 9 species of animals.
3. Compare and contrast the function of components of 11 body systems in 9 species of animals.
4. Describe the relationship between structure and function of components of each of 11 body systems.

VETT 1192L. Supplemental Laboratory

Course Description

Provides participation in supervised learning and review of basic, advanced and specialized practices, including topics in Anatomy and Physiology, Therapeutics, Clinical Pathology. Allows students to review in preparation for VT exit examinations.

Student Learning Outcomes

1. Compose a goal statement for the course.
2. Use Laboratory resources and other students and instructors to practice skills and competencies in past and current VT coursework.
3. Report on the accomplishment of the goal.

VETT 1210. Animal Comparative Anatomy and Physiology II

Course Description

Continues study of comparative anatomy and physiology of canine, bovine, equine, feline species including circulatory, respiratory, digestive, muscular/skeletal, nervous, endocrine, exocrine, urogenital systems. Requires hands-on Laboratory experience including dissection.

Student Learning Outcomes

1. Organize the taxonomic relationships of 9 species of domestic animals.
2. Compare and contrast the structure of componenets of 11 body systems in 9 species of animals.
3. Compare and contrast the function of components of 11 body systems in 9 species of animals.
4. Describe the relationship between structure and function of components of each of 11 body systems.

VETT 1272. Surgical Technology for Veterinary Technicians

Course Description

Introduces students to surgical procedures, instruments, suture materials, surgical supplies and surgical preps. Overview of anesthesia and emergencies, surgical emergencies and post-surgical care. Includes clinical experience as circulating technician. This course is primarily small animal in focus.

Student Learning Outcomes

1. Prepare surgical packs, gowns, and instruments.
2. Describe surgical procedures.
3. Recognize and organize suture materials.
4. Perform surgical preps.
5. Organize and prepare surgical supplies.
6. Recognize and describe response to surgical emergencies.
7. Perform suite circulating technician duties.
8. Describe postsurgical care.
9. Relate overview of anesthesia.
10. Apply concepts of microbiology to sterile fields.
11. Perform sterilization techniques.
12. Identify surgical instruments. perform surgical scrub.
13. Present all current small animal CVTEA surgical nursing required competencies.

VETT 1292L. Veterinary Office and Hospital Procedures Laboratory

Course Description

Introduces veterinary office procedures in a hands-on Laboratory experience. Various aspects of facility management will be presented using traditional and electronic media to prepare student to effectively contribute to the professional and efficient operation of a veterinary facility. Emphasis will be on veterinary computer software applications, veterinary online services, telephone skills and role-playing in client communication situations.

Student Learning Outcomes

1. Identify various facility management processes utilizing traditional and electronic media.
2. Identify appropriate veterinary medical terminology and abbreviations.
3. Demonstrate telephone etiquette, including excellent message writing
4. Define the veterinary - client - patient - relationship, and apply confidentiality of information
5. Classify and respond appropriately to various veterinary medical emergencies (role play)
6. Implement the "needs ladder"
7. Demonstrate appointment scheduling, admits, discharge and triage
8. Write a SOAP.
9. Write a proper prescription Laboratoryel.
10. Describe common veterinary office equipment and maintenance needs.
11. Utilize common veterinary management software programs, including client data entry.
12. Locate on-line resources supporting veterinary technology topics.
13. Describe various facility logs and records.
14. Describe the human animal bond and stages of grief (natural death, or by euthanasia).
15. Utilize veterinary on-line services (NAVTA, VSPN, AVMA)
16. Perform medical record filing (alphabetical and numerical).
17. Describe inventory control management.
18. Describe the role of regulatory agencies, such as OSHA.
19. Create a hazardous material protocol and recognize workplace safety issues.
20. Demonstrate ability to enter data, and make correct change for financial transactions
21. Explain personal and client stress.
22. Explain the professional veterinary team and demonstrate appropriate interactions.
23. Read and apply the HWPS and Veterinary Technology Program handbooks.

24. Comprehend and utilize the services of the CNM Learning Center (library / student support services).
25. Apply the StrengthsQuest inventory and Learning Styles assessment to personal professional performance.
26. Apply communication skills in a professional manner in all formats - written, oral, non-verbal, and electronic.
27. Apply applicable laws and the veterinary technology profession's ethical codes to provide high quality care to patients.

VETT 1293L. Radiology for Veterinary Technicians Laboratory

Course Description

Introduces exercises and demonstrations related to veterinary radiology. Includes field trips, exercises and demonstrations at veterinary clinics.

Student Learning Outcomes

1. Manage personal radiographic monitoring badge.
2. Maintain proper personal radiographic safety measures.
3. Observe recommended radiation safety measures.
4. Apply recommended radiation safety measures.
5. Appreciate historical development of radiography.
6. Manage risks to personnel & the animal during radiographic exposures.
7. Apply effective radiographic quality control measures.
8. Evaluate diagnostic quality of the radiograph.
9. Process exposed images.
10. Prepare the imaging site & equipment.
11. Create a radiographic technique chart.
12. Utilize a radiographic technique chart.
13. Place animals properly for radiographic studies.
14. Demonstrate a broad variety of anatomical radiographic positions.
15. Recognize faulty operation of radiographic equipment.
16. Store radiographic film properly & safely.
17. Utilize automatic & hand processors.
18. Utilize radiographic equipment properly to expose x-ray film.
19. File radiographic film correctly.
20. Laboratoryel radiographic film properly.
21. Complete radiographic logs, reports, files & records properly.
22. Demonstrate proper maintenance of radiographic equipment.
23. Demonstrate radiographic techniques utilized in screening canine hip dysplasia.
24. Demonstrate the steps for a GI series.
25. Demonstrate the steps for a pneumocystogram.
26. Utilize positive & negative radiographic contrast media properly.
27. Demonstrate large animal radiographic positioning.
28. Place exotic & Laboratory animals properly for radiographic studies.
29. Use ultrasonography equipment.
30. Use endoscopic equipment.

VETT 2110. Clinical Pathology for Veterinary Technicians I

Course Description

Provides a clinical laboratory setting for students to learn the diagnostic techniques in parasitology, urinalysis, microbiology and cytology including proper collection, preparation and evaluation of specimens.

Student Learning Outcomes

1. Handle laboratory equipment, specimens and cultures using Standard Precautions, employing PPE, and following laboratory safety rules.
2. Use the microscope properly to accurately view specimens at 100x power.
3. Clean and care for the microscope properly.
4. Complete microbiology skills, and specimen identification (bacteria, fungi, dermatophytes, and yeast).
5. Classify Gram negative and Gram positive organisms, focusing on organisms important to veterinary medicine.
6. Perform a Gram stain resulting in proper identification of the organism.
7. Perform a four quadrant streak isolation, including proper labeling.
8. Perform microbiology tests such as oxidase, catalase, CMT, MacFarland Standard and disc sensitivity, etc.
9. Identify hemolysis patterns.
10. Use a dichotomous key.
11. Perform parasitologic procedures for internal parasites:
    a. fecal flotations.
    b. fecal sedimentation.
    c. direct smears.
    d. scotch tape retrieval of specimens.
12. Perform parasitologic procedures for external parasites and identify mites, lice, ticks, fleas, flies.
13. Identify common adult parasites and ova including Nematodes, Trematodes, Cestodes and Protozoa.
14. Explain the life cycles of various endoparasites and exoparasites as they relate to pathologic conditions.
15. Perform coprologic tests.
16. Perform cytologic evaluation including collection, preparation and evaluation of specimens.
17. Perform urinalysis (determine physical properties, test chemical properties, examine and identify sediment).
18. Explain the relationship between urinary tract disease and urinalysis results.
19. Explain the relationship between infections and infestations.
20. Explain which plants are toxic to animals.
21. Perform necropsy procedures, including:
    a. collection, identification and safe handling of rabies suspects
    b. storage and shipping of samples according to laboratory protocols
    c. prosection on non-preserved animal
    d. disposal of dead animals
22. Present all current CVTEA laboratory procedures required competencies.

VETT 2115. Non-Infectious and Infectious Diseases for Veterinary Technicians

Course Description

Presents overview of common non- infectious and infectious diseases with a special emphasis on zoonotic diseases, isolation concerns, and federal regulations. OSHA requirements, occupational safety, the CVTEA policy on safety and necropsy techniques.

Student Learning Outcomes

1. Describe zoonotic disease and how it can be transmitted to humans; consider zoonotic potential of animal diseases and define epidemiologic terms.

2. Describe specific and non-specific immunity, define antigen and antibody and differentiate the types of immunoglobulins.
3. Identify causative agents, transmission and signs of bacterial zoonoses and describe protective measures professionals take to prevent transmission of bacterial zoonoses.
4. Identify causative agents, transmission, clinical signs and control of viral diseases and the protective measures taken to prevent transmission.
5. Describe basic tick biology and differentiation and identify causative agents, transmission, clinical signs and control of tick-borne bacterial zoonoses.
6. List and describe vaccines for common feline and canine diseases.
    a. List the major types of vaccines
    b. Discuss how vaccines work
    c. Discuss correct handling and storage of vaccine
    d. Describe possible vaccine reactions
7. Describe the causative agents, clinical signs and control of fungal zoonoses and identify the properties unique to fungi.
8. Describe prion disease, transmission, clinical signs as well as control and protective measures for professionals to prevent transmission.
9. Define necropsy and describe its purpose, safety precautions and procedures for different species and list the materials used for necropsy and tissue collection.
10. List and describe disinfectant categories and their advantages and disadvantages and recognize the relationship of diseases and OSHA requirements and the technicians role in controlling spread of disease.
11. Describe the agents or metabolic processes of common non-infectious diseases, how the diseases affect the body systems of domestic animals and the technician's role in the nursing care of these animals.

VETT 2190. Veterinary Technology Clinical I

Course Description

Applies theory to practice at veterinary clinics performing hands-on duties including radiology, kennel maintenance, animal handling and restraint, pre and post surgical preparation and operating room etiquette, etc.

Student Learning Outcomes

1. Complete 90 clinical placement hours.
2. Participate in required field trips.
3. Write reports on field trips.
4. Write term paper.
5. Write weekly clinical reflection reports.
6. Write StrengthQuests reflection report.
7. Complete required clinical placement evaluation forms.
8. Complete required clinical placement logs, attendance, radiology.
9. Complete clinical placement journal. participate in daily clinical activities at placement facility.
10. Discuss progress at a clinical review appointment with clinical coordinator.
11. Interact appropriately with staff.
12. Interact appropriately with clients.
13. Interact appropriately, proficiently and safely with patients.
14. Describe an involved case; follow care, include a reflection in a weekly report.
15. As the placementallows; opportunities are presented.

