Application: 0000001269

Julia Deisler - julia.deisler@sfcc.edu
NM General Education Curriculum

Summary

ID: 0000001269
Status: Under Review
Last submitted: Oct 6 2020 10:40 AM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Deborah Wagner
Title	adjunct instructor, performing arts
Phone	(505) 984-9838
Email	deborah.wagner@sfcc.edu

Submitting Institution

Name of HEI	Santa Fe Community Colleg
Submitting Department	Arts and Design

Chief Academic Officer

Name	Margaret Peters
Email	margaret.peters@sfcc.edu

Registrar

Name	Kathleen Sena
Email	kathleen.sena@sfcc.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	MUSC
Number	1160
Title	Music Theory I
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	MUSC
Number	1160
Name	Music Theory I

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Creative & Fine Arts - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

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C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for

Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

Genre and Medium Awareness
Through the lens of music theory, students learn that European music from 800 years ago developed as a single line of melody that was sung by priests and monks. The musicians in the Medieval period, hoping to find a way to preserve their melodies accurately, began developing a way of writing down music on lines and spaces.

The study of Music Theory in the Level I class is analogous to learning the rules of grammar before beginning the process of creative writing. Students learn the language of music by writing notes on music paper. They work with the compositional fundamentals called the Elements of Music. Students learn, memorize, and write note names on staff-lined paper. They learn and write scales on every note name using a set pattern of half steps and whole steps. They write the three variants of every minor scale and learn how the minor scales are related to major scales. Students learn to properly write chords on every note name, and identify the four variations in which they can be placed on the music staff. They also learn how to manipulate these chords and their variations by placing them in a different order on the music staff. Students learn rhythmic notation and time signatures found in music. They learn how to properly assess a rhythm and practice these rhythms by clapping and counting aloud. Students learn how to identify and write chords from figured bass, a method of notation for creating chords and harmonies from the Baroque period. Students learn how to analyze pieces in 4-part harmony using Roman numeral analysis. They compose a piece in 4-part harmony using the rules of harmony. Students are given musical examples from the Classical Western European repertoire and are tasked with identifying scales, chords, and rhythms for the purpose of comparisons within historical genres. Thus, by using their understanding of the Elements of Music, students begin to recognize the differences and make comparisons between the many genres of music through written exercises and study of music examples.

Understanding and Evaluating Messages.
Music as a form of communication exists when it is played. In order to be played, the music had to be written down. Students of music theory study messages in music scores, the sonic indicators that create moods and atmospheres. A happy sound with a lively tempo could indicate a March. A somber atmosphere with a mournful slow melody may indicate a lament. Students listen to examples of music

and evaluate what they have heard and how the music is written on the staves. They read the music and hear the music simultaneously. They can see, hear, and feel how altering one note in a chord or melody can evoke an entirely different mood.

To decode these messages students, learn and write assignments pertaining to the elements of music. One must look at Music Theory I in the same way they would approach a foreign language. Students learn the sounds, words and vocabulary in order to speak and to understand and evaluate what is being said. Students in Music Theory I learn how to read music and identify the Elements of Music in order to interpret what a composer has written.

At the end of the semester, students bring all their accumulated knowledge together to write a composition in 4-part harmony; a style of composition found in church hymns. The assignment requires the students to set up the music staves properly and to choose a key signature and a time signature which also have to be placed on the staves correctly. Students write a melody of their creation and then determine what chords they can use to compliment the notes of their melody. Students are composing a horizontal melody that is supported by a perpendicular harmony. They write/compose using the rules of harmony which are guidelines for compositions written in the style of a hymn. When their composition is complete, students continue with a Roman numeral analysis of their hymn. Roman numeral analysis incorporates numerals indicating scale degrees upon which each chord is built as well as the position of that chord on the staff as they have written it.

Evaluation & Production of Arguments
Music Theory I introduces the rudiments of music and provides a demonstration of how music is preserved through the process of composition. In Music Theory I students focus on the Elements of Music. They are asked to identify and explain how different genres of music are created and how those rudiments are applied. They learn to tell the difference between Medieval music, Jazz music, and music from other cultures of the world. Towards end of the semester, students are assigned church hymns to analyze where they provide Roman numeral descriptors indicating how the composer has utilized the elements learned earlier in the semester. Additionally, students compose a piece that includes a melody and supporting harmonies, and analyze their work using Roman numeral descriptors. Music Theory I provides students with a foundation for cultural literacy through a deeper knowledge of music and an appreciation of the arts through an intense study of this subject matter.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and

Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Problem Setting:
Students are assigned to delineate a problem or question. For example: How do I write (compose) in 4-part Harmony?
Students in Music Theory I demonstrate critical thinking with the problem setting question that comes in the Final Project Composition at the end of the semester. Students will write a composition in 4-part harmony. For this assignment students determine the key signature for their piece, as well as time signature, tempo, and chords that will convey the mood of their work. They use their accumulated knowledge of scales, chords, inversions and rules of harmony to compose their piece. After completing the composition, the student provides a complete Roman numeral analysis their piece.

Evidence Acquisition:
Students are assigned to utilize their accumulated knowledge/ information to address the problem of Identifying Chords, Harmony, and then write for 4 -Voice parts.
Students use their accumulated knowledge of music theory to begin the process of writing their piece and analyzing it with Roman numeral analysis. They have studied analysis by listening to and observing the chords and harmonies in church hymns. Relying on their fluency of scales, chords, and intervals, they look at the music to find evidence of expected harmonies of a hymn. After studying examples of church hymns, students have experienced what is expected in writing a hymn and how it has been done in the past. In the composition project, students write notes on the page and mold them into melody (i.e. scales) supported by harmony in the form of chords. Students continue the composition process by noticing how the chords are related to each other and determining if the chords are following the rules of harmony. Students learn the rules of harmony, which is the organization of note movement, when they study hymn analysis. Applying these observations to their own composition, they evaluate the position of chords they have written and make mechanical changes to the position of the chords in order to avoid errors related to the rules of harmony. Students know their composition will sound similar to a church hymn because they have written their melody and harmony according to those rules.

Reasoning/Conclusion:
Students are assigned to bring all the Elements of Music and Part-Writing together in a composition in 4-Part Harmony.

The study of the elements of music are the fundamental basis for the student to write and analyze their composition in 4-part harmony. Students use the rules of harmony for composing a hymn, and upon finishing the writing of the piece they will include a Roman numeral analysis of their piece. Students have listened to examples of music from the Western (European) tradition and built an aural memory of what this genre sounds like. They have listened and analyzed hymns in order to acquire the evidence they need to compose a similar piece. This process constitutes the culmination of all the skills they have learned in Music Theory I. In terms of critical thinking, students become aware of levels of understanding; a realization that music requires revision, refinement, and improvement, both in analyzing an existing piece and in composing their own piece. These layers of understanding and refinement are qualities they take with them through their life. The complexity of the material in Music Theory I can be the foundation from which they begin to form critical thinking skills.

Personal & Social Responsibility*. Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global*

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

Collaboration, Teamwork and Value Systems:
Music Theory is the building block to more complex musical forms. At the start of the semester, students work in teams of two or three fostering camaraderie. Each individual benefits from the multiple explanations of their team mates. In addition, the faculty is able to see how each student learns and can then individualize subjects presented.

Students work in teams to teach and quiz each other on the elements of music. They work together on written exercises given during the class period. They take turns explaining to each other their understanding of various topics in the class. Students work together on Study Guides provided by the instructor. Students study together for quizzes and exams.

Near the end of the semester, students compose an original piece. After multiple revisions to this piece, adhering to the elements of music and rules of harmony discussed throughout the semester, each

composition is played for the class. Students are asked to actively listen and prepare confidential comments as the faculty plays each composition. Working in small groups builds trust within the class and allows students to display respect towards their colleagues. In addition, students continue to develop their understanding of how people acquire knowledge. Their work together encourages patience, understanding and empathy.

Intercultural reasoning and intercultural competence:
Music is a universal language. Students in Music Theory I learn to read music. They do this through written assignments focusing on the elements previously mentioned (i.e. scales, intervals, chords). Students examine excerpts from music scores for the purpose of identifying the elements of music from their written assignments. Faculty play music excerpts from the textbook for students to hear while students simultaneously examine the music score. Students are given additional listening assignments from diverse music genres and eras in order to compare and contrast the development of music through the timeline of music history. As a result of their music theory studies, a student's appreciation of concerts is heightened by their accumulated knowledge of what is involved in composing music and the active forces involved in playing the music and bringing it to life.

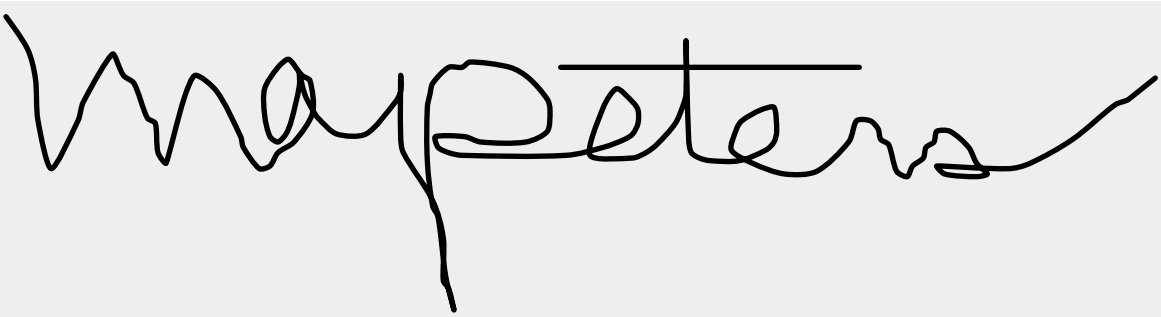
In the class, it is touched upon how music from Eastern cultures have distinctly different sounds because the patterns of scales are derived from a unique tuning system. Concert going students with a background in music theory have an explanation for why music from other parts of the world sound uniquely different from Western European music. Musical influence from distant cultures is occurring with greater frequency in several genres of Western music. Evidence of the this appears in The Silk Road Project recordings of cellist Yo-Yo Ma. The seminal idea of the project is that we can be emotionally touched by music, instruments, and words from other cultures. Regardless of whether or not we understand each other's language, music reveals our common emotional humanity.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://www.sfcc.edu/54536-2/

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Oct 4 2020

Upload Assessment

Completed - Oct 4 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

MUSC 1160 Sample Assessment (1)

Filename: MUSC_1160_Sample_Assessment_1.pdf **Size:** 58.4 kB

Upload Rubric

Completed - Oct 4 2020

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

MUSC 1160 - Sample Course Rubric (1)

Filename: MUSC_1160_-_Sample_Course_Rubric_1.pdf **Size:** 43.4 kB

Application: 0000001273

Tycie Jackson - tjackson@luna.edu
NM General Education Curriculum

Summary

ID: 0000001273
Status: Under Review

Last submitted: Oct 5 2020 03:30 PM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

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- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Richard Baca
Title	Instructor
Phone	505-454-2532
Email	rbaca@luna.edu

Submitting Institution

Name of HEI	Luna Community College
Submitting Department	Humanities

Chief Academic Officer

Name	Maxine Hughes
Email	mhughes@luna.edu

Registrar

Name	Melissa Cordova
Email	mcordova@luna.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	THEA
Number	1220
Title	Beginning Acting
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	N/A
Number	N/A
Title (if applicable)	N/A

New Mexico Common Course Information

Prefix	THEA
Number	1220
Name	Beginning Acting

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Creative & Fine Arts - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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 the acting skills of other actors.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

1. Develop fundamental physical, vocal, analytical, and imaginative skills for acting for the stage.
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4. Gain a better understanding of an actor's approach to goals, tactics, and obstacles.
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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 the acting skills of other actors.