16. Demonstrate proficiency level in reception skills per rubric.
17. Demonstrate proficiency level in room assistant skills per rubric.
18. Demonstrate proficiency level in surgical pre-post operative care per rubric.
19. Demonstrate proficiency level in radiology or imaging skills per rubric.
20. Demonstrate proficiency level in laboratory skills per rubric.
21. Demonstrate proficiency level in therapeutics and care skills per rubric.

VETT 2210. Veterinary Nursing Care III

Course Description

An advanced l;evel course designed to instruct students in the topics of dentistry, and nursing care of small animal patients afflicted by disorders of specific body systems.

Student Learning Outcomes

1. Identify structures of the oral cavity, head, and neck; describe and identify dental occlusions, neoplasia, oral diseases, proper use of dental instruments and equipment, perform dental exams and cleanings, and provide client education for dental home care for their pet.
2. Perform clinical procedures involving the eye, musculoskeletal, and integumentary systems.
3. Describe wounds, wound healing, and treatment of wounds.
4. Identify and describe different types of bandages, splints, casts, apply bandages, and provide bandage care.
5. Demonstrate ability to obtain patient histories and perform physical exams; Perform venipuncture; Perform urinary procedures; Clean and medicate ears; Administer fluid therapy and medications; Place IV catheters; Perform ophthalmic tests and therapy; Apply bandages; Perform dental prophylaxis.
6. Compare and contrast innate and adaptive immune responses while acknowledging the impact of stress on the patient.

VETT 2212. Small Animical Disease and Medical Care III

Course Description

Small Animal Diseases and Medical Care 3 is an advanced level course that builds on foundational knowledge of small animal diseases and conditions. This course explores a selection of diseases in greater depth, emphasizing their anatomical and physiological basis. Students will develop a deeper understanding of disease mechanisms, progression, and clinical implications in small animal patients

Student Learning Outcome

1 .Obtain patient histories and perform physical examinations; perform venipuncture and urinary procedures; provide basic husbandry care; administer fluid therapy and medications; place intravenous (IV) catheters.
2. Identify anatomical structures, explain their functions, as well as describe select diseases, including diagnostic procedures and common medical treatments for disorders affecting the reproductive, cardiovascular, blood/immune, respiratory, nervous, urinary, and digestive systems.
3 Research and develop reports on selected topics related to small animal diseases and medical care utilizing the SJC library resources

VETT 2213. Pharmacology and Medical Therapeutics III

Course Description

Pharmacology and Medical Therapeutics III is an advanced course designed to instruct students in the musculoskeletal, nervous, endocrine, reproductive, digestive, urinary, special sense organs, and the pharmaceuticals that affect those systems.

Student Learning Outcomes

1. Demonstrate knowledge of clinical use and actions of veterinary pharmaceuticals.
2. List and identify actions of veterinary medications as related to various body systems.
3. Define actions and clinical uses of veterinary pharmaceuticals in response to pain and inflammation, antimicrobial drug therapy, antiparasitic medications, fluid therapy, immunology, and explore alternative therapeutic agents.
4. Properly prepare and dispense veterinary prescriptions.
5. Perform pharmaceutical calculations and properly calculate dosage problems.
6. Document usage of pharmaceuticals within the veterinary pharmacy and apply knowledge of inventory control procedures; including proper handling and tracking of controlled substances.

VETT 2214. Veterinary Anesthesia and Surgical Assistant III

Course Description

This course is an advanced course designed to instruct students in advanced and interactive preanesthetic evaluations, induction of anesthesia, and the monitoring of anesthesia and post-anesthetic patients.

Student Learning Outcomes

1. Describe the anesthetic process from preanesthetic evaluation through induction, maintenance, and recovery for multiple species, including dogs, cats, horses, ruminants, and exotic animals.
2. Consider advanced anesthetic techniques, including local and regional blocks, and the management of patients on a ventilator.
3. Identify and respond appropriately to anesthetic complications or emergencies.
4. Demonstrate pain scoring evaluation techniques and describe the importance of pain management, including both pharmacologic and non-pharmacologic options.
5. List, describe, and demonstrate the duties of the sterile surgical assistant including proper surgical assisting principles, instrument handling, tissue maintenance, and suture handling.
6. Describe concepts of various surgical procedures and explain the role of the technician in patient care before, during, and after the procedure.

VETT 2215. Veterinary Diagnostic Imaging III

Course Description

This course is an advanced course designed to instruct students in advanced safety techniques, the use of contrast media, advanced radiographic procedures, and advanced veterinary diagnostic ultrasound techniques.

Student Learning Outcomes

1. Identify the skeletal anatomy of canine, feline, equine, and avian species as it applies to diagnostic imaging.
2. Evaluate equine imaging safety principles; identifying patient positioning and diagnostic imaging techniques for anatomical areas such as the feet, knees, and fetlocks.
3. Differentiate between radiograph imaging techniques and positioning strategies used for avian and exotic species.
4. Apply and analyze proper positioning techniques for dental radiography in small animals.
5. Evaluate and analyze ultrasonography techniques in dogs, cats, and horses, and examine the use of endoscopy in small animals, horses, avian species, and exotics.
6. Apply digital radiography techniques, and evaluate special radiographic procedures, including contrast studies, CT, MRI, and cystograms.
7. Demonstrate proper positioning techniques for hip dysplasia analysis in canine patients.
8. Demonstrate and evaluate images through the completion of the Veterinary Diagnostic Imaging Capstone project.

VETT 2216. Veterinary Clinical Pathology III

Course Description

This course is an advanced course designed to instruct students in hematology, cytology, histopathology, blood chemistry, urinalysis, and diagnostic microbiology.

Student Learning Outcomes

1. Perform advanced hematological techniques to evaluate blood samples, including specialized staining, cell morphology assessment, and coagulation testing.
2. Interpret hematological and urinalysis results to assess animal health and detect pathological conditions.
3. Demonstrate proficiency in microbial culture techniques, pathogen identification, and antimicrobial susceptibility testing for veterinary diagnostics.
4. Analyze clinical chemistry profiles to assess organ function, metabolic status, and disease processes in veterinary patients.
5. Evaluate cytological and bone marrow samples to differentiate normal and abnormal cellular changes, assess hematopoietic function, and identify disease processes.

VETT 2219. Video Porfolio Veterinary Nursing I

Course Description

The Veterinary Nursing 1 Video Portfolio is an advanced level course designed to evaluate student performance of required hands-on clinical tasks for veterinary nursing skills. Students will be required to capture and submit videos on specific and required veterinary nursing tasks as part of the program final clinical practical exams. The completion of clinical skills videos is a requirement for all online veterinary technology students based on AVMA/CVTEA accreditation criteria.

Student Learning Outcomes

This course requires students demonstrate proficiency of the following required clinical tasks through a video assignment utilizing CVTEA and SJC VTDLP standards (as outlined in the course video instructions document) for the following tasks:

1. Remove a Large Dog from Cage.
2. Place Cat into a Cage or Carrier and Remove.
3. Administer an Enema.
4. Apply a Nylon Muzzle to a Dog.
5. Place an Elizabethan Collar on a Dog or Cat.
6. Use a Restraint Pole on a Large Dog.
7. TPR and Auscultation on a Dog.
8. TPR and Auscultation on a Cat.
9. Cephalic Venipuncture on a Dog.
10. Cephalic Venipuncture on a Cat
11. Jugular Venipuncture on a Dog.
12. Jugular Venipuncture on a Cat.
13 .Lateral Saphenous Venipuncture on a Dog.
14. Medial or Lateral Saphenous Venipuncture on a Cat.
15. Administer Subcutaneous Fluids
16. Apply a Modified Robert Jones Bandage.
17. Express Canine Anal Sacs.
18. Cystocentesis on a Cat or a Female Dog.
19. Urinary Catheterization on a Male Dog.
20. Nail Trim on a Dog.

21. Nail Trim on a Cat.
22. Clean and Medicate Ears on a Dog.
23. Clean and Medicate Ears on a Cat.
24. Hand Pill a Dog.
25. Hand Pill a Cat.
26. Subcutaneous Injection on a Dog.
27. Subcutaneous Injection on a Cat.

VETT 2221. Video Portfolio Anethesia and Surgical Assisting

Course Description

This course is an advanced level course designed to evaluate student performance of required hands-on clinical tasks for veterinary anesthesia and surgical assistance skills. Students will be required to capture and submit videos of specific and required veterinary surgical assistance and perianesthetic tasks as part of the program final clinical practical exams. The completion of clinical skills videos is a requirement for all online veterinary technology students based on AVMA/CVTEA accreditation criteria.

Student Learning Outcomes

This course requires students demonstrate proficiency of the following required clinical tasks through a video assignment utilizing CVTEA and SJC VTDLP standards (as outlined in the course video instructions document) for the following tasks:

1. Set up, maintain and operate an anesthetic machine and perform pressure check for leaks.
2. Remove sutures.
3. Preanesthetic patient preparation.
4. Perform rapid sequence induction and endotracheal intubation.
5. Utilize clinical signs and appropriate equipment to monitor patient status under inhalant anesthesia.
6. Prepare surgical site using aseptic techniques and position patient for common procedures.
7. Wrap a surgical gown.
8. Clean the operating room.
9. Perform surgical hand scrubbing.
10. Perform surgical gowning and closed gloving.
11. Clean surgical instruments.
12. Demonstrate proper operating room conduct and asepsis when working as a scrubbed in sterile assistant.
13. Assemble and wrap a major surgery pack.
14. Utilize an autoclave to sterilize instruments and supplies.
15. Participate in common canine and feline surgical procedures.

VETT 2222. Video Portfolio: Veterinary Clinical Pathology

Course Description

The Veterinary Clinical Pathology Video Portfolio is an advanced level course designed to evaluate student performance of required hands-on clinical tasks for clinical pathology essential skills. Students will be required to capture and submit videos of specific clinical pathology tasks as part of the program final clinical practical exams. The completion of clinical skills videos is a requirement for all online veterinary technology students based on AVMA/CVTEA accreditation criteria.

Student Learning Outcomes

1. Prepare serum and plasma.
2. Perform packed cell volume/total protein.
3. Prepare and stain blood film.

4. Perform leukocyte differential.
5. Perform culture for identification of dermatophytes.
6. Perform heartworm microfilaria test: direct smear method.
7. Perform heartworm antigen test.
8. Perform modified Knotts test for microfilaria detection.
9. Perform fibrinogen assay.
10. Perform CBC and blood chemistry (both in-house and external laboratory).
11. Perform serologic testing (ELISA).
12. Collect, prepare, and evaluate ear cytology.
13. Collect, prepare, and evaluate canine vaginal smears.
14. Perform a skin scrape.
15. Perform a fecal flotation with centrifugation.
16. Perform a fecal direct smear test.
17. Perform a fecal sedimentation test.
18. Perform bacterial culture and sensitivity.
19. Perform cross match (manual)
20. Perform a urinalysis.