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

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Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

The student will learn to understand the Stanislavsky System method of acting which is a character development communication process that strives to make a performance “real” and not artificial. The system is used to bring an actor’s experiences into the role and expand an actor’s imagination. The student benefits from the system as the given circumstances are the character details in the script—the facts the playwright gives the actor. As an exercise, the student is issued a script from a play, such as Romeo and Juliet. They will analyze the role of the character they are playing by asking questions such as: Where am I? What is my specific location? What year is it? What relationships do I have? What has happened before the play begins? The student learns from this exercise the value of understanding how to communicate the playwright’s message to the audience.

The student also benefits by understanding that communication is vital to a successful drama theatrical experience. They will learn that it is an actor’s job to communicate with the audience, and the audience will answer back. The student learns that acting with the body is an important function of the actor. The student will learn through a physical warm-up exercise the significance of acting with the body. For instance, in the “Environmental Walk” exercise, the student moves around the room as if walking in the following environments: a warm summer day, a light rain fall, a torrential downpour, the first snowfall, and a hail storm. This exercise teaches the student that body language tells the audience a lot about the character by how they stand, how they gesture, and how they walk. The student learns that body language communicates to the audience the type of character an actor is playing the moment they step on stage before they even open their mouth.

The student will also be taught that the voice is a key component of communication in acting. They will learn from a variety of pieces that will increase their vocal dexterity. They will practice aloud in the classroom to vocalize the works of such playwright as Gilbert & Sullivan, Shakespeare, Anna Cleaves, and Samuel Johnson. The focus is on finding vocal variety in these pieces. The student learns to not just say these words, but to learn the emotion behind them and to understand what they’re communicating.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and

Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

The beginning acting student will learn how to self-assess on, and evaluate the work of others to understand the value of critical thinking. They will be taught to ask specific questions of their classmates during classroom discussion as the student prepares for roles from various theatre, film, and television scenes. For instance: did you effectively use class time to rehearse? Give some examples. Did you rehearse out of class time? Why or why not? How prepared were you for each rehearsal? (e.g.: I learned my lines before rehearsal; I always had a pencil to record blocking; I arrived to class on time.) The instructor uses a rubric to follow with this type of self-assessment. The more specific and detailed the answer, the higher the mark.

The student will learn script analysis by learning the 5 steps to building their foundation. Script analysis gives the student a foundation to build for their character development. The steps benefit them begin rehearsal with confidence and ready to take the challenges that come their way. This exercise aids the student while studying monologues and dialogue. They will learn about stage direction from the script. They will mark significant changes/shifts in tone or character development. They will mark significant words in their script. They will understand the words. The student will look up unfamiliar words in the dictionary. A valuable skill if they're doing Shakespeare. They will learn to ask questions about the character. Powerful words to help with character development are the "how?" "Why?" and "is this true?" The student learns that these are questions one asks of the director. The student learns there's always more to explore while analyzing a script.

Studying acting also has a critical thinking component in the virtual classroom. While there is a limitation of studying acting online, the student can still learn skills that apply to other aspects of their lives. For instance, while the student is studying online, they are able to teach their parents and siblings how to use different programs and apps of what's currently popular with tech-wise teens.

Working on performance skills using their webcams gives students a taste of what it's like to work in television and film. They learn about framing the camera, positioning their bodies to be seen properly, and solving audio and lighting issues.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

While studying Theatre Written with a Social Responsibility, students will demonstrate an understanding of performing a play with a social agenda by participating in a stage reading and a discussion of such works. A classroom set of a one-act play that deals with social issues for example Los Vendidos by Luis Valdez, a 1967 play examining stereotypes of Latinos in California and their treatment by the government. Following the staged reading the following questions will be used for discussion: what did you think of this script? How did it feel to play a particular part? What are the major issues discussed in this play? How do they discuss them? Do you think this piece would be effective? How does this apply to your project? How can we write children's theatre that is engaging but also touches on important issues?

Students will demonstrate an understanding of theatre for personal and social responsibility by performing an adapted fairytale that targets problems elementary students face. While studying Children's Theatre and Media, students will demonstrate an emerging understanding of children's theatre by brainstorming stories and issues to in include in their final presentation. In this final presentation group activity, each group will brainstorm things that they don't like about children's media that they've been exposed to. The group will rephrase those problems with children's theatre into "rules of good children's theatre."

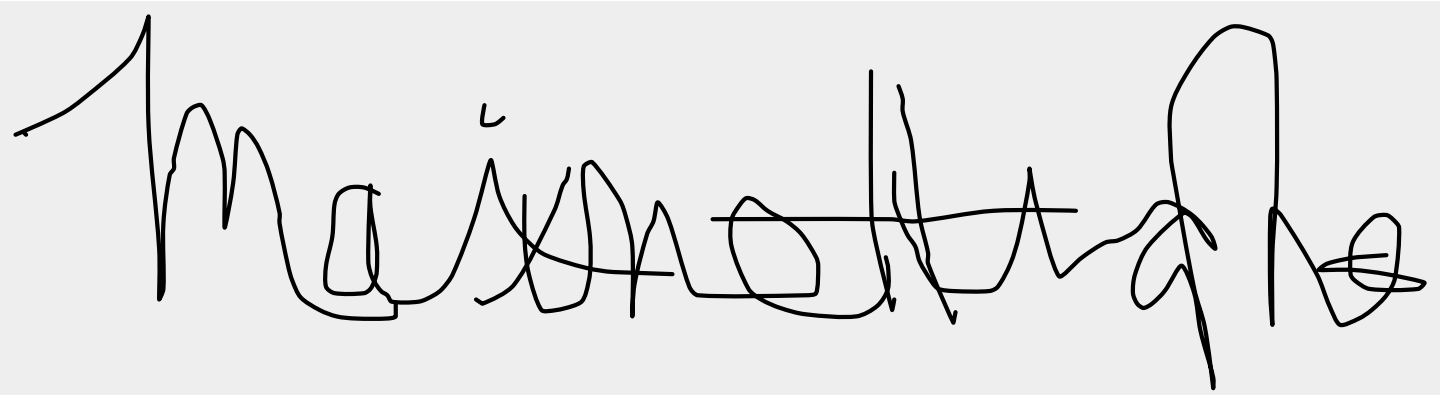
The student will develop an understanding of personal and social responsibility while studying Prison Theatre. The student will demonstrate an understanding and appreciation for Prison Theatre by listening to a lecture and presentation on Prison Theatre, participating in a discussion, and writing a short response to the presentation.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

N/A

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Oct 5 2020

Upload Assessment

Completed - Oct 5 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

Understanding the Stanislavsky System THEA 1220

Filename: Understanding_the_Stanislavsky_System__IXU8sAO.pdf **Size:** 262.0 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001280

Tycie Jackson - tjackson@luna.edu
NM General Education Curriculum

Summary

ID: 0000001280
Status: Under Review
Last submitted: Oct 5 2020 10:45 PM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

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Contact Information

Name	Kimberly Baca
Title	Instructor
Phone	5054542557
Email	kbaca@luna.edu

Submitting Institution

Name of HEI	Luna Community College
Submitting Department	Humanities

Chief Academic Officer

Name	Maxine Hughes
Email	mhughes@luna.edu

Registrar

Name	Melissa Cordova
Email	mcordova@luna.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	RELG
Number	2130
Title	History of Christianity
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	N/A
Number	N/A
Title (if applicable)	N/A

New Mexico Common Course Information

Prefix	RELG
Number	2130
Name	History of Christianity

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Humanities - Information & Digital Literacy, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

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.

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Formulating a broad understanding of the history of Christianity, as well as an understanding of the historical development of the Christian church, are critical components of teaching. It is essential for students to comprehend notions of Christianity and the relationship between the church and the broader culture. Students are presented with approved scholarly material that is widely discussed in class then given critical thinking questions. The critical thinking questions have been designed to help students make a compelling correlation between historical figures and events and track Christianity's progression from the time of Christ, until today.

Personal & Social Responsibility*. Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global*

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

History of Christianity will carefully include notions of theology and institutional lifestyle. The following topics will be presented using readings from institutionally approved books, through lecture, educational documentaries, and in class discussion. Instructor will be careful to create a "safe space" where any student, no matter their religious background, can feel comfortable expressing their ideas. This is important considering the discomfort topics like religious beliefs and lifestyles that accompany the institution, but the classroom ultimately remains a safe place to have healthy and educational discussions about a variety of topics such as, religious beliefs, religious practices, and lifestyle expectations.