VETT 2223. Video Portfolio: Veterinary Nursing II

Course Description

The Veterinary Nursing II Video Portfolio is an advanced level course designed to evaluate student performance of required hands-on clinical tasks for veterinary nursing essential skills. Students will be required to capture and submit videos of specific veterinary nursing tasks as part of the program final clinical practical exams. The completion of clinical skills videos is a requirement for all online veterinary technology students based on AVMA/CVTEA accreditation criteria.

Student Learning Outcomes

This course requires students demonstrate proficiency of the following required clinical tasks through a video assignment utilizing CVTEA and SJC VTDLP standards (as outlined in the course video instructions document) for the following tasks

1. Properly restrain a dog for cephalic venipuncture.
2. Properly restrain a dog for saphenous venipuncture.
3. Properly restrain a dog or cat for jugular venipuncture.
4. Administer an intramuscular injection to a dog AND cat.
5. Administer an intravenous injection to a dog AND cat.
6. Placement of a cephalic intravenous catheter.
7. Placement of a saphenous intravenous catheter.
8. Perform a Schirmer tear test.
9. Perform a fluorescein stain test.
10. Perform tonometry testing.
11. Perform orogastric intubation.
12. Perform a complete dental prophylaxis/examination.

VETT 2230. Vet Anatomy and Physiology

Course Description

Veterinary Anatomy and Physiology provides a comprehensive understanding of comparative anatomy and physiological adaptations of domestic animals. The course emphasizes core anatomical and physiological principles while incorporating specific information on large animals and non-traditional species.

Student Learning Outcomes

1. Identify and describe the microscopic and gross anatomy of each body system studied using the appropriate terminology.
2. State the functions of each organ system of the body, explain the mechanisms by which each operates, and relate the functions to the anatomy and histology of each organ system.
3. Apply to clinical scenarios the concepts and knowledge of the general terminology, function, and physiology of the organ systems covered.
4. Explain the role of each body system in maintaining homeostasis.

VETT 2232. Large Animal Diseases and Medical Care

Course Description

Large Animal Diseases and Medical Care instructs students in sanitation and disease prevention techniques, correct use and administration and documentation of medications, and the pathophysiology of common diseases of large animals.

Student Learning Outcomes

1. Identify components and the role of the veterinarian and veterinary technician in livestock breeding operations and concepts involved in reproductive procedures.
2. Differentiate between breeds and uses of livestock including horses, cattle, sheep, goats, swine, and camelid species.
3. List and describe appropriate husbandry and nutrition for livestock including horses, cattle, sheep, goats, swine, and camelid species.
4. Compare and contrast common parasites affecting large animal species including life cycle, transmission, symptoms, and treatment.
5. Evaluate symptoms and clinical signs of major infectious and non-infectious diseases in cattle, sheep, goats, and pigs and be able to identify those which are zoonotic or reportable.
6. Identify techniques used to evaluate and determine signs associated with equine lameness and the techniques used for lameness exams.

VETT 2233. Large Animcal Clinical Assisting

Course Description

Large Animal Clinical Assisting is designed to prepare the student for clinical care of large animals by building core competencies related to safe livestock handling, patient nursing care, preventative medicine, equine imaging, surgical nursing, and proper use of large animal instruments and equipment. Through both course instruction and practical lab experiences, students will gain a foundational knowledge and technical abilities required for completion of required large animal clinical skills.

Student Learning Outcomes

1. Describe the principles of safe livestock restraint and handling, including species-specific behavior and design and use of various pens and restraint equipment.
2. Identify and explain the steps of a physical examination and importance of a patient history for large animals and small ruminants.

3. Differentiate between various routes of medication administration in large animals and small ruminants and describe best practices for each.
4. Recognize the tools, terminology, equipment, and protocols used in large animal clinical procedures, and explain their relevance to patient care.
5. Discuss principles and applications of diagnostic imaging in equine medicine various positions, terminology and techniques.
6. Outline common hoof pathologies and describe and perform appropriate hoof care and bandaging techniques used in equine practice.
7. Describe preoperative and postoperative processes involved in equine surgery, including aseptic techniques and patient monitoring.

VETT 2235. Laboratory Animal/Sm Exotic Clinical Procedures

Course Description

Covers the common diseases of laboratory animals and small exotics and emphasizes proper sanitation and disease prevention techniques, appropriate medication administration procedures, animal nutrition, reproduction, and behavior.

Student Learning Outcomes

1. Identify the unique anatomic and physiologic characteristics of various laboratory and small exotic animals.
2. Identify the husbandry/nutritional requirements, normal behaviors, and breeding systems of laboratory animals in a clinical setting and discern these from inappropriate conditions.
3. Demonstrate safe handling and restraint of laboratory and small exotic animals in a clinical setting.
4. Utilize appropriate methods of medication administration and sample collection techniques for various laboratory animal/small exotic species in a clinical setting.
5. Identify and describe common diseases and disease pathophysiology processes of laboratory animals encountered in the practice of veterinary medicine.
6. Perform a necropsy procedure on a non-preserved animal and collect/store/ship samples according to laboratory protocols.

VETT 2236. Emergency and Critical Care Medicine

Course Description

This course is designed to provide students with emergency and critical care nursing skills necessary to identify and respond effectively to a variety of emergency situations. The course includes patient assessment, triage, stabilization techniques, cardiopulmonary resuscitation, and advanced emergency medicine and critical care techniques and assessments.

Student Learning Outcomes

1. Perform triage and stabilization techniques for emergency patients.
2. Administer intravenous fluid therapy and blood transfusions effectively.
3. Manage patients in shock, utilizing appropriate clinical interventions upon veterinarian's orders.
4. Administer cardiopulmonary resuscitation (CPR) following established protocols.
5. Identify and manage emergencies across various body systems.
6. Provide comprehensive nursing care for critical care patients.
7. Provide proper management for chest tubes and feeding tubes.
8. Describe various venous access techniques, including proper placement and maintenance.

VETT 2592L. Advanced Supplemental Laboratory for Veterinary Technology

Course Description

Provides second-year Veterinary Technology students with the opportunity for additional learning and practice of veterinary technology skills in the campus laboratory. Encourages preparation for the VTNE.

Student Learning Outcomes

1. Compose a goal statement for the course.
2. Use laboratory resources and other students and instructors to practice skills and competencies in past and current VT coursework.
3. Use available resources to properly prepare to pass the Veterinary Technician National Examination.
4. Report on the accomplishment of the goal.

VETT 2610. Clinical Pathology for Veterinary Technicians II

Course Description

Identifies RBC, WBC, PCV, TP, platelets and blood parasites. Students learn how to perform staining techniques, heartworm tests and coagulation tests, how to perform serum analysis and how to use diagnostic in house laboratory kits.

Student Learning Outcomes

1. Package, handle and store specimens for laboratory analysis properly.
2 .Perform and determine appropriate methodologies and carry out analytical procedures necessary to provide accurate and precise diagnostic information.
3. Recognize accurate vs. erroneous results in order to provide maximum diagnostic benefit.
4. Communicate if a need exists for additional laboratory tests that will provide useful diagnostic information.
5. Perform a CBC, including evaluation of the various test results: including hemoglobin, packed cell volume, total protein, white cell count, buffy coat, red cell count (including morphology).
6. Prepare and evaluate a microscopic exam of blood film, including various stain techniques and evaluation of normal vs. abnormal cells.
7. Estimate platelet numbers.
8. Perform platelet count.
9. Calculate absolute values.
10. Correct white blood cell counts for nucleated cells.
11. Calculate hematologic indices.
12. Perform reticulocyte count.
13. Perform blood chemistry tests.
14. Collect properly and examine small animal urinary, vaginal and semen specimens.
15. Perform cytological examination of specimens.
16. Perform blood typing procedure.
17. Perform one of the following coagulation tests: Buccal mucosal bleeding time, Activated clotting time (ACT), Prothrombin time (PT), Partial thromboplastin time (PTT), Fibrinogen assay.
18. Properly prepare, handle and submit appropriate samples for diagnostic analysis in order to ensure maximum accuracy of results.
19. Determine proper maintenance and quality control procedures necessary to ensure accurate results.
20. Present all current CVTEA Laboratory procedures required competencies.

VETT 2651. Anesthesiology for Veterinary Technicians Lecture

Course Description

Studies anesthesia in large and small domestic animals, exotic and laboratory species. Includes pre-anesthetic evaluation, induction of anesthesia, patient monitoring and recovery, principles of fluid therapy related to anesthesia, dosage calculations, and identification, care, and maintenance of anesthetic machines.

Student Learning Outcomes

1. Calculate dosages of appropriate anesthetic-related drugs.
2. Explain how to safely and effectively administer appropriate anesthetic-related drugs by injection, mask, induction chamber or endotracheal tube.
3. Explain how to safely and effectively place endotracheal tubes in patients when appropriate.
4. Explain how to utilize clinical signs and appropriate equipment to monitor patient status in all stages of anesthetic proceduares (e.g. esophageal stethoscope, doppler, pulse oximeter).
5. Explain how to effectively evaluate patients and implement and evaluate pain management protocols.
6. Explain how to recognize and respond appropriately to patients in compromised states.
7. Explain how to effectively perform appropriate resuscitation procedures as needed (e.g. calculate and administer appropriate anesthetic antagonist and emergency drugs as directed).
8. Complete controlled drug log.
9. Assess the patient's risk status and determine appropriate anesthetic and perianesthetic protocols to provide effective pain management and maximum anesthetic safety and effectiveness.
10. Explain how to choose and utilize appropriate techniques and equipment to accurately and effectively monitor the patient's ongoing status before, during and after anesthesia to provide for adequate anesthesia, analgesia and a safe recovery.
11. Explain how to maintain & operate anesthetic delivery & monitoring equipment:
12. Explain how to recognize and respond appropriately to equipment malfunction or inappropriate equipment setup, given the characteristics of the anesthetic instrument and equipment being used.
13. Explain how to select, evaluate and adjust equipment, given the requirements of the anesthetic protocol.

VETT 2674. Applied Therapeutics and Care for Veterinary Technicians I

Course Description

Presents skills such as venipuncture, medication administration, IV therapy, bandaging and splinting, catheterization techniques, recumbent patient care, blood transfusions, and nutritional care.