Information & Digital Literacy. ***Authority and Value of Information; Digital Literacy; Information Structure; and Research as Inquiry***

In this box, provide a narrative that explains how the proposed course addresses ***3*** *of the components of digital literacy.*

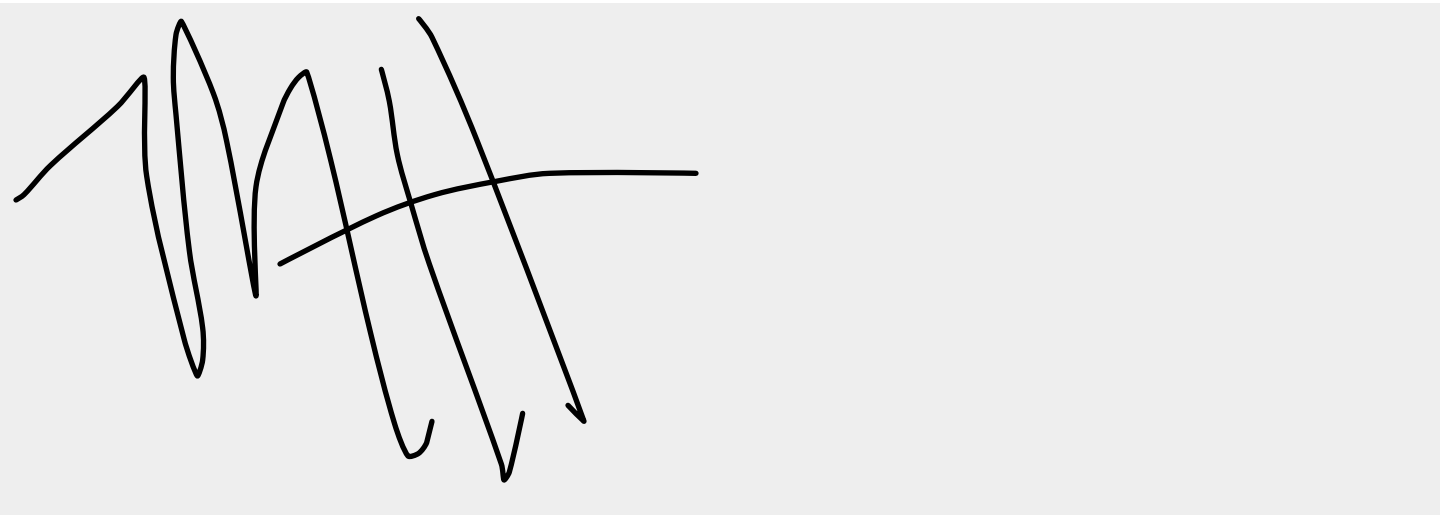
The intention of this class is to provide opportunities for students to build, or improve, various skills. The skills that are focused on include listening, comprehension, note-taking and critical assessment. In other words, students should not simply regurgitate information. In fact, it is emphasized that students should feel comfortable challenging what they hear and read, no matter the source. Those challenges must, of course, include the ability to process and critique materials, utilizing resources that have been deemed acceptable by the college. Assignments are created with the intention to compel students to use "acceptable" resources in these ways. For example, the History of Christianity courses, do not only require students to take notes, utilizing the technology available, but also require assignments whereby students have to isolate a research topic, locate valid, academic sources, and then use those sources to create a presentation. This assignment is ultimately designed to provide an opportunity for students to "teach" their fellow students about a sub-field of the History of Christianity not discussed at length in class.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

N/A

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Oct 5 2020

Upload Assessment

Completed - Oct 5 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

History of Christianity Assignment

Filename: History_of_Christianity_Assignment.pdf **Size:** 56.7 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001243

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001243

Status: Under Review
Last submitted: Sep 28 2020 08:08 AM (MDT)

Application Form

Completed - Sep 27 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Timothy Krebs
Title	Professor and Chair
Phone	5052775218
Email	tbkrebs@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Political Science

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	POLS
Number	1140
Title	The Political World
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	POLS
Number	1140
Name	The Political World

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Social & Behavioral Sciences - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

1. Compare different viewpoints on major political issues
2. Demonstrate critical thinking skills and abilities in regards 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

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

N/A

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

The essential communication skills are addressed throughout the course. Students are required to create a Portfolio essay each week in which they select articles from a controlled variety of news sources about the matters being discussed in class. These sources are in various media with divergent points of view. The Portfolio essay is a written, critical evaluation of the material, in addition to a summary response to it. In this way, students are required to come to grips not only with the point of view of the publication, but with their own, and to challenge their preconceived ideas and views. Through comparison of sources over the semester in their own work, and those of other students, each student learns to evaluate the different messages and arguments put forward by diverse sources. Students also prepare three State Evaluation Reports, critically summarizing and evaluating the operation of three nation-states. Here, they likewise encounter a variety of popular and academic treatments of their respective states, which they compare to determine the actual content and operation of the system. This also advances the goal of learning to create strategies for understanding and evaluating messages. Through the guided discussion of these articles and their evaluations in class, students are exposed to wide variety of views and are challenged to advance their own arguments in support of their positions, and to respond thoughtfully to those of others. This is advanced by the lecture material, which sets out fundamental political concepts and ideologies. Students use those to frame and advance their own arguments, and evaluate their arguments, and those of their fellow students. For example, the class considers the effectiveness of various representative democratic and authoritarian regimes in resolving internal conflicts, environmental issues, racial strife and a variety of policy concerns. Through drafting the State Evaluation Reports, in which they deal in depth with three different political systems, and presenting those to the class, students learn to evaluate the arguments put forward both by proponents and opponents of the various systems. They can and must use the evidence in the material they have read to support their views, and respond to the analyses of other students.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

The class develops critical thinking skills by tying discussion and evaluation of political systems and events in the world to rigorously defined and explicated political theories. Students are both required and encouraged to critically evaluate the theories in light of their experience, and the experiences they read about weekly, and to evaluate those experiences in light of the theories. For example, the lecture material discusses in depth why the creators of representative democracy believed the function of government was to advance the public interest not merely group interests. Students are asked and encouraged to evaluate what they read about and observe in those systems to assess whether that is a reasonable goal, and how well representative governments are achieving it. They are given opportunity to develop these skills every week in their Portfolio assignments, and at the end of the semester with the State Evaluation Reports. Both of these, since they are based on factual discussions by highly qualified observers, and written for the instructor’s review and also serve as the basis of class discussion, permit the students to learn how to evaluate evidence, marshal evidence in support of their views, and respond to critiques of the evidence upon which they rely. Class discussion, as well as the conclusion sections of the State Evaluation Reports, require students to reason from evidence to conclusions, to support those conclusions logically, or alter their conclusions in light of new evidence.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

The course is centered on the contrast between the theory, ideology and practice of representative democracies, on the one hand, and authoritarian regimes on the other. While always reinforcing that students are free to believe in whatever theory and ideology presents itself with force to their reason, the course plainly highlights the theoretical soundness and practical benefits of a representative democratic system. Within that, the immense difficulties of operating such a system are highlighted. The use of the Portfolio and State Evaluation Reports is designed, in part, to focus the students' attention on those challenges, and essential nature of civic engagement as a force for meeting them. The discussions which are the focus of one class per week model and teach civic discourse, civic knowledge and civic engagement. States to be evaluated by each student are divided so that all the areas of the world, and states of all ideologies, ethnic, religious and racial backgrounds and cultures are covered. In this way, students are encouraged to see how diverse peoples around the world confront the same kinds of policy problems from their own perspectives, bringing to bear their own cultural resources and traditions. This engenders both awareness and respect for this diversity. The policy problem used to illustrate the phases of the political system, common to all states, is clean water. The purpose is to highlight the unique importance of clean water for the sustainability of human life, and how the availability of clean water is determined by the various operations of the public policy process

D. Assessment Plan **(Must be on file with HED by August 1, 2019)**

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

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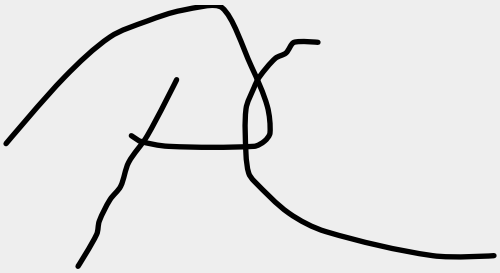

Date

Sep 27 2020

Upload Assessment

Completed - Sep 27 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

POLS 1140 PortfolioAssignmentsSpring18_POLS1140

Filename: POLS_1140_PortfolioAssignmentsSpring18_fWJbEkB.pdf **Size:** 90.6 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001244

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001244
Status: Under Review
Last submitted: Sep 28 2020 08:08 AM (MDT)

Application Form

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

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2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

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- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Alisha Ray
Title	Principal Lecturer II
Phone	505-277-3094
Email	adray@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Chemistry

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	CHEM
Number	1120C
Title	Introduction to Chemistry for Non-Majors
Number of credits	4

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	CHEM
Number	1120C
Name	Introduction to Chemistry for Non-Majors

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Science - Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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 propertiesÍ¾ 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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

N/A

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Narrative
One of the major skills that students develop in Introduction to Chemistry is problem setting and solving. In a variety of different contexts, students are given quantitative and qualitative information describing a problem and must identify the problem type given the question and information provided in order to solve the problem (problem setting). The student learns to characterize the problem by listing all the available information, sorting through relevant and irrelevant information, identifying any additional information needed (evidence acquisition and evaluation) and applying it to their existing and expanding conceptual framework. Once solved, they are trained to evaluate whether their solution makes sense, or to compare and contrast different approaches of solving the problem to recommend the optimum path (reasoning and conclusion).

The course explicitly introduces problem solving strategies, and students practice these for most of the content
related learning outcomes. This course is a particularly good one to learn this skill because very similar prompts
and information can lead to very different problem types and solutions, and without learning to pay attention to
detail and having the discipline of the problem framing approach, students do not correctly solve the problem.
To achieve this outcome, students are introduced to a problem-solving framework in the textbook reading, lecture and recitation throughout the semester. The content area of acids and bases provides their final practice in application. In-class clicker questions and recitation worksheets require students to not only solve the problem but first to set up a plan, and so students practice, and instructors get feedback on how students are framing the problem. The foundation for this is prepared starting the first week of class with the content area of dimensional analysis. Students then grow that foundational knowledge for the content area of stoichiometry which challenges students to do multi-step problems, in which problem setting and planning is essential. Again, clicker questions and recitation worksheets prompt students to first write down the plan as an explicit and graded step before solving the problem. In all content areas, this multi-step problem solving is practiced, usually with recitation worksheets and after-class homework, and then assessed in quizzes and exams. A student's ability to perform a multistep problem in any one of the content areas is excellent evidence that they have mastered the

problem setting and framing. On examinations, we frequently set multiple choice alternatives that show us if and specifically how the student is misframing the problem and this provides evidence whether the student is misframing the problem, or just making an error in the computation of it.