Student Learning Outcomes

1. Recognize husbandry, nutrition, and therapeutic techniques for small animals.
2. Describe emergency protocols, critical nursing care, parenteral and enteral medications, fluid therapy and catheter principles, ocular and aural care.
3. Demonstrate proper use of monitoring machines, and describe the P-QRST ECG wave.
4. Discuss urinary catheterization.
5. Demonstrate placement of intravenous catheters.
6. Demonstrate intravenous fluid therapy and calculate drip rates.
7. Describe body condition scoring and small animal nutrition principles, and the AAFCO.
8. Describe various methods of tube feeding.
9. Describe pet food labels, related especially to client care.
10. Calculate moisture content and dry matter percent for pet foods.
11. Calculate energy requirements, and describe life stage diets.
12. Discuss wound healing and bandage techniques.
13. Apply soft padded bandages and the Robert Jones Bandage.

14. Describe various passive physical therapy techniques.
15. Describe various alternative small animal therapeutic medicine techniques
16. Evaluate a patient as if for critical emergencies, including CPCR.
17. Apply various therapeutic skills appropriate to the animal and for the case management presented.
18. Apply appropriate care for the patient in simulated medical situations, including critical thinking, client care concerns, and safety and care for the patient.

VETT 2690. Veterinary Technology Clinical II

Course Description

Applies theory to practice at clinics, performing hands-on duties that include: specimen collection, urinalysis, parasite evaluation, wound management, administration of medications, IV catheterization, veni-puncture and client education.

Student Learning Outcomes

1. Complete 156 clinical placement hours.
2. Participate in required field trips.
3. Write reports on field trips.
4. Write term paper.
5. Write weekly clinical reflection reports.
6. Write StrengthQuests reflection report.
7. Complete required clinical placement evaluation forms.
8. Complete required clinical placement logs; attendance, radiology.
9. Complete clinical placement journal.
10. Discuss progress at a clinical review appointment with clinical coordinator.
11. Participate in daily clinical activities at placement facility.
12. Interact appropriately with staff.
13. Interact appropriately with clients.
14. Interact appropriately, proficiently and safely with patients.
15. Demonstrate proficiency level in reception skills per rubric.
16. Demonstrate proficiency level in room assistant skills per rubric.
17. Demonstrate proficiency level in surgical pre-post operative care per rubric.
18. Demonstrate proficiency level in radiology or imaging skills per rubric.
19. Demonstrate proficiency level in laboratory skills per rubric.
20. Demonstrate proficiency level in therapeutics and care skills per rubric.
21. Describe an involved case; follow care, include reflection in a weekly report.

VETT 2692L. Anesthesiology for Veterinary Technicians Laboratory

Course Description

Introduces exercises and demonstrations related to veterinary anesthesiology. May include field trips, exercises and demonstrations and laboratories at veterinary clinics.

Student Learning Outcomes

1. Assess the patient's risk status and determine appropriate anesthetic and perianesthetic protocols to provide effective pain management and maximum anesthetic safety and effectiveness.
2. Choose and utilize appropriate techniques and equipment to accurately and effectively monitor the patient's ongoing status before, during and after anesthesia to provide for adequate anesthesia, analgesia and a safe recovery.

3. Accurately calculate dosages of appropriate anesthetic-related drugs.
4. Safely and effectively administer appropriate anesthetic-related drugs by injection, mask, induction chamber or endotracheal tube.
5. Safely and effectively place endotracheal tubes in patients when appropriate.
6. Utilize clinical signs and appropriate equipment to monitor patient status in all stages of anesthetic procedures (e.g. esophageal stethoscope, doppler, pulse oximeter).
7. Effectively evaluate patient and implement and evaluate pain management protocols.
8. Recognize and respond appropriately to patients in compromised states.
9. Effectively perform appropriate resuscitation procedures as needed (e.g. calculate and administer appropriate anesthetic antagonists and emergency drugs as directed).
10. Complete controlled drug log.
11. Recognize and respond appropriately to equipment malfunctions or inappropriate equipment setup, given the characteristics of the anesthetic instruments and equipment being used.
12. Select, evaluate and adjust equipment, given the requirements of the anesthetic protocol.
13. Maintain and operate anesthetic delivery and monitoring equipment:
    a. pulse oximeter
    b. esophageal stethoscope
    c. electrocardiograph (e.g. recognize abnormal rhythms/audible sounds)
    d. anesthetic machines, including rebreathing systems, non-rebreathing systems, induction chambers, and masks
    e. endotracheal tubes
    f. ambu bag
    g. scavenging systems
    h. oxygen sources
    i. respiratory monitors
    j. blood pressure monitoring devices
    k. laryngoscopes
    l. ventilator
    m. defibrillator

VETT 2790. Applied Therapeutics II Avian, Laboratory, Exotic and Large Animals

Course Description

Presents recognition, restraint, behavior, and basic husbandry of avians, laboratory animals, exotics and reptiles, and equines and livestock. Includes appropriate sites and routes of medication administration for each species, physical examinations, diseases, nursing and surgical requirements, and specimen collection.

Student Learning Outcomes

1. Present material required to meet the current CVTEA Competencies for Laboratory Animal, Non-Human Primates, Avian and Exotics, and Large Animals.
2. Describe restraint of non-human primates.
3. Explain the complications of keeping wildlife as pets.
4. Per identified species:
    a. Identify common breeds.
    b. Describe husbandry needs and concerns.
    c. Recognize normal and abnormal behavior patterns.

d. List information needed for a thorough patient history.
e. Describe therapeutic procedures.
f. Describe common animal identification systems as appropriate.
g. Describe anesthesia and recovery procedures.
h. Describe key nutritional factors for optimum health and in disease conditions.
i. Identify and describe clinical signs of common and zoonotic diseases.
j. Safely perform restraint.
k. Demonstrate how to obtain objective data as appropriate for a physical exam.
l. Determine the sex and describe reproduction variables.
m. Perform basic husbandry procedures.
n. Perform oral dosing.
o. Perform injections in the appropriate locations.
p. Collect blood samples.
q. Identify food types and nutritional requirements.
r. Discuss and / or administer sedatives or anesthetics as appropriate.
s. Discuss and / or perform necropsy and collect various samples.
t. Perform skills required to meet the current CVTEA Competencies for Laboratory Animal, Non-Human Primates, Avian and Exotics, and Large Animals.

VETT 2803. Pharmacology for Veterinary Technicians

Course Description

Presents overview of veterinary pharmacology and therapeutics, drug categories and use of drugs, administration methods, pharmacokinetics, prescription labeling and dispensing procedures, calculations, controlled substances including record logs, inventory control and ethical issues relating to handling drugs.

Student Learning Outcomes

1. Follow all current CVTEA required Pharmacy and Pharmacology competencies.
2. Safely and effectively administer prescribed drugs to patients.
3. Prepare medications.
4. Label and package dispensed drugs correctly.
5. Read and follow veterinarians pharmacy orders.
6. Explain groups of drugs, their mechanisms, and clinically relevant side effects.
7. Describe the safe and effective manner in which vaccines must be administered.
8. Explain common side effects.
9. Perform appropriate calculations to 100% accuracy.
10. Use weights and measures correctly.
11. Describe how to administer drugs by common parenteral and enteral routes; be able to explain appropriate routes and methods and when used.
12. Explain how to monitor and record therapeutic responses.
13. Describe regulations governing maintenance of controlled substances log book.
14. Explain compliance with all federal regulatory guidelines for drug purchase, storage, administration, withdrawal, dispensing, disposal, and inventory control; e.g., biologics and therapeutic agents pesticides, and hazardous wastes.
15. Practice dispensing and explaining prescribed drugs to clients.
16. Given a drug order, properly prepare medications for dispensing, including performing accurate calculations.
17. Explain compliance with regulations governing prescription drugs versus over-the-counter.

VETT 2890. Veterinary Technology Clinical III

Course Description

Applies theory to practice at veterinary clinics performing duties that include handling, therapeutics and care of laboratory and exotic animals, surgical assisting and hematological exams.

Student Learning Outcomes

1. Perform the required 156 clinical hours of clinical activities at assigned facility.
2. Demonstrate professional attire and approach for an interview.
3. Write a cover letter and resume.
4. Write StrengthQuests reflection report.
5. Complete required clinical placement logs, forms, journal,and evaluations.
6. Review clinical progress at an appointment with clinical coordinator.
7. Collaborate with the healthcare team.
8. Communicate appropriately with clients.
9. Integrate an evidenced based approach in the safe delivery and evaluation of patient care.
10. Complete comprehensive program assessments.

VETT 2892. Dentistry for Veterinary Technicians

Course Description

Studies prophylactic technique, charting, identification of normal tooth structure, number of teeth in each domestic species, identification of common dental problems, dental radiography and client dental education.

Student Learning Outcomes

1. Identify tooth anatomy.
2. Chart canine and feline dentition.
3. Enumerate NMBVM dental Rules & Regulations
4. Conduct oral examination.
5. Recognize mandibular and maxillary fractures.
6. Recognize dental emergencies.
7. Identify disease and injury conditions.
8. Define dental diagnostic codes.
9. Identify dental instruments.
10. Maintain dental instruments.
11. Manipulate dental instruments.
12. Maintain dental unit equipment.
13. Employ preventative ergonomics.
14. Describe hazard-related information.
15. Manage dental anesthetic protocol.
16. Use PPE.
17. Perform manual dental prophylaxis.
18. Do dental scaling.
19. Perform machine dental prophylaxis.
20. Do dental polishing.
21. Categorize common large animal dental procedures.
22. Explain client dental education.

23. Explain client home care.
24. Appreciate dental exodontics.
25. Explain dental radiography.
26. Appreciate dental endodontics.
27. Describe orthodontic and restorative procedures.
28. Appreciate root canal therapy.
29. Describe clipping teeth for exotic animals.

VETT 2996. Veterinary Technology Topics
Course Description
Varies
Student Learning Outcomes
Varies

Welding (WELD)

WELD 1010. Safety and Orientation
Course Description
Emphasis in the proper and safe use of machines and tools found in the welding industry. Students learn the health concerns and precautions used to minimize exposure during welding and cutting. Orientation prepares individuals for employment and the documentation relating to welding.
Student Learning Outcomes
1. Demonstrate safety practices and regulations while working in a welding environment and inspection of equipment and tools used in the welding field prior to use.
2. Understand the hazards found in the welding environment and the protective measures utilized to avoid injury or accidents resulting from misuse or damaged equipment.
3. Students will also be trained in the appropriate paperwork, the ability to follow verbal and written instructions needed to complete classroom and or work assignments.
4. Show the importance of being able to identify hazards and report them to an instructor or supervisor immediately.