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

Narrative

The course focuses strongly on the application of quantitative models to the physical world we experience every
day. Students begin with a review of some mathematical concepts and terminology and then consider physical
and chemical properties of everyday objects, like density, mass, and volume and performing simple calculations
involving these types of concepts. Having been introduced to atomic theory, the idea that every physical object
we are likely to encounter is made of atoms, students learn chemical formulas and the mole concept. Knowing
the chemical formula of a substance, we can count the number of each type of atom present in a sample of that
substance simply by weighing it. This idea is important for stoichiometry, a methodology that uses principles of
dimensional analysis to determine how much of each reactant must be used to produce a desired amount of
product without waste. We can also quantitate the efficiency of our chemical reaction when we determine
percent yield, based on the ratio of what we actually obtain (actual yield) to what we calculate that we should
obtain (theoretical yield). For solutions, we can use volume and molar concentration to count moles rather than
mass and molar mass. Using similar methodology, students practice determination of the amount of energy
produced or consumed by a chemical reaction (thermochemistry). Students also learn the quantitative
interdependence of the volume, temperature pressure, and amount of a gas (gas laws). For each of these skills,
students begin by reading the relevant section in the lecture slides before we go over it in class. Students then
come to class and answer clicker questions that require them to perform some of the simple skills covered in the
reading and to reflect on their understanding. In class, the material is presented in interactive lecture format,
where students are encouraged to ask questions. In recitation, students may work together in small groups to
complete worksheets that contain questions for which the students must synthesize the various skills

and
concepts learned in class that week. Homework problems provide further opportunity to hone these skills and
quizzes and exams assess students' degree of mastery.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

Narrative
Sustainability and the natural and human worlds
The course introduces the foundation of an understanding of the natural and human worlds at a molecular level.
A critical issue facing humanity is how to provide energy for our growing needs in a way that is sustainable, as
well as not exacerbating global warming due to rising levels of carbon dioxide. Introduction to Chemistry introduces the concepts of energy that form the fundamental basis for understanding how energy is obtained
from chemical reactions. Students will explain how energy is produced from or absorbed into chemical reactions
by the balance of bond-breaking and bond-forming processes. Students learn about traditional sources of energy
such as coal and oil and renewable sources of energy such as biofuels. They will relate energy produced from a
certain amount of fuel to carbon dioxide created using reaction stoichiometry. In addition, the concepts of oxidation and reduction are introduced, which provide the basis for understanding the alternative energy source -
fuel cells, as well as the scientific foundation of how batteries work to store energy – an essential combination
with solar power as an alternative energy solution. To develop these skills, students complete in-class

clicker
questions and solve problems on worksheets in recitation to test their understanding in a formative environment
where they are interacting with peers and their instructor. Homework problems further reinforce the learning,
and the concepts are tested on quizzes and exams.
Collaboration skills, teamwork and value systems
Students regularly work in groups during recitation, learning collaboration skills and teamwork to solve problems.
Assessed through end of course survey.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

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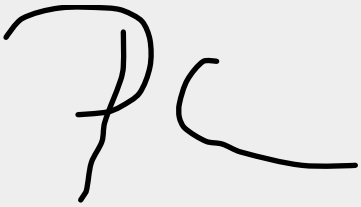

Date

Sep 27 2020

Upload Assessment

Completed - Sep 27 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

CHEM 1120C recert

Filename: CHEM_1120C_recert.pdf **Size:** 556.4 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001247

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001247
Status: Under Review
Last submitted: Sep 28 2020 08:09 AM (MDT)

Application Form

Completed - Sep 27 2020

Application Form

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3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
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5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility

6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

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****Applications approved at the April meeting will be archived on May 17, 2019.****

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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Kuangchiu Ho
Title	Principal Lecturer III
Phone	505-277-1753
Email	khoj@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Chemistry

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	CHEM
Number	1225L
Title	General Chemistry II Lab for STEMMajors
Number of credits	1

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	CHEM
Number	1225L
Name	General Chemistry II Lab for STEMMajors

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Science - Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

N/A

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

This course provides learning opportunities for students to practice critical thinking by first asking students to study the lab scenario, learn about background information in a prelab reading assignment and submit questions for discussion to further develop an understanding of the problem to be investigated. This step is implemented before students meet in the physical lab. During physical labs, students are guided to identify, design and collect experimental data in order to support the conclusion for the lab questions. While doing these exercises, students are given enough time to develop experimental ideas through peer discussions and test the ideas out collaboratively in a group work. They are also provided with opportunities to make mistakes and learn from mistakes in the laboratory. Through the iterative cycles of design-reflect-refine, students learn about the process of evidence acquisition. After adequate data being collected, students will then learn about various ways of analyzing experimental data and apply inductive and deductive reasonings for making proper scientific argumentations. They will be focusing on preparing for convincing presentation of evidence and arguments in both the oral and written formats. They will also learn how best a conclusion can be made for the investigation using strong scientific arguments to the general audiences.
This skill is assessed by various course assignments students are submitted before and after each lab period such as, but not limited to, discussion questions, hypothesis, lab reports, scientific arguments, and presentations, and by various assessments for practical work such as lab quizzes, practical exam and skill assessments.

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

All measurements collected in this course are quantitative and therefore, students must learn the skills of how to present and communicate quantitative information orally in the discussions and in the presentations as well as in writing lab notebook and reports. They are also required to follow the question-claim-evidence-justification protocol for making proper scientific arguments during the analysis section of each lab during the post-lab time. They make the quantitative arguments from experimental data, calculated data, or by comparing quantitative data in the forms of charts and tables. They also refine their quantitative arguments by peer review before they make the final arguments in the lab reports.

In some experiments, students learn to use given models of calculations or analyses found in the literature on the experimental data as proposed by the hypothesis they wrote. This practice allows them to verify a proposed hypothesis to be true or not or to derive a new answer for the question being asking by the lab.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

This course teaches students ethical reasoning for laboratory safety by providing students a basic training in safety awareness for chemicals involved in the experiments. They will learn to identify chemical and health hazards, to properly handle chemical spills, and to correctly collect chemical waste for disposal. Students will conduct a search for Safety Data Sheets and extract safety information from SDS. We also ask students to discuss each of their finding about safety and make a note of safety for each experiment as a required element of the preparation of the lab.
This course also teaches students ethical reasoning for intellectual properties. They are required to keep a laboratory notebook as a legal record of their experimental work. They practice proper way of maintaining the lab notebook including not erasing any record, not falsifying data, and having a witness to sign off the record. We also enforce the rules for plagiarism and educate students about what to be avoided for committing plagiarism.
In this course, we also require students to learn how to work in a team to accomplish collaborative work of the experiments. We expect each group to work out an assignment where all team members will have an equal share of responsibilities. Through teamwork, each student is expected to gain an experience of how to collaborate with other people.
We provide students with the civic knowledge regarding working in a chemical laboratory and engaging them in “Good Lab Practices”. We adopt the “Good Lab Practices” as a model where students are expected to follow when working in our lab. During lab discussions and experiments, students learn how to conduct themselves and actively contribute to the collaborative work. They also learn the proper way of behavior working in the lab. We enforce these protocols as explained in the course syllabus and lab manual.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Sep 27 2020

Upload Assessment

Completed - Sep 27 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

CHEM 1225L RECERT

Filename: CHEM_1225L_RECERT.pdf **Size:** 3.2 MB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001275

Tycie Jackson - tjackson@luna.edu
NM General Education Curriculum

Summary

ID: 0000001275

Status: Under Review
Last submitted: Oct 5 2020 04:45 PM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Nathan V. Baker
Title	Instructor
Phone	505-454-2594
Email	nbaker@luna.edu

Submitting Institution

Name of HEI	Luna Community College
Submitting Department	Humanities

Chief Academic Officer

Name	Maxine Hughes
Email	mhughes@luna.edu

Registrar

Name	Melissa Cordova
Email	mcordova@luna.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	ENGL
Number	2310
Title	Introduction to Creative Writing Writing
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	N/A
Number	N/A
Title (if applicable)	N/A

New Mexico Common Course Information

Prefix	ENGL
Number	2310
Name	Introduction to Creative Writing

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Humanities - Information & Digital Literacy, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

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.

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

1.) In this course, students will read, discuss, and critically analyze culturally and ethnically diverse texts from the literary fiction canon. 2.) Students will develop two drafts of an academic essay based on the differences, similarities, and narrative scaffolding of two student-chosen fiction authors. 3.) Students will propound their essay findings in a presentational format, complete with interactive class feedback. 4.) Students' presentations will follow a grading rubric based on evidence acquisition, evaluation, and complexity of reasoning. 5.) Students will apply critical thinking skills to analyze various authors' seminal contribution/s to era, genre, motif or theme, subtext, historical context, ethnic considerations, and stylistic choices. 6.) Students will explain in a final presentation how their own work of creative fiction fits, expands on and subverts the historical and contemporary writing modalities.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

1.) Students will examine and identify the impact of cross-cultural literature as it relates to watershed moments of social change, civic discourse, and ethical evolution. 2.) Students will engage in peer-led discussion groups to debate what sort of social and ethical responsibility writers have as it affects (or dampers) beneficial civic, moral, or sociological zeitgeists. 3.) Students will select a single short story and present on the long-lasting historical/social implications that piece of narrative brought about. 4.) Students will broaden their empathetic considerations of cultural groups whose narratives and perspectives have been trivialized, overlooked, erased, or stifled. 5.) Students will take the first step of familiarizing themselves with “others” via authentic, culturally specific, narratives.

Information & Digital Literacy. ***Authority and Value of Information; Digital Literacy; Information Structure; and Research as Inquiry***

In this box, provide a narrative that explains how the proposed course addresses ***3*** *of the components of digital literacy.*

In the Creative Writing course at Luna Community College, a requirement of the final creative fiction piece is a self-critique PowerPoint presentation replete with slides, quotes, outside works, gene considerations, and target audience projections. This presentation augments the final creative fiction piece and teaches students the skills necessary to be digitally literate including, but not limited to, PowerPoint & Google Slides, Goggle Docs & Microsoft Word, Google Sheets & Excel, digital research & citation, and comfortability setting up video and audio equipment. Part of the grading rubric for this final presentation is technological understanding and literacy.

Another aspect of the Creative Writing Class at Luna Community College is a hybrid assignment, which combines creative writing with technology. The technological aspect of this often takes the form of software editing technology such as Photoshop, Final Cut Pro, Illustrator, Aftereffects, and others.

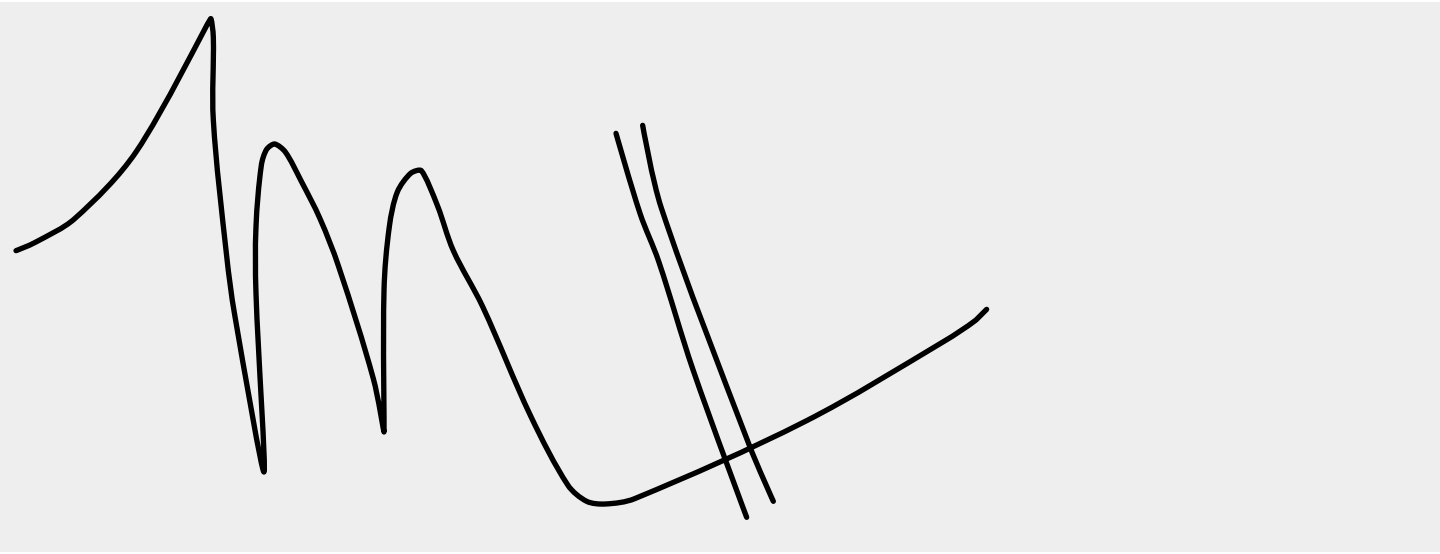
Taken together, these processes teach liminal technological concepts and bolsters a student's current understanding of technology and its relationship to research and presentation. The goal, as always, is not only a familiarity with digital technologies and digital information but also how to implement and utilize such technologies in praxis-related scenarios. The scholar must always strive to become a digital scholar to compete and communicate in today's highly interconnected world.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

N/A

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Oct 5 2020

Upload Assessment

Completed - Oct 5 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

ENGL2310 Creative Writing Peer Evaluation and Analysis (1)

Filename: ENGL2310_Creative_Writing_Peer_Evaluat_7hmWKtw.pdf **Size:** 208.7 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001276

Tycie Jackson - tjackson@luna.edu
NM General Education Curriculum

Summary

ID: 0000001276
Status: Under Review
Last submitted: Oct 5 2020 04:11 PM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

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6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

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Deadline for Next Curriculum Committee Meeting

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- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Nathan V. Baker
Title	Instructor
Phone	5054542594
Email	nbaker@luna.edu

Submitting Institution

Name of HEI	Luna Community College
Submitting Department	Humanities

Chief Academic Officer

Name	Maxine Hughes
Email	mhughes@luna.edu

Registrar

Name	Melissa Cordova
Email	mcordova@luna.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	RELG
Number	2115
Title	World Religions
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	N/A
Number	N/A
Title (if applicable)	N/A

New Mexico Common Course Information

Prefix	RELG
Number	2115
Name	World Religions

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Humanities - Information & Digital Literacy, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

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.
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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.

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

1.) In this course, students will read, discuss, and analyze various aspects of different world religions. Students are then asked to pick one theme or idea introduced in class to develop into a term paper. In the beginning of the semester students can begin to limit their field of possible subjects by looking over the key terms for each week,
and by considering the issues that come up in the weekly group discussions. 2.) During this time students
are introduced to databases containing scholarly articles, and are directed to resources that can help them to better understand the issues that have caught their interest. 3.) At Midterms Students turn in a topic proposal for their term paper that will include a one sentence thesis statement, an outline for their paper, and a bibliography of the sources they consulted and plan to use in their paper. The thesis statement and outline are evaluated to see whether they present a workable argument, the sources in the bibliography are evaluated, and notes are made on which sources are stronger and if any are biased, and the comments are given back to the student. During the second half of the semester students bring their term paper drafts to conferences with the instructor. During these one-on-one meetings the instructor makes sure that the student is presenting both sides of an argument, that they present their argument logically and fairly, and that they use their sources to full effect. 4.) The final draft of the term paper is graded on how well it presents the issue, style, organization, evidence acquisition, complexity of reasoning, and how well the evidence is used to support the paper’s claims. 5.) Students will apply critical thinking skills to analyze the issue they have introduced in their term papers. They will critically evaluate sources looking especially at each source’s cultural and religious background so that their paper will not present an analysis unduly influenced by one cultural outlook. 6.) Students will present a well-reasoned paper that defends, analyzes, and explains an issue tied to one religious tradition.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

A keystone of the instruction in any World Religions course is developing in students the ability to interact
with other cultures and belief systems without prejudice, and this in turn develops the skill of personal and social responsibility. In surveying the various belief systems presented in World Religions, students often encounter elements of those systems that make an adverse initial impression. In this World Religions course these moments of adverse initial contact with an unfamiliar belief system are not dismissed but are used to examine and discover one's preconceived notions. This process of discovery and critical examination of one's assumptions is accomplished through weekly group discussions and short essays throughout the semester As students move through various belief systems, the discussions begin by analyzing first impressions of those cultures. Students share what parts of the covered material was difficult for them and what parts they could relate to. For example, many students have difficulty when they first encounter the concept of animal sacrifice, an important component of many ancient religions. They often either view this practice through the modern understanding of cruelty to animals or the Western scientific view that such acts are superstitious. Through discussion the students can begin to see that such initial reactions come from evaluating a cultural in light of one's own cultural beliefs (ethnocentrism). Working through one’s initial impressions of different religious cultures in a collaborative group format helps each student to develop their collaboration and teamwork skills. Each student learns how to bring the insights of their own unique background to the aid of their classmates’ cultural understanding without trying to impose cultural beliefs, and this collaborative approach helps each student to develop their personal value system in a well-rounded and critical manner. Working through various cultures’ value systems in a respectful and non-ethnocentric manner helps students to develop their own ethical reasoning skills by developing how to engage other belief systems in a respectful manner and evaluate one’s own value systems. This in turn will help the student when they encounter situations that present them with an ethical dilemma. They know and will have critically examined from what value systems they derive their moral compass, how others form their ethical reasoning, and will thus be better prepared to face ethical dilemmas.

Information & Digital Literacy. ***Authority and Value of Information; Digital Literacy; Information Structure; and Research as Inquiry***

In this box, provide a narrative that explains how the proposed course addresses ***3*** *of the components of digital literacy.*

In the World Religions course at Luna Community College a term paper is assigned. The process that leads up to the completion of this term paper teaches the students the skills necessary to be digitally literate. Near the beginning of the paper writing process the students are shown databases of scholarly articles related to the field. Together the class looks at through various articles and discusses if the source makes it argument well, whether it is biased, and what the authors' credentials may be. This collaborative process helps students begin to develop the skill of recognizing authority and value of information. Later on, the students are taken through a review of how to cite the articles they have found, and how to use them effectively. After the group session, the students are asked to find sources on their own that they will bring in to class. The process of sifting through the databases and creating citations improves each student’s digital literacy. Each student brings in one to two sources that are then evaluated, compared and discussed in a group with the instructor facilitating. The students discuss where they found the information, and what process they used to find it. More and less effective research techniques are discussed and evaluated. This process helps the students to begin to develop the information structures and research as inquiry
skill subsets. After this group discussion students begin research for their own paper. They turn in a bibliography and thesis statement at midterm week that is then critiqued and given back to them. There are then student-instructor conferences that further evaluate the student’s research and help them to connect it to their thesis. This process further builds up the students' skill of using information structures and researching with a goal in mind.

D. Assessment Plan **(Must be on file with HED by August 1, 2019)**

Link to Institution's General Education Assessment Plan

N/A

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Oct 5 2020

Upload Assessment

Completed - Oct 5 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

Term Paper Assignment and rubric RELG 2115

Filename: Term_Paper_Assignment_and_rubric_RELG_2115.pdf **Size:** 467.9 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001283

Tycie Jackson - tjackson@luna.edu
NM General Education Curriculum

Summary

ID: 0000001283
Status: Under Review
Last submitted: Oct 5 2020 11:20 PM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

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3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Larry Fields
Title	Instructor
Phone	5054542557
Email	lfields@luna.edu

Submitting Institution

Name of HEI	Luna Community College
Submitting Department	Humanities

Chief Academic Officer

Name	Maxine Hughes
Email	mhughes@luna.edu

Registrar

Name	Melissa Cordova
Email	mcordova@luna.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	ANTH
Number	1141
Title	Cultures of the World
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	N/A
Number	N/A
Title (if applicable)	N/A

New Mexico Common Course Information

Prefix	ANTH
Number	1141
Name	Cultures of the World

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Social & Behavioral Sciences - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

1. examine a wide variety of people and cultures around the world to understand how they live and why
2. broaden attitudes of respect toward diverse peoples and cultures
3. analyze our own culture and its beliefs, values, and life-ways compared to other cultures
4. develop a greater understanding of the historic and contemporary relationships between cultures
5. sharpen critical thinking skills when confronted with unfamiliar lifestyles
6. experience a sense of personal growth and enhanced self-esteem based on the knowledge acquired

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

1. examine a wide variety of people and cultures around the world to understand how they live and why
2. broaden attitudes of respect toward diverse peoples and cultures
3. analyze our own culture and its beliefs, values, and life-ways compared to other cultures
4. develop a greater understanding of the historic and contemporary relationships between cultures
5. sharpen critical thinking skills when confronted with unfamiliar lifestyles
6. experience a sense of personal growth and enhanced self-esteem based on the knowledge acquired

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C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

Genre and Medium Awareness, Application, and Versatility: As cultural knowledge is communicated and transmitted differently through all media within (and across) cultures, students become conversant with the ways that different modes of communication mediate the content and expression of said cultural knowledge. Students also learn to communicate cultural knowledge themselves through these various means, expressing this understanding through class discussions, written reports, and presentations – including, but are not limited to, oral recitation, dramatic expression, and written documentation.
Evaluating and Understanding Messages: The multiple layers of meaning inherent in cultural products require close examination to distinguish and differentiate; students learn and practice this skill throughout the course, being introduced to cultural productions and also to customs, behaviors, and social expressions that themselves contain/convey message that can be identified and evaluated.
Evaluation and Production of Arguments: While multiple interpretations of cultural expressions often have value and yield insight, some are mutually exclusive and others vary in usefulness and applicability. Students practice, through discussion and reporting, the analysis of various scholarly interpretations of cultural expressions, both their own (academic and cultural expressions) and those of others (primary and secondary sources).