5. Also students will learn what is expected by employers prior to employment, as well as what employers in the welding field expect after employment is obtained.

WELD 1015. NCCER Safety Core
Course Description
Required introduction to the National Center for Construction Education and Research for certification. Topics studied include basic math, communications, prints, methods, and ethics. Students demonstrate skills level through laboratory assignments. Orientation prepares individuals for employment and the documentation relating to welding.
Student Learning Outcomes
1. Explain safety culture and its importance in the construction craft.
2. Explain the role of OSHA job site safety.
3. Explain OSHA's General Duty Clause and 1926 CFR subpart.
4. Hazard recognition and risk assessment of job site.
5. Demonstrate the use and care of appropriate personal protective equipment (PPE).
6. Identify other construction hazards on the job site, including hazardous material exposure and environmental.
7. Prepare students for OSHA 10 Safety Certification.

8. Students will learn all phases of safety used in the welding.
9. Students will learn concepts related to applied math in welding.

WELD 1110. Introduction to Welding Fundamentals

Course Description

This course focuses on the fundamental techniques employed in the welding field. It is a laboratory approach to understanding and building skills in welding related areas including shop safety, hand and portable power tool usage, and welding.

Student Learning Outcomes

1. Demonstrate knowledge of basic welding processes.
2. Demonstrate shop safety incluing the proper use of welding hand and machine tools.
3. Practice and demonstrate SMAW with various electrodes in all positions.

WELD 1113. General Welding for the Hobbyist

Course Description

This course introduces welding safety, welding, thermal cutting, use of hand and power tools, and basic fabrication for the "do it yourselfer" or hobbyist. This course will include thermal cutting utilizing oxy-acetylene cutting and plasma arc cutting, welding using SMAW Shielded Metal Arc Welding (stick) and GMAW-Gas Metal Arc Welding (mig) processes, and basic joint configuration. Skill practice will be encouraged through the building of at least one comprehensive project. All projects must be approved by and will be under the guidance of the instructor.

Student Learning Outcomes

1. Safely operate hand and machine tools.
2. Perform basic welding on various materials and material thickness.
3 The student should be able to safely make adjustments to the different machines being utilized in the lab.
4 Students wishing to use and/or learn how to use their personally owned equipment will also be allowed to bring them to learn how they operate and make needed adjustments.
5 The student will also be able to perform minor repair and maintenance on the various equipment used in the welding industry.

WELD 1115. Agricultural Welding

Provides an introduction to the Ag welding industry. This course provides an in-depth study of welding hazards and common safety procedures. Ag-related weld joints and weld positions are studied. Students learn the proper names of the parts of a weld and are able to identify good welds and point out defects in bad welds.

Student Learning Outcomes

1. Study of welding hazards, radiation, burns, explosions within enclosed objects or vessels, and general shop safety.
2. Practice and demonstrate SMAW with E6010, E6013, E7018 electrodes in flat, horizontal, vertical.
3. Demonstrate GMAW short arc in all positions.
4. Practice and demonstrate FCAW in horizontal and vertical.

WELD 1116. Agricultural Welding Fabrication

Course Description

As a continuation of WELD 1115, students will use skills and knowledge gained in WELD 1115 to create agriculture-related projects.

Student Learning Outcomes

1. Use skills and knowledge to fabricate a “T” post driver.
2. Use skills and knowledge to fabricate a welding table.
3. Use skills and knowledge to fabricate a fire pit.

WELD 1117. Welding Math

Course Description

Provides instruction in computing math problems that are common in a variety of welding applications. Topics will include welding terminology, common fractions, decimal fractions, metric system, geometric shapes, angular measurements and economical layout.

Student Learning Outcomes

1. Calculate areas and volumes of various shapes including rectangles, trapezoids, parallelograms, triangles, cylinders, and complex containers.
2. Use formulas and equations to solve complex manufacturing and fabrication shop problems.
3. Calculate the material requirements for curved pieces.
4. Calculate economical layouts of various shaped objects.

WELD 1120. Print Reading for Welders

Course Description

Provides students with the knowledge to read and interpret prints and welding symbols and transfer this knowledge to the workplace with layout tools and measuring instruments.

Student Learning Outcomes

1. Identify, read and follow AWS welding symbols.
2. Demonstrate the ability to interpret orthographic and isometric drawings.
3. Demonstrate the ability to read/interpret pipe welding drawing and schematics.
4. Demonstrate proficiency in the mathematics utilized in welding and fabrication.

WELD 1123. Welding Technology CAD/CNC

Course Description

Presents computer-assisted drafting and computer numerical control as applied in welding technology on hardware typically found in the welding shop.

Student Learning Outcomes

1. Enter project information into word processing, database, or specialized machining software on a computer so that the data can be analyzed and quality improvements are made.
2. Operate a computer numerical controlled welding tool.

WELD 1125. Thermal Cutting

Course Description

Emphasis on safety and the fundamentals of thermal cutting processes. Students will cut various materials and thicknesses of metals in all positions.

Student Learning Outcomes

1. Identify safety requirements for thermal cutting.
2. Perform how to light, adjust, and shut down oxy-fuel equipment.
3. Perform plasma cutting techniques.
4. Identify correct amperage, gas pressure and flow rate.

WELD 1130. SMAW (Shielded Metal Arc Welding) I

Course Description

This course will cover introductory theory and practical applications of structural plate welding, welding safety,handheld torch cutting operations and equipment set up. The development of student skills using the Shielded Metal Arc Welding process in all positions will be stressed. The standards of this course are set by the American Welding Society and utilized in both classroom study and laboratory work.

Student Learning Outcomes

1. Perform welds on various joints in all positions.
2. Demonstrate proper shop safety
3. Demonstrate proficiency in identification of electrode classification and proper storage.
4. Identify SMAW power sources and their characteristics.
5. Maintain, use, and safely operate SMAW equipment.

WELD 1132. Intermediate SMAW

This course will cover commonly used joint configurations and practical applications of these joints using structural plate. Advancing the development of student's skills using Shielded Metal Arc Welding in all positions with E-6010, E-7018 and E-7024 electrodes will be stressed.

Student Learning Outcomes

1. Participate in the welding safety program.
2. Define basic terms associated with parts of a weld.
3. Identify basic structural joints.
4. Identify in addition to operate oxyacetylene cutting and track torch equipment.
5. Create and assemble t-joints as well as lap joints using mild steel plate.
6. Weld t-joints and lap joints in a variety of positions.1. Participate in the welding safety program.

WELD 1140.GMAW-(Gas Metal Arc Welding) I

Course Description

Introduces Gas Metal Arc Welding (GMAW) short circuit welding safety, machine set up and shutdown procedures. Topics include personal protective equipment (PPE), GMAW uses, advantages and disadvantages, constant voltage (CV) power source, polarity, electrode types, shielding gasses, and weld discontinuities and defects identification and corrective practices. Lab excercises will include various joints in all positions.

Student Learning Outcomes

1. Demonstrate the ability to safely operate the Gas Metal Arc Welding equipment.
2. Demonstrate Gas Metal Arc Welding theory and application.
3. Demonstrate the ability to perform Gas Metal Arc Welding on various joints in all positions.
4. Demonstrate the ability to fabricate assigned projects while applying proper tolerance to finished projects.

WELD 1155. GTAW (Gas Tungsten Arc Welding) I

Course Description

A basic course designed to provide the student with the ability to setup, maintain and operate Gas Tungsten Arc Welding (GTAW) equipment safely. Develop skills to weld structural joints to bend tests standards utilizing various metals. Weld quality will be measured in accordance with American Welding Society standards.

Student Learning Outcomes

1. Demonstrate the ability set up GTAW equipment for use, inspect equipment prior to use, perform minor maintenance, and identify potential hazards.
2. Demonstrate the ability to perform GTAW on various base metals in all positions.
3. Demonstrate the understanding of basic metallurgical differences in various base and filler metals.
4. Demonstrate an understanding of welding currents and power sources.

WELD 1160. Oxyacetylene Welding

Course Description

This course will introduce the student to gas welding process. The student will learn to handle and use the acetylene gas form of welding.

Student Learning Outcomes

1. Demonstrate hands on work competencies and AWS standards through a variety of on-the-job work assignments.
2. Demonstrate and set up oxyfuel equipment, light and adjust torch, change cylinders.
3. Demonstrate cutting a straight line, square shapes, piercing, slot, bevels on carbon steel.
4. Demonstrate welding skills for making a T joint, lap joint and butt joint.
5. Learn plasma arc cutting.

WELD 1171. Layout and Fabrication

Course Description

This class is an introduction to general layout and fabrication techniques as related to structural welding. Emphasis will be on construction of small projects to tolerances using prints. A variety of welding processes will be used in all positions.

Student Learning Outcomes

1. Demonstrate the ability to fabricate projects.
2. Use shop drawing and/or prints to create projects and develop the bill of materials for the project.
3. Demonstrate ability to properly follow WPS (Welding Procedure Specification) during fabrication.

WELD 1172. Fabrication Fundamentals

Course Description

Hands-on course introduces students to the fundamental principles and techniques of automotive fabrication and welding. Emphasizing safety, precision, and craftsmanship, students will learn to measure, cut metal components, and perform a variety of welding processes commonly used in the automotive industry, including MIG (GMAW), TIG (GTAW), and stick (SMAW) welding.

The course covers metal shaping, frame and chassis modifications, custom exhaust fabrication, and bracket and mount construction. Students will also gain experience in using fabrication tools, including plasma cutters, angle grinders, drill presses, tube benders, and metal brakes.

Student Learning Outcomes

1. Demonstrate proper safety procedures when working with welding equipment, fabrication tools, and automotive components in lab environments.
2. Identify and apply appropriate welding techniques (MIG, TIG, and stick) for various automotive metals and fabrication tasks.
3. Measure, cut, shape, and join metal components using hand tools, power tools, and fabrication equipment such as plasma cutters, grinders, and benders.
4. Fabricate and weld structural and non-structural components, including brackets, frames, body panels, exhaust systems, and mounts to industry-standard quality.

5. Evaluate weld quality through visual inspection and basic testing methods, identifying defects and performing necessary corrections.
6. Apply math and measurement skills to ensure precision in fabrication layouts, cuts, and welding alignments.

WELD 1191. Welded Art

Course Description

Students explore the possibilities of welded art.

Student Learning Outcomes

Demonstrate knowledge of the different forms of welded art.