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Problem Setting: The multifaceted character of cultural anthropology lends itself to the discovery and construction of a wide variety of research questions and angles of interpretation through which the nature of culture and its expressions can be interrogated. Students practicing posing such questions themselves as they are introduced to many unfamiliar cultural expressions, behavior, and customs. The focus of these exercises is the methods by which good questions are developed.Evidence Acquisition: Students learn the ways that anthropologists collect data about unfamiliar cultures, as well as the way this data is recorded and stored for examination and interpretation by other scholars. Students then become familiar with how such research can be identified, located, retrieved, understood, and used in their own work and research. Evidence Evaluation: Historically, cultural anthropology has produced research of widely varying quality and consistency. Students will evaluate the significance, worth, reliability, validity, and accuracy of secondary sources that present anthropological evidence and research results, learning to identify ideological distortion, misconstructions (such as that caused by erroneous preconceptions), academic bias, and so forth.Reasoning/Conclusion: The previous stages of critical thinking about culture culminate in students forming and defending their own reasoned interpretation of the causes and consequences of the cultural expressions examined in this course.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

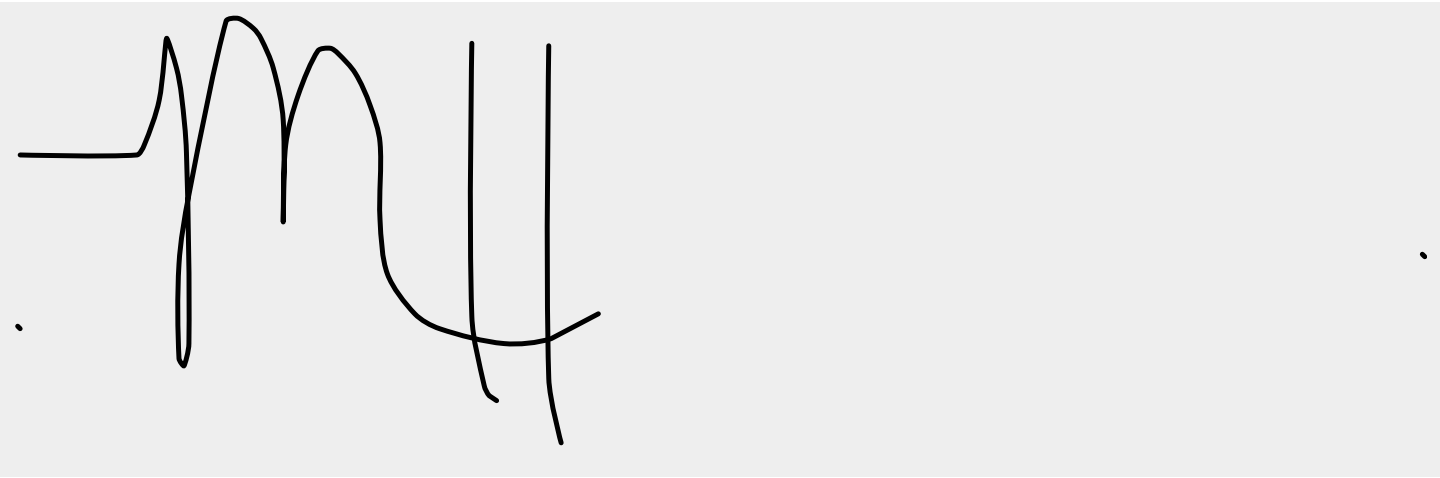
Intercultural Reasoning and Intercultural Competence: Cultural expressions and patterns are not studied only in isolation from each other as example research objects, but instead are examined in relation to each other. Students demonstrate understanding of intercultural influences and interactions through discussion, written work, and the ability to identify and generate examples of these processes. Sustainability and the Natural and Human Worlds: Cultural preservation and cultural continuity remain pervasive concerns given increased globalization, and the vast accessibility of information and the ease of its preservation may or may not address these challenges or permute them in novel ways. Students evaluate and discuss these concerns throughout the course, particularly when: examining cultures whose continuity may be endangered; analyzing cultures in phases of transition into urbanization, modernization, and openness to interaction with and possible influence by other societies; reflecting on the risks of anthropological investigation altering cultures subject to study. This component skill is also addressed when students investigate the ways cultures and cultural knowledge are transmitted and preserved but also how it can be changed, develop, or be lost through time. Finally, because cultures tend to develop in particular environments and be influenced by environmental changes and relocations while also transforming whatever environments they encounter, interactions between the human and natural worlds are also a cultural expression that students learn to identify and evaluate.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

N/A

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Oct 5 2020

Upload Assessment

Completed - Oct 5 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

ANTH 1141 Test

Filename: ANTH_1141_Test.pdf **Size:** 60.4 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001250

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001250
Status: Under Review

Last submitted: Sep 28 2020 08:10 AM (MDT)

Application Form

Completed - Sep 27 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.

- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	D. Aaron Fry
Title	Lecturer II – UNM Department of Art
Phone	(505) 277-5861
Email	aaron.fry1973@gmail.com; tsalagi@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Art History

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	ARTH
Number	1120
Title	Introduction to Art
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	ARTH
Number	1120
Name	Introduction to Art

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Creative & Fine Arts - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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 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

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

In addition to the NMHED’s learning outcomes, the UNM Department of Art has defined related student learning goals and outcomes, which overlap significantly with those above. We include these here not as separate or additional SLOs but simply to provide much of the language that will be used with students:
1. Students will learn about the relation between various media to formal elements and composition in the production of works of art.
2. Students will learn how formal elements and composition are used to communicate culturally-specific meanings through visual arts.
3. Students will understand the cultural and historical specificity of aesthetic concepts.
4. Students will be able to articulate the roles and intentions of artists cross-culturally.
5. Students will learn to differentiate between artists’ intentions vs. audience reception.
6. Students will learn how to critically analyze historical evidence and narratives in order to contextualize works of art.
7. Students will be able to explain the impact of patronage and economics in art production.
8. Students will be able to critically analyze how museum exhibitions and collecting practices shape our understanding of art.
9. Students will be able to critically analyze current debates around cultural property, repatriation, and appropriation.
10. Students will learn how to apply basic art historical approaches (including, but not limited to, formal analysis, iconological analysis, and Morellian attribution) and terminology to contextualize, analyze, and write about art and visual materials.

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

In our Art History 1120 course, evaluation of student learning is directly based on student abilities to communicate ideas clearly. In part, the variety of readings, especially additional articles and web-based sources beyond the textbook, provide crucial models for students to emulate while they also engage a broader range of information than the textbook can provide. Hence, important details of student communication skills are measured through the essay portions of each test. Each test is also keyed to multiple NMHED and UNM student learning outcomes, with each essay highlighting different core competencies. For example, students might be asked to explain how the visual symmetry of a building like the Taj Mahal is linked to religious and political ideologies; students must not only know the basic aesthetic and historical ideas, but also be able to clearly write about the relationships between visual form and religious messages. However, the most important tools for evaluating student development of communication skills are clearly the written assignments. In particular, the museum exhibition analysis allows students to critically analyze the ways that museums create and communicate messages, taking into account an evaluation of audience and the visual content of those messages. This simultaneously allows students to develop, support, and communicate their own ideas and argument based on their tangible experience in a museum setting. Likewise, the Morellian attribution assignment (attached) requires students to construct and communicate an argument about whether two objects were or were not made by the same person based on the visual evidence of the objects themselves; ultimately students must produce a coherent argument about works of art with which they may not be familiar and which can come from non-western cultures, thereby linking to multiple student learning goals.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

In our Art History 1120 course, the teaching and development of critical thinking skills is such a central feature of the lessons, assignments, and tests that it cannot be singled out from the related topics and themes dealt with in the overall course. However, a few areas give a good sense of how critical thinking and evidence evaluation is taught and evaluated in this course. In particular there are clear lecture and discussion-based classes centered on how to evaluate historical evidence and how historical narratives are constructed. These kinds of evidence-based analysis are frequently taught through contemporary examples such as the debates around removal of Confederate monuments, ultimately making critical thinking skills relevant for students' own lives and contemporary experiences. Likewise, several lecture and discussion classes focus on how to evaluate the impact of economics and patronage on the production of works of art, both in Western (i.e., Michelangelo and the Pope) and non-Western (i.e., Native American art from the Northwest Coast, or Benin bronze sculpture from West Africa) contexts. Furthermore, students' engagement with museum exhibitions and their critical analysis of museum messaging provides an additional tool for the development of critical thinking skills, based on the engagement with of the available visual evidence provided by museums. Formal analysis and Morellian attribution assignments also require students to use and define visual evidence in order to build a reasoned argument and firm conclusion about specific works of art. Finally, their iconological analysis of a public mural allows them to put these ideas and tools into0 practice in relation to a work of art that is easily seen by the public; in turn, students must think about larger contextual questions and how the public at large understands and evaluates visual evidence, in ways that might not be as rigorous as the skills that they are developing in this course.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

A key thematic feature of UNM's Art History 1120 course is linked to our departments broader focus and specialization on non-western art, including Native American, Spanish Colonial, and Latin American art history. In short, we cannot justify teaching an introductory art history/visual literacy course in a Euro-centric way when so much of our program challenges such a narrow focus. As such, Art History 1120 seeks to help students gain an understanding of their own personal and social positioning in relation to people from cultures other than their own. Lectures and discussions continually introduce and elaborate on the role of culture in the production of works of art, and how even familiar categories like color are in fact shaped by cultural context, languages, and practices. Specific lectures focus on the role of cultural analysis in the creation of art historical explanation and how coherent cultural systems shape the production and valuation of works of art, even outside the traditional Euro-centric art historical canon. Tying these issues to broader social and historical questions leads us to discussions of theft and repatriation as well as appropriation of non-Western art in the larger the world, including contemporary pop-cultural contexts. New Mexico provides a unique opportunity to have students engage with non-Western works of art and think about alternate value systems. Several of the local museums, such as the National Hispanic Cultural Center, the museum at the Indian Pueblo Cultural Center, the Museum of Contemporary Native Art, the Spanish Colonial Art Museum, the Museum of Indian Arts and Culture, and the Museum of International Folk Art provide a context for students to engage in collaborative discourses about their own relation to, and understanding of, value systems from cultures other than their own.