WELD 1210. Flux Cored Arc Welding

Course Description

Principles of flux cored arc welding (FCAW) terminology, safety procedures, and equipment set-up. Students will practice welding structural joints in all positions using the FCAW process.

Student Learning Outcomes

1. Demonstrate the set up of FCAW equipment.
2. Demonstrate safe operations of FCAW equipment.
3. Demonstrate minor repairs/maintenance of equipment.
4. Perform FCAW welds to minimum required specifications.

WELD 1220. Pipe Welding I

Course Description

Stresses the theory and practical application of pipe welding in the 1-G and 2-G positions. This course will develop skills in the fit-up and technique of welding pipe, using electrodes and various Welding process.

Student Learning Outcomes

1. Demonstrate an understanding of 1-G and 2-G pipe welding using a variety of pipe sizes.
2. Demonstrate the ability to produce destructive test samples to AWS and/or API standards.
3. Demonstrate the ability to prepare, fit and tack pipe to specifications, getting pipe ready to weld.
4. Demonstrate knowledge of appropriate pipe fitting terminology and calculations.

WELD 1222. Pipe Welding 5G/6G Downhill

Course Description

Stresses the theory and practical application of 5-G and 6-G pipe welding. This course will develop individual skills in the technique of downhill pipe welding, using E-6010 electrodes and the Shielded Metal Arc Welding process on a variety of pipe sizes.

Student Learning Outcomes

1. Perform the task of welding pipe joints in the 5-G and 6-G position using the SMAW process.
2. Weld pipe in the 5-G & 6-G position (downhill travel) using E-6010 electrodes on a variety of pipe sizes.
3. Weld then prepare test coupons that will withstand a root and face bend. Inspection will consist of both visual and destructive methods.

WELD 1229. Template Theory and Constructions

Course Description

Stresses template development for the use of structural steel shapes in power plant construction and maintenance, oil equipment fabrication and industrial piping systems.

Student Learning Outcomes

1. Develop templet for pipe joints and connections.
2. Draw a two piece 90 degree, 3 piece, and 4 piece turn.
3. Draw a two piece 45 degree and 60degree turn.
4. Draw 2", 3", and 4" branch and header.
5. Draw branch and header templet - unequal diameters.
6. Draw eccentric branch and header templet.
7. Draw various lateral connections.
8. Draw a 60 degree true "Y".
9. Draw a blunt head on various sizes of pipe.
10. Draw an orange peel head on various size pipe.
11. Draw concentric and eccentric reducers.
12. Draw vent hoods - V-shaped and T-shaped.
13. Draw rolling offsets and welded combination offsets.

WELD 1260. Advanced GTAW and Fabrication

Course Description

Covers carbon and stainless steel gas tungsten arc welding (GTAW). Teamwork, problem solving and work ethics are stressed.

Student Learning Outcomes

1. Demonstrate the ability to safely operate GTAW Welding equipment.
2. Understand the welding theory and proper application of plate welding using GTAW welding equipment.
3. Demonstrate the ability to weld low carbon steel, using GTAW welding equipment.
4. Demonstrate the ability to properly fit up and prep plate to code standards.

WELD 1280. Pipe Fabrication & Layout I

Course Description

Overviews the fabrication of piping systems used in real life mechanical and facility applications. Students will build and test pipeline from blueprints using a variety of fittings and offsets.

Student Learning Outcomes

1. Read and understand pipe data sheets.
2. Know and understand different pipe valves.
3. Know and understand different pipe fittings.
4. Know and identify different pipe joints.
5. Understand the math formulas for pipe offsets.
6. Read and interpret piping blue prints.
7. Understand and practice the operations for welding pipe.

WELD 1282. Pipe Fabrication and Layout II

Course Description

A continuation of Pipe Fabrication and Layout I. Emphasis on student prepared advanced construction templates and joint configurations. Students will layout, construct and weld in a variety of pipe positions using numerous pipe sizes and materials.

Student Learning Outcomes

1. Construct and weld Branch and Headers in equal and un-equal diameters.
2. Construct and weld Eccentric Branch and Headers.
3. Construct and weld Lateral connections.
4. Construct and weld 60 degree True "Y".
5. Construct and weld a Blunt Head on various sizes of pipe.
6. Construct and weld a Orange Peel Head on various sizes of pipe.
7. Construct and weld Concentric and Eccentric reducers.
8. Construct and weld Vent Hood – "V" Shape and "T" Shape.
9. Construct and weld rolling and combination offsets on pipe.

WELD 1310. Metallurgy

Course Description

This course includes a study of ferrous and nonferrous metals from ore to the finished products. Emphasis is placed on metal alloys, heat-treating, hard surfacing, welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability, and ductility. Technical terms used in the various phases of metallurgy, from early history to present.

Student Learning Outcomes

1. Describe metals and alloys commonly used in industry.
2. Describe mechanical properties of metals including stresses and failures.
3. Describe the metalworking processes of casting, forming, and machining.
4. Describe the two basic processes, and state the four major purposes of heat treatment.

WELD 1370. Qualifications for GMAW

Course Description

Provides stimulated qualification procedures for gas metal arc welding (GMAW), in all positions.

Student Learning Outcomes

1. Demonstrate understanding of qualification procedures using the GMAW & FCAW processes.
2. Weld to AWS specifications,open root,V- groove on mild steel plate using the GMAW process in various positions.
3. Weld to AWS specifications,with backing,V-groove on mild steel plate using the FCAW process in various positions.

WELD 1580. Advanced Project and Fabrication Lab

Course Description

This course covers the use of shielded metal arc welding, gas metal arc welding, gas tungsten arc welding, oxyacetylene and plasma cutting. Students will utilize industrial fabrication and repair problems for assigned projects, possibly including real-world projects, on advanced fabrication equipment. Students will create blueprints for assigned projects. Course also includes training in welding safety and customer relations.

Student Learning Outcomes

1. Students will demonstrate ability to perform large scale layout using advanced baseline and centerline techniques.
2. Students will perform and demonstrate ability to perform basic jigging operations as needed.
3. tudents will demonstrate ability in squaring components through 3-4-5 rule, cross measurements etc.

4. Students will demonstrate ability in reading and building components from blueprints required of the entry level welders.
5. Students will demonstrate ability to perform roll out calculations and procedures to achieve cylinder and/or required vessel sizes as needed.
6. Students will demonstrate ability and understanding of welding and repair procedures on hard to weld metals.
7. Students will demonstrate ability and understanding of corrective procedures necessary with material warpage on a wide range of fabricated components.

WELD 1993. Workshop in Welding
Course Description
Varies
Student Learning Outcomes
Varies

WELD 1996. Welding Topics
Course Description
Varies
Student Learning Outcomes
Varies

WELD 2130. SMAW (Shielded Metal Arc Welding) II
Course Description
Reviews and builds upon SMAW-1 skills. Students will learn joint design and AWS standards for welder qualificaction testing.
Student Learning Outcomes
1. Meet AWS acceptance criteria for weld quality and destructive tests (bend test).

WELD 2140. GMAW (Gas Metal Arc Welding) II
Course Description
Advanced course in the gas metal arc welding process (GMAW). Instruction includes trouble shooting, and the correct selection and application of consumables. Students practice GMAW of carbon and stainless steel on structural joints in all positions. Preparation of test samples will also be emphasized.
Student Learning Outcomes
1. Perform more demanding and difficult welds utilizing GMAW advanced processes.
2. Prepare test samples for examination and destructive testing according to AWS SENSE guidelines.

WELD 2150. Metal Fabrication II
Course Description
This course is designed to give students a knowledge of the fabrication process. This course will cover areas of customer interaction, print reading, sketching, job estimation, manufacturing of parts, assembly, welding, and finishing. Students will gain knowledge in the operation and safety practices of equipment used in fabrication, project tolerance, meeting deadlines as well as critical thinking skills.
Student Learning Outcomes
1. Understand safety as it relates to shop equipment used in fabrication.

2. Demonstrate math formulas used in fabrication.
3. Demonstrate Communication skills.
4. Properly and accurately filling out estimates and invoices.
5. Demonstrate the operation of a fabrication shop.

WELD 2155. GTAW (Gas Tungsten Arc Welding) II

Course Description

A continuation of GTAW I. This course is designed to provide the student with the ability to setup, maintain and operate Gas Tungsten Arc Welding (GTAW) equipment safely. Develop skills to weld structural joints to bend tests standards utilizing various metals. Weld quality will be measured in accordance with American Welding Society standards.

Student Learning Outcomes

1. Demonstrate the ability to perform increasingly complex welds.
2. Demonstrate the ability set up GTAW equipment for use, inspect equipment prior to use, perform minor maintenance, and identify potential hazards.
3. Demonstrate the ability to perform GTAW on various base metals in all positions.
4. Demonstrate the understanding of basic metallurgical differences in various base and filler metals.
5. Demonstrate an understanding of welding currents and power sources.

WELD 2210

GTAW Pipe Welding

Course Description

Students will learn to weld on carbon steel and stainless-steel pipe with gas tungsten arc welding process only, in various positions with emphasis on ASME standards.

Student Learning Outcomes

1. Learn to weld on carbon steel pipe in the 2G position using GTAW.
2. Learn to weld on carbon steel pipe in the 5G position using GTAW.
3. Learn to weld on carbon steel pipe in the 6G position using GTAW.
4. Learn to weld on stainless steel pipe in the 6G position using GTAW.

WELD 2220. Pipe Welding II

Course Description

Stresses the theory and practical application of 5-G and 6-G pipe welding. This course will develop skills in the technique of pipe welding, using various Welding processes.

Student Learning Outcomes

1. Demonstrate an understanding of 5-G and 6-G pipe welding using a variety of pipe sizes.
2. Demonstrate the ability to produce destructive test samples to AWS and/or API standards.
3. Demonstrate the ability to prepare, fit and tack pipe to specifications, getting pipe ready to weld.
4. Demonstrate knowledge of appropriate pipe fitting terminology and calculations.

WELD 2225. Pipe Welding Code

Course Description

Students will learn to weld carbon steel pipe according to the API and ASME code with emphasis on welder qualification in the 6G position. Students will practice layout, fit up and welding of API branch test.

Student Learning Outcomes

1. Demonstrate a weld test on 4-inch pipe in 6G position.
2. Demonstrate layout, fit up and welding of API branch test.
3. Learn knowledge and skills to pass a welder qualification test from ASME B31.3 on 2-inch pipe using SMAW process.
4. Learn knowledge and skills to pass a welder qualification test from ASME B31.3 on 4-inch pipe using GTAW process.

WELD 2290. Welder Qualifications

Course Description

Laboratory and classroom instruction on AWS and ASME Welder Performance Qualification Tests. All position plate and pipe techniques and tests for SMAW, GMAW, GTAW, FCAW, and SAW. Nondestructive and destructive examination methods, and basics of welding codes.

Student Learning Outcomes

1. Pass the AWS and ASME Welder Performance Qualification Tests in all processes and all positions.
2. Recognize the role of welding inspection and testing in industry.
3. Identify essential information for welding procedure and performance qualification.
4. Identify essential welding and inspection information from Welding Procedure Specifications (WPS's).
5. Identify essential welding and inspection information from AWS D1.1, Structural Welding. Code – Steel.
6. Identify essential welding and inspection information from ASME, Boiler and Pressure Vessel Code - Section IX.
7. Describe the basic principles of non-destructive testing methods.

WELD 2311. Aerospace Welding Theory and Fabrication

Course Description

This course is designed to provide the student with the ability to set up, maintain, and operate Gas Tungsten Arc Welding (GTAW) equipment safely and develop basic entry-level skills of plate welding. Weld quality will be measured in accordance with American Welding Society standards. Students will be eligible to earn an AWS D17.1 Educational Certification.

Student Learning Outcomes

1. Demonstrate the ability to safely operate GTAW Welding equipment.
2. Explain welding theory and proper application of plate welding using GTAW welding equipment.
3. Demonstrate the ability to weld Aluminum, using GTAW welding equipment.
4. Demonstrate the ability to properly fit up and prep plate to code standards.

WELD 2990. Welding Practicum

Course Description

Varies

Student Learning Outcomes

Varies

WELD 2993. Welding Workshop

Course Description

Varies

Student Learning Outcomes

Varies

WELD 2996. Welding Topics

Course Description

Varies

Student Learning Outcomes

Varies

WELD 2997. Welding Independent Study
Course Description
Varies
Student Learning Outcomes
Varies

Women's Studies (GNDR)

GNDR 2040. Science and Gender
Course Description
This course introduces students to the complex interplay between science and gender, with special attention to intersections with sexuality, race, and ethnicity. We analyze the concepts of "sex" and "gender" by critically investigating the nature/nurture debates about sex differences. The course further prompts students to think more broadly about gender in science in discussions over bias, values, and scientific objectivity. Throughout the course, we also survey different critical approaches to biomedicine involving women's health and LGBTQ medicine, e.g., breast cancer, HIV/AIDS, and reproductive health.
Student Learning Outcomes
By the end of class, students will be able to:

1. Construct and clearly communicate arguments about sex/gender/sexuality and science; and defend their judgments with charity and without logical fallacies;
2. Write and research essays about contemporary scientific debates over gender with analytic structure that engage with popular and scholarly conversations;
3. Recognize how human cultures and value judgments shape the process of science and the practice of medicine, including dichotomies (e.g., nature/culture, sex/gender), biases (e.g., heteronormativity, Eurocentrism), and standpoints (e.g., Black feminism, disability rights);
4. Evaluate critically scientific studies in terms of their assumptions about sex, gender, sexuality, etc., and their methodology; and analyze how to improve their theories, inferences, and objectivity.

GNDR 2110. Introduction to Women, Gender, and Sexuality Studies
Course Description
This course introduces students to key concepts, debates, and analytical tools informing Women's, Gender, and Sexuality Studies. As an interdisciplinary field of study, Women's, Gender, and Sexuality Studies employs academic perspectives from a range of disciplines and theoretical approaches. It also incorporates lived experience and social location into its object of analysis. Though content will vary according to the expertise and focus of the instructor, this course will develop tools through readings and assignments that critically analyze how gender and sexuality are shaped by different networks of power and social relations and demonstrate how the intersections of race, class, disability, national status, and other categories identity and difference are central to their understanding and deployment. In addition to feminist though, areas of focus might include gender and sexuality in relation to social, cultural, political, creative, economic, or scientific discourses. This class is recommended for those with a general interest in the topic area as well as for those seeking a foundational course for further study.
Student Learning Outcomes
Taking the course, students will:

1. Understand foundational concepts, theories, and approaches to gender and sexuality in conjunction with contemporary social justice movements such as feminism.

2. Describe the range of social and political forces that shape and are shaped by gender, sexuality, race/ethnicity, and other intersecting categories of identity.
3. Demonstrate the ability to conduct intersectional analysis.
4. Develop and improve skills in reading, critical thinking, academic writing, and public speaking.

GNDR 2120. Representing Women across Cultures
Can be taken in place of Introduction to Women, Gender, and Sexuality Studies at NMSU
Course Description
This course explores fundamental concepts in the interdisciplinary field of Women's Studies and feminist theory, especially as they relate to aspects of identity beyond sex and gender. Students will critically examine concepts of power, privilege, and inequality in conjunction with intersections of gender with race, ethnicity, class, and sexuality. We will read and view texts that allow us to gain familiarity with the roles women occupy in diverse societies, and the social institutions that shape our perceptions of gender, race, and class.
Student Learning Outcomes
1. To think critically about contemporary discourses on gender, race, sexuality, and class.
2. To understand how forms of identity intersect with one another.
3. To explore the ways power and privilege operate in contemporary society.
4. To understand some of the ways social inequalities develop, function, and change.
5. To further students' interest in developing their own ideas and research in issues of women and gender, sexuality, race, class, and nation.

GNDR 2996. Women's Studies Topics
Course Description
Varies
Student Learning Outcomes
Varies

Woodworking (WOOD)

WOOD 1110. Introduction to the Fine Art of Woodworking
Course Description
Introduces students to using wood as a medium for realizing design ideas. By designing and building a small table, students learn to choose a wood that complements the design, milling techniques, mortise and tenon joinery, edge gluing, surface preparation; and application of water-based finish. Students learn the safe use of the radial arm saw, jointer, planer, table saw, handsaw, drill press, horizontal boring machine, and router.
Student Learning Outcomes
1. Demonstrate an understanding of the characteristics of wood and sound design principles in building furniture
2. Design and build a table
3. Demonstrate safe and proper use of stationary power tools.
4. Perform milling operations, mortise and tenon joinery, and finishing procedures appropriate for a water-based finish.

WOOD 1120. Introduction to Hand Tools
Course Description
Covers sharpening, maintenance, and use of basic hand tools including chisels, planes, spokeshaves, marking knives, handsaws, and scrapers. Various sharpening systems are discussed. Students build a wooden hand plane, sharpen personal tools, and practice hand tool use.
Student Learning Outcomes

1. Demonstrate sharpening techniques for handtools.
2. Demonstrate safe and correct use of handtools.
3. Design, construct, and use a wooden handplane.

WOOD 1150. Introduction to Joinery

Course Description

Introduces traditional joinery techniques including edge, dowel, mortise and tenon variations, bridle, breadboards, and frame and panel work. Students' layout, cut, and fit each of these joints.

Student Learning Outcomes

1. Identify the properties and correct use of various fine woodworking joints.
2. Layout, cut, and fit frame joinery.
3. Layout, cut, and fit variations on mortise and tenon joinery.
4. Demonstrate the purpose and construction of a frame and panel.

WOOD 1160. Dovetails

Course Description

Introduces dovetail joinery for drawers and casework. Students learn to layout and cut dovetails with handsaw and chisels, the table saw, and a router jig. After practicing all three methods, students design and build a project utilizing dovetail joinery.

Student Learning Outcomes

1. Evaluate the strengths and weaknesses of different methods of cutting dovetails.
2. Demonstrate accurate layout, hand-cutting, and fitting of dovetails.
3. Cut a dovetailed corner on the table saw.
4. Cut a dovetailed corner with the router jig.

WOOD 1170. The Artful Box

Course Description

Creating boxes with intriguing forms, tactility, and varied functionality. Students will design and build several wooden boxes that consider materials, form, transitions, and the potential content.

Student Learning Outcomes

1. Choose and sensitively use materials for box making.
2. Select joinery that is consistent with aesthetic choices.
3. Understand the internal and external ways that boxes divide space.
4. Design boxes for personal expression.

WOOD 1175. Artistic Veneering

Course Description

Students will learn artistic applications for commercial veneers, including the use different types (If veneers while designing and building a project of their choice. Topics include diamond matching, inlays, difficult veneers, and use of the veneer press.

Student Learning Outcomes

1. Explain proper applications for commercial veneers.
2. Outline different types of veneer matching.
3. Develop a veneering project.
4. Apply correct veneering techniques while building chosen project.

WOOD 1180. Jigs and Fixtures

Course Description
This course is an introduction to the design, fabrication, and use of woodworking jigs that are used to facilitate safe, accurate, and repeatable machining operations on stationary power tools. Students will study, discuss, and build jigs that are used with hand tools, workbenches, and the woods hop in general.
Student Learning Outcomes
1. Design, fabricate, and employ woodworking jigs.
2. Compare and contrast the applicability of common woodworking jigs.
3. Use problem-solving techniques for the design of jigs and fixtures.
4. Demonstrate appropriate use of jigs for safe and accurate woodworking operations.

WOOD 1185. CNC for Fine Woodworking
Course Description
Utilizing computer-aided design (CAD), computer-aided machining (CAM), and computer numerical control (CNC) routers as they apply to fine woodworking. Students creating furniture, sculpture, or design related products learn the possibilities and limitations of this technology and how to incorporate this work into their practice. Students work on two customizable projects to produce on a CNC router. Proper safety, tooling selection, and machine practices are emphasized.
Student Learning Outcomes
At the conclusion of this course, the student should be able to:
1. Demonstrate an understanding of the CNC production process as it applies to woodworking.
2. Design and produce a jig, fixture, or template for use in making a design.
3. Understand the concepts of proper tool selection and use for CNC.
4. Design and produce a finished piece with at least one CNC part.

WOOD 1190. Working Machinery Maintenance
Course Description
Students will learn about the setup, maintenance, and minor repair of stationary and portable power tools in the woodworking shop. In addition there will be discussion about shop layout and setup considerations.
Student Learning Outcomes
1. Define the setup criteria of stationary power tools.
2. Outline maintenance schedules for stationary and portable power tools.
3. Determine proper techniques for minor repairs of portable power tools.
4. Organize and plan shop layout of stationary power tools.

WOOD 1210. Characteristics of Wood
Course Description
Focuses on wood as a material. This course covers the visual aspects of different wo□d species as well as their working characteristics. Topics include the structure, graphics, moisture content, and choice of appropriate wood for a project.
Student Learning Outcomes
1. Identify common wood species and cuts.
2. Estimate wood movement.
3. Explain standard lumber terminology.
4. Choose the best woods for a project based on working properties.