D. Assessment Plan **(Must be on file with HED by August 1, 2019)**

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

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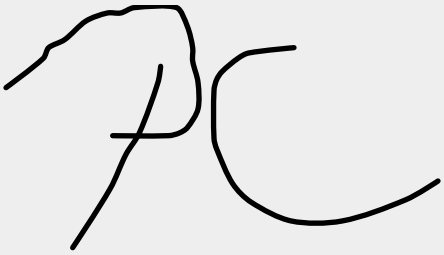
This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Sep 27 2020

Upload Assessment

Completed - Sep 27 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

ARTH 1120 sample assignment Morellian attribution (2)

Filename: ARTH_1120_sample_assignment_Morellian__2WEl2BW.pdf **Size:** 696.0 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001272

Michael Bilopavlovich - michaelb@mesalands.edu
NM General Education Curriculum

Summary

ID: 0000001272
Status: Under Review
Last submitted: Oct 5 2020 12:02 PM (MDT)

Application Form

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.

- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Michael Bilopavlovich
Title	Faculty
Phone	5758158039
Email	michaelb@mesalands.edu

Submitting Institution

Name of HEI	Mesalands Community College
Submitting Department	Academic Affairs

Chief Academic Officer

Name	Natalie Gillard
Email	natalieg@mesalands.edu

Registrar

Name	Forrest Kaatz
Email	forrestk@mesalands.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	ENG
Number	221
Title	British Literature Survey I
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	ENGL
Number	2630
Name	British Literature I

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Humanities - Information & Digital Literacy, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

NA

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Critical thinking will be assessed in the formation and articulation of ideas within students' essay projects as well as in written and oral responses to assigned readings and homework. Students will demonstrate the ability to analyze a text and identify various features, such as rhetorical context, intended audience, credibility and bias, and rhetorical modes.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

Students' understanding, engagement, and commitment to critical thinking and ethical evaluation will be evaluated through written responses (including essays, critiques, and short responses to readings), homework, discussions, presentations, and collaborative exercise. Essays will adhere to the same standardized formatting and citation standards as other communication and literature courses, such as provision of a clear thesis statement, supporting evidence, appropriately cited references to texts and additional critical material, and an appropriately formatted Works Cited/References page.

Information & Digital Literacy. ***Authority and Value of Information; Digital Literacy; Information Structure; and Research as Inquiry***

In this box, provide a narrative that explains how the proposed course addresses ***3*** *of the components of digital literacy.*

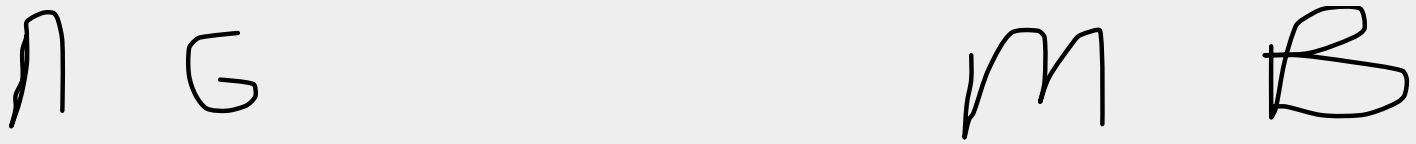
Information and digital literacy will be assessed throughout the semester as students utilize digital resources and word processing technology to research, compose, revise, format, and transmit their various assignments. Students will demonstrate competence utilizing research databases and other information tools to gather, organize and evaluate information, as well as their ability to navigate online learning platforms (where applicable) and standard electronic communications tools such as email, online chats, discussion forums, and digital meeting spaces such as Zoom or Skype.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://www.mesalands.edu/wp-content/uploads/2020/01/SLAC-Annual-Report-2018-19-Final.pdf

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Oct 5 2020

Upload Assessment

Completed - Oct 5 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

ENG 221 Sample assignment (002)

Filename: ENG_221_Sample_assignment_002.pdf **Size:** 132.0 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001264

Mateo Frazier - mateo.frazier@nnmc.edu
NM General Education Curriculum

Summary

ID: 0000001264

Status: Under Review
Last submitted: Oct 1 2020 11:13 AM (MDT)

Application Form

Completed - Oct 1 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Mateo Frazier
Title	Chair: AFM
Phone	3103218555
Email	mateo.frazier@nnmc.edu

Submitting Institution

Name of HEI	NNMC
Submitting Department	AFM

Chief Academic Officer

Name	Dr. Ivan Lopez
Email	ilopez@nnmc.edu

Registrar

Name	Robert Palko
Email	robert.palko@nnmc.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	ARTS
Number	1120
Title	Introduction to Art
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	ARTS
Number	1120
Name	introduction to Arts

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Creative & Fine Arts - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

Communication

Critical Thought

Information Competency & Research

Cultural Sustainability

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

Genre and medium awareness starts with students viewing and discussing artworks from different genre and in different mediums. Viewing is supplemented by texts placing the works in historical and social context to track how the genre and mediums are reinterpreted over time. Examining the changing imagination and needs of artists over time reveals that the forms and genres they use are versatile and malleable. Examining how artists apply genre, structure and design enables students to strategize their own way into understanding the works and the artists intentions. Principals of design will be pointed to in individual works of art and discussion will take place to determine how design, structure and beauty form expression and communication, be it visceral, emotional, topical or otherwise. Students are challenged to examine art closely and to produce arguments and opinions about the significance of the art and artists based on what the students can actually see in the works of art and how well the students can defend and explain conclusions they form about the art. Art and artists communicate in sometimes intangible ways, so how to evaluate message and communication in art is a lively discussion.

Students are assessed through a final research project where they select an artist and discuss themes found in the work, the medium (i.e. painting, sculpture, photography) and the historical, cultural, political period in which the artist actively worked. They will examine how the artist stayed within–or not–certain genre and they will form arguments about the communication, expression, meaning of the artist’s work and life. Conclusions developed in their project are presented to the class and open to discussion. Grading is based on the clarity of the presentation and the student's depth of research and how firmly the students can connect their opinions about the works of art to what they see in the works of art.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

A work of art is not always straightforward or clear–as one often hopes an argument or thesis about more objective subjects might be–yet the art may still have a powerful impact on the viewer.

Immediately on viewing art in class students are prompted to search for meaning in the art and to ask questions like: Is it good art or bad art? What is good art? Is art with more clarity necessarily better? Powerful art requires a vigorous interrogation of its cultural value, meaning and visceral impact–especially when the work is not “clear.” This is an exciting issue (problem) in art that requires critical thinking.

Student viewers of art will collect evidence which in the case of this class starts with the student’s feelings, sensations, emotions, thoughts as they experience the work of art. Perhaps the students are not sure what they feel so they have to dig for the evidence, but they learn that it is there, and it is their primary evidence. They learn to ask: What is the feeling? Why do I feel that? Can I put it in words? They evaluate their feelings with the tools, terminology, concepts presented and discussed throughout the course–also taking into account historical and cultural context—and they draw reasoned conclusions supporting their arguments about the meaning of the art and their experience of it.

Students are assessed through weekly discussions led by the instructor following lectures. Questions and problems are posed to prompt students to: apply terms and concepts learned in class; structure arguments based on evidence–mindful the evidence may be personal yet still valid; and respectfully challenge each other's arguments and conclusions. In these discussions, the instructor welcomes challenges to their own approach to the concepts discussed in class.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

Students are asked to view artworks to explore questions of personal and social responsibility these images engender. Evidence found in the artworks is a point of departure to assess the students' own ideas of personal and social responsibility. Students demonstrate intercultural reasoning and competence by considering the unique perspectives of artists and subjects from differing cultures, places and historical times. Students are prompted to ask how these diverse perspectives apply to their own lives. Students examine their own values, actions and responsibilities relating to issues of destruction (through natural disasters and warfare) and preservation of cultural artifacts; repatriation; art conservation; censorship and other controversial issues. Diverse beliefs and ethical systems portrayed in art are explored in discussion forums where ethical reasoning is used to determine how conflicting environmental, cultural, and social issues might best be balanced to sustain and benefit the natural and human worlds. Students collaborate, demonstrate teamwork and express a variety of value systems in their respectful dialogue around varying issues, particularly as they explore how to come together to meet a shared challenge, overcome fear and solve difficult problems. Civic discourse, knowledge and engagement, both local and global, are exercised as they explore a wide range of issues provoked by artworks, including the impact of human activity upon our shared natural environment with its finite resources.

Students' engagement of personal and social responsibility skills is measured through critical evaluation of essays they write. As they view and experience various works of art throughout the course, students are prompted to write about how some works may provoke engagement around personal and social responsibility. Students are encouraged to write about what this means to themselves, personally, and also what it means socially to people other than themselves.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://nnmc.libguides.com/c.php?g=996187&p=7209282

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Oct 1 2020

Upload Assessment

Completed - Oct 1 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

Intro to Art assessment

Filename: Intro_to_Art_assessment.pdf **Size:** 72.8 kB

Upload Rubric

Completed - Oct 1 2020

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

[Intro to Art rubric]

Filename: Intro_to_Art_rubric.pdf **Size:** 407.0 kB

Application: 0000001198

Mateo Frazier - mateo.frazier@nnmc.edu
NM General Education Curriculum

Summary

ID: 0000001198
Status: Under Review
Last submitted: Oct 1 2020 08:48 AM (MDT)

Application Form

Completed - Jun 24 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Mateo Frazier
Title	Chair: AFM
Phone	5057475402
Email	mateo.frazier@nnmc.edu

Submitting Institution

Name of HEI	Northern New Mexico College
Submitting Department	AFM

Chief Academic Officer

Name	Dr. Ivan Lopez
Email	ilopez@nnmc.edu

Registrar

Name	Janice Baca
Email	janice.baca@nnmc.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	FDMA
Number	1110
Title	Film History
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	FDMA
Number	1110
Name	Film History

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Creative & Fine Arts - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

FDMA 1110 Film History:
1) Develop appreciation for the history of cinema, in order for students to be able to engage with an important aspect of global communications through documentary and narrative film history.
2) Develop knowledge of the key eras in the history of US cinema, so that students can place motion picture history in the appropriate context of American history, world history, and the technology of film production.
3) Learn the characteristics of major movements in international cinema, so that students will be able to contextualize films in the arena of global events throughout the 20th century.
4) Explain technological innovations that were necessary for, and integral to, the advancement of cinema, so that students understand filmmaking as a history of technological innovation.
5) Recognize the various elements that go into telling a story in cinema, so that students understand film history as a construct of storytelling.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

Communication
Critical Thought
Information Competency & Research
Cultural Sustainability

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

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Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

This course will examine the interpretation of history in film, and contrast filmic representation of history with printed sources. Students will critically evaluate a set of issues regarding film and history such as: What light do films shed on the past? How reliable are films as the grounds for making inferences about the past? What are the similarities and differences in the criteria for the critical evaluation of historical films and the historian's accounts of the past? This class is presented through lectures, screenings, discussions, presentations by students and visiting filmmakers. Students will be required to take notes, which will be used to address weekly discussion topics. Communication skills will be practiced through the discussion on the history of cinema and its continued evolution to the present day. Students will present their arguments in both oral and written form on assignments given throughout the course.