WOOD 1250. Introduction to Finishing
Course Description
Introduces wood finishes including penetrating oil finishes and film finishes such as shellac, lacquer, varnish, and water-based finish. Surface preparation, stains, dyes, and hand and spray application methods are covered. Special attention will

be given to the advantages of low-toxicity water-based finishes, and the health and environmental issues concerning solvent-based finishes.

Student Learning Outcomes

1. Demonstrate the steps in preparing a wood surface for a chosen finish.
2. Apply finish with a brush or rag.
3. Apply finish with and properly clean the spray gun.
4. Choose an appropriate finish and plan for a particular wood project.

WOOD 1310. Furniture Design

Course Description

Encourages the uninhibited accumulation of ideas in a sketchbook and the development of each student's individual design aesthetic. Basic requirements for furniture, orthographic drawing, principles of design, recent furniture history, and model making are covered.

Student Learning Outcomes

1. Demonstrate a personal aesthetic through sketches, exercises, and research.
2. Explain the relation of design to functional requirements for furniture.
3. Use design methods to approach common furniture making challenges.
4. Draw an orthographic projection of a piece of furniture.
5. Make a scale model of a design.

WOOD 1350L. Band sawn Veneers

Course Description

An introduction to the use of band sawn veneers in furniture construction. Students execute a project of their own design that incorporates band sawn veneers.

Student Learning Outcomes

1. Demonstrate resawing on the bandsaw.
2. Demonstrate edge-joining veneers and applying edge bands.
3. Demonstrate use of vacuum veneer press.
4. Explain how to design furniture using band sawn veneers.

WOOD 1450. Bent Lamination

Course Description

An introduction to the use of bent lamination in furniture construction. Students will build a project of their own design using the techniques.

Student Learning Outcomes

At the conclusion of this course, the student should be able to:

1. Outline the use of bent wood in furniture design.
2. Demonstrate and explain the technique of bent lamination.
3. Explain the technique of steam bending.
4. Create a project incorporating the use of bent lamination or steam bending.

WOOD 1550. Build a Workbench

Course Description

Covers fabrication of an instructor-designed workbench for each student that incorporates a laminated maple top, maple dog holes, bench dogs, end rails, and tool tray on a poplar trestle-style base. This versatile bench is designed for one or two metal vises with shop-made wooden vise pads. NOTE: Significant additional fee will be charged to cover materials and hardware. Vises may be ordered individually at the beginning of class.

Student Learning Outcomes

1. Design a workbench, including cut lists and procedure lists.
2. Explain the key components of workbench design.
3. Fabricate a workbench, including accessories.
4. Work efficiently as a member of a team.

WOOD 1610. Introduction to Wood Turning

Course Description

Teaches the elementary concepts and methodologies of turning wood on the lathe using a hands-on approach. Students learn the art of woodturning through design and production of turned projects.

Student Learning Outcomes

1. Discuss wood choices appropriate for various turning projects.
2. Demonstrate tool use, safety, and sharpening for gouges, skews, parting tools, and scrapers.
3. Demonstrate spindle and faceplate woodturning techniques.
4. Complete basic turning projects that primarily use the lathe.

WOOD 1620. Advanced Wood Turning

Course Description

Builds on basic skills learned in WOOD 1610. Students explore dimensioned turnings from patterns, production of accurate multiples, and creative spindle and bowl techniques in the pursuit of a personal design aesthetic.

Student Learning Outcomes

1. Understand and use layout tools and techniques.
2. Understand and use different chucking techniques.
3. Design, layout, and produce multiple accurate turnings.
4. Create and translate a design concept to a finished piece.

WOOD 1625. Woodturning Studio

Course Description

Builds on previously learned skills to design and turn individually conceived projects. Students explore from and surface treatment as they develop a personal aesthetic.

Student Learning Outcomes

1. Experiment and refine object forms.
2. Experiment and refine use of surface design and finishes.
3. Understand and use a wide range of tools and techniques for woodturning.
4. Conceive, design, create and evaluate finished pieces.

WOOD 1660. Router Joinery

Course Description

An introduction to using the router to make mortise and tenon joints, dovetails, sliding dovetails, bent lamination joinery, and many other joints. Students will learn how to build the jigs and templates, which make the router an indispensable tool.

Student Learning Outcomes

1. Define applications for router joinery.
2. Outline how to build jigs and templates for repeatable results.
3. Demonstrate how to cut joints with the router.
4. Identify safety concerns of router use.

WOOD 1710. Introduction to Woodcarving

Course Description
Covers the selection of appropriate types of wood, project design, correct use and sharpening of carving tools, and basic carving methods. Relief, chip, and sculptural carving are introduced through exercises.
Student Learning Outcomes
1. Compare and contrast different carving techniques.
2. Demonstrate proficient relief, chip, and sculptural techniques.
3. Demonstrate an understanding of tool choice and maintenance.
4. Layout and carve a design in wood.

WOOD 1720. Advanced Woodcarving
Course Description
Builds on skills learned previously to create expressive wood carvings. Students work with considerable independence to design, fabricate, and carve elements for furniture or free-standing pieces.
Student Learning Outcomes
1. Identify wood species amenable to relief carving.
2. Sharpen wood carving chisels.
3. Convey expressive technique in relief carving.
4. Layout and cut a figurative relief carving.

WOOD 1810. Basic Woodworking Projects
Course Description
Introduces planning a woodworking project with consideration to design, type of wood, joinery, process, tool needs, and finish. Students design and build a project of their choice.
Student Learning Outcomes
1. Design a woodworking project, including cut lists and procedure lists.
2. Choose and execute appropriate joinery for the chosen project.
3. Demonstrate safe and effective use of machinery and hand tools.
4. Make significant progress on a project

WOOD 1820. Summer Projects
Course Description
Introduces planning a woodworking project with consideration to design, type of wood, joinery, process, tool needs, and finish. Students design and build (or continue) a project of their choice, utilizing their own lumber.
Student Learning Outcomes
1. Design a woodworking project, including cut lists and procedure lists.
2. Choose and execute appropriate joinery for the chosen project.
3. Demonstrate safe and effective use of machinery and hand tools.
4. Make significant progress on a project

WOOD 2110. Doors, Drawers, and Hardware for Furniture
Course Description
Surveys various cabinet designs and carcase construction methods, and introduces the designing, building, and installing of doors, drawers, and hardware. Students design and build a cabinet that incorporates a door, drawer, and hardware.
Student Learning Outcomes
1. Design and build using carcase construction.
2. Identify common door, drawer, and hardware used in fine furniture.
3. Design, build, and hang a door or lid.

4. Design, build, and install a drawer.
5. Utilize hardware appropriate to a fine wooden cabinet.

WOOD 2120. Material Study: Cast Metal and Wood

Course Description

Metalworking and casting from a designer's perspective, utilizing industrial processes. Students creating furniture, sculpture, or design-related products learn what is possible using this technique, the characteristics inherent in metal parts, and how to incorporate this work into their practice. Students design and build a project that integrates wood with a cast metal part that. They have designed and prototyped.

Student Learning Outcomes

1. Demonstrate an understanding of the properties and potential of a cast metal part in combination with wood.
2. Design and build a prototype of a metal component that can be produced with industrial processes.
3. Appropriately work and finish a cast metal component.
4. Build a piece that integrates wood with at least one cast metal part.

WOOD 2130. Classical Guitar Making

Course Description

Covers all aspects of building a classical guitar. Students begin with the tone woods and the work-board form and proceed to bend the sides, construct the rosette, brace the top, assemble the body, shape the neck, band the edge, fret the fingerboard, add the bridge and tuners, make final adjustments and finish.

Student Learning Outcomes

1. Identify appropriate woods used in classical guitar making.
2. Design and construct jigs and forms to build guitars.
3. Build a classical guitar.
4. Tune and apply finish to a classical guitar.

WOOD 2140. Advanced Furniture Making

Course Description

Covers construction of a capstone furniture project, similar to a journeyman's piece, based on design and technical skills learned over the course of the woodworking program. Students consult with the instructor to conceive, design, build, and present a major furniture work.

Student Learning Outcomes

1. Produce working drawings, cut lists, and select appropriate materials for a major project.
2. Design and build a capstone furniture piece.
3. Select and apply joinery and a finish appropriate to fine furniture.
4. Document and present a finished work of furniture.

WOOD 2150. Chairmaking

Course Description

Students will learn about the unique structural and aesthetic challenges presented in chair making. Topics include design criteria for chairs, compound angle joinery, floating-tenons, shaping techniques and a discussion of upholstery possibilities. Students will construct a chair of their own design, modifying size scale, and shaping details to fir their personal taste.

Student Learning Outcomes

1. Describe and discuss design criterion of chairmaking, i.e. aesthetic, structural, and comfort concerns.
2. Draw a modified design of the assigned project.
3. Describe and discuss correct application and structural concerns of compound-angle and floating tenon joinery.
5. Apply concepts in the construction of the chair, presented in class.

6. Discuss upholstery possibilities in chairmaking.

WOOD 2185. CNC Fine Woodworking Projects
Course Description
Continuing study of computer-aided design (CAD), computer-aided machining (CAM), and computer numerical control (CNC) routers as they apply to fine woodworking. Students will design and build a project that includes CNC-produced components in consultation with the instructor.
Student Learning Outcomes
1. CNC processes.
2. CNC production using CAD software.
3. Production of wood components on the CNC.
4. Tool selection, toolpaths, and speed control.

WOOD 2810. Advanced Woodworking Projects
Course Description
An advanced class for students with a good foundation in project planning, machine and hand-tool use, and traditional joinery skills. Students will design and build a project of their choice.
Student Learning Outcomes
1. Develop plans for a woodworking project.
2. Analyze necessary joinery for a woodworking project.
3. Estimate materials necessary for the chosen project.
4. Make substantial progress in completing the chosen project.

WOOD 2980. Furniture Studio
Course Description
Varies
Student Learning Outcomes
Varies

Zuni (ZUNI)

Zuni 1110. Introduction to Zuni
Course Description
This course is designed help individuals develop basic conversational skills in Shiwi listening and speaking.

Student Learning Outcomes
1. Students will communicate in Shiwi (Zuni) language at the ACTFL novice-high level, engaging in basic communication tasks through listening, speaking, class discussion and group activities.
2. Students will interact effectively with fluent Shiwi speakers.
3. Students will develop an appreciation of A:shiwi A:wan Haydoshna:we (Zuni Ancestral Knowledge): values, traditions, ancestral sites, and works of art of the A:Shiwi people.