Film History I fulfills the state learning outcomes criteria as it relates to communication. With regards to Genre and Medium awareness, students explore a variety of genres through screenings and reading from the international cinema canon. With each new genre discussed, students are introduced to a variety of contributors to the development of the genre and are assessed on their developing awareness through weekly class discussions, and weekly postings based on required readings, and screenings. Regarding Application and versatility, students are assessed weekly on the cinematic lexicon as new terms are introduced along the historical timeline. At the completion of the course students will be proficient in reading and expressing both direct and implicit messages in motion pictures by developing and employing a critical evaluation process in their weekly discussion and posting assignments.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

The success or failure of every film rests on surmounting a myriad of technical, logistical, financial, and creative obstacles. Film History fulfills the criteria as it relates to critical thinking by challenging students to deconstruct the successes and failures in historical cinema through critical analyzation. In order to comprehensively assess a film, students will learn to identify the specific elements of both the literary and technical aspects of a film, and accurately describe the specific contributions or misgivings of the film in total. Students are required to break down films both objectively, and subjectively in order to demonstrate comprehension of the medium and develop arguments in support or opposition to the specific approaches and decision made by the filmmaker in focus. Finally, students are required to integrate these practices in their critiques which must include a summation/conclusion that is supported by the aforementioned critical evaluation.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

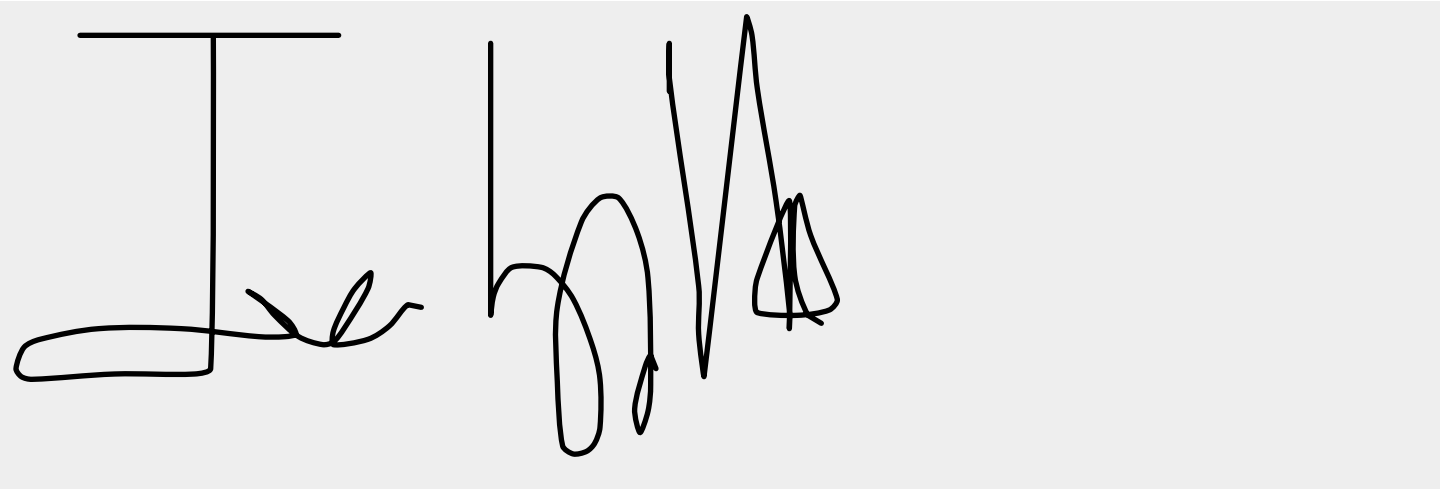
Film History fulfills the criteria for Personal and Social Responsibility by requiring students to engage in the critical analysis of both prominent, and underrepresented creative voices. Through weekly readings /screenings, students are challenged to explore topics, and worlds beyond the mainstream cinematic library. Critical discussions and screenings go well beyond the traditional western European or Hollywood stereotypes and introduce students to work they likely would not see as passive consumers. Through critical literary and technical analysis, students are challenged to decode the intended messages and learn to employ empathy through the universality of the story. Films will address different points of view, documentary and fictional representations of similar topics and students will have to consider, write about and discuss the different perspectives as shown in the films, their different (possibly opposing) ideas and opinions with each other. Through an instructor mediated discourse the class will engage and contextualize the films in the context of historical and current events, locally, nationally, and globally.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://nnmc.libguides.com/c.php?g=996187&p=7209282

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Jun 24 2020

Upload Assessment

Completed - Jun 23 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

Film HX Mid-Term-PDF

Filename: Film_HX_Mid-Term-PDF.pdf **Size:** 53.1 kB

Upload Rubric

Completed - Jun 23 2020

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Film Analysis Rubric

Filename: Film_Analysis_Rubric.pdf **Size:** 78.8 kB

Application: 0000001261

Mateo Frazier - mateo.frazier@nnmc.edu
NM General Education Curriculum

Summary

ID: 0000001261
Status: Under Review
Last submitted: Oct 1 2020 11:13 AM (MDT)

Application Form

Completed - Oct 1 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

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3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course

Application

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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Mateo Frazier
Title	(No response)
Phone	3103218555
Email	mateo.frazier@nnmc.edu

Submitting Institution

Name of HEI	NNMC
Submitting Department	AFM

Chief Academic Officer

Name	Dr. Ivan Lopez
Email	provost@nnmc.edu

Registrar

Name	Robert Palko
Email	robert.palko@nnmc.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	FDMA
Number	1210
Title	Intro to Digital Video Production I
Number of credits	4

Was this course previously part of the New Mexico General Education curriculum?

No

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	FDMA
Number	1210
Name	Intro to Digital Video Production I

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Creative & Fine Arts - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

Student Learning Outcomes

1. Plan and produce a digital video project
2. Apply post-production workflow
3. Work in teams and as individuals to complete digital video projects

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

Communication

Critical Thought

Information Competency & Research

Cultural Sustainability

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

In this production and post production class, students will study examples from the growing universe of media production–film, video tape, digital video, social media and more–and will learn to recognize and describe major forms and genres. They will consider that each form may reside in a particular medium and, for example, they will compare and contrast the medium of smartphones with the medium of professional video cameras. Students will examine the social and technological contexts of various forms and evaluate how message, artistic style and content impact people differently. Students will be asked to enumerate the parts, pieces, elements–the “recipe”–of various works under examination. This is a learnable strategy to help demystify video production. Noting individual elements of various genres helps students recognize the larger shape. Deploying common elements revealed by genre study will enable students to communicate with greater power to create their own arguments and creations especially as they discover the versatility of genres and practice how they can be combined and expanded.
The basic assigned goal of the class is to make a video. The instructor will demonstrate technique and students will practice the basic skills and craft of digital video production. Toward the end of the semester students will present their videos to the class for critique and assessment from other students and the instructor. Students will practice receiving and giving critique which will help them strategize about how to craft more effective messages and stories.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

As students develop their projects, an ongoing exercise is to always ask, “Am I documenting or am I interpreting?” In this class we present these two concepts as foundational issues or “problems” in media creation. Students examine their efforts to understand that sometimes they document and sometimes they interpret, or perhaps they do both at all times. This duality triggers exciting ways for student creators to assess their objectivity and subjectivity, not to mention bias.

Evidence students acquire runs in two directions: there is the evidence of how the students feel when the view media created by others and there is evidence students seek when they show their own work to others. Students will form conclusions about how well their message and content impact their audience. Students will use reasoning to compare intent with effect.

Science students in the class hone skills to collect data and evidence relating to their science projects. They also confront how a camera can lie or miss data or interpret data in unintended ways. Students confront how bias is unavoidable and needs their critical thinking at all times.

We model our assessment and critique on the ways writing groups operate. The creator listens quietly, refraining from any impulse to explain intentions or make excuses. The group offers critiques and suggestions. The creator then asks questions of the group, again refraining from explanations. This process of evaluation enables students to reason through or discover what about their message or work is getting across to an audience or not.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

The two components addressed here are: Intercultural reasoning and intercultural competence; Collaboration skills, teamwork and value systems.

Filmmaking is by nature collaborative, so students collaborate in class with their diverse classmates to practice camera, sound and lighting skills enabling them to create art and other forms of expression. Students are encouraged to make a film about their family in some way. As they create, they are challenged to value their own voice and to honor who they are and where they come from. At the same time, they are challenged to examine the ethics involved when they view and record others through a lens and how they represent their subjects in the films they create.

They will seek evidence about how their work is received by people with different cultural sensibilities and histories than their own. As they work with their colleagues, they will deploy their skills--including respect and empathy--to help other students communicate their wants, needs and opinions.

Finished films are shown toward the end of the semester. Students are assessed on several points including: how much has a student made a film close to their own heart, rather than copying something done by others or something motivated by trendiness; how committed are students to putting their skills in the service of something worthy; and how well did they work with other students and develop empathy for people different from themselves.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://nnmc.libguides.com/c.php?g=996187&p=7209282

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Oct 1 2020

Upload Assessment

Completed - Oct 1 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

Digital Video Prod 1 assessment

Filename: Digital_Video_Prod_1_assessment.pdf **Size:** 32.5 kB

Upload Rubric

Completed - Oct 1 2020

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Digital Video Prod 1 rubric

Filename: Digital_Video_Prod_1_rubric.pdf **Size:** 39.0 kB

Application: 0000001197

Mateo Frazier - mateo.frazier@nnmc.edu
NM General Education Curriculum

Summary

ID: 0000001197
Status: Under Review
Last submitted: Oct 1 2020 11:12 AM (MDT)

Application Form

Completed - Oct 1 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

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5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

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Contact Information

Name	Mateo Frazier
Title	Chair: AFM
Phone	5057475402
Email	mateo.frazier@nnmc.edu

Submitting Institution

Name of HEI	Northern New Mexico College
Submitting Department	AFM

Chief Academic Officer

Name	Dr. Ivan Lopez
Email	ilopez@nnmc.edu

Registrar

Name	Janice Baca
Email	janice.baca@nnmc.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	ARTS
Number	1410
Title	Introduction to Photography
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	ARTS
Number	1410
Name	Introduction to Photography

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Creative & Fine Arts - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

This course follows the CCNS SLOs for ARTS 1410

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

Communication
Critical Thought
Information Competency & Research
Cultural Sustainability

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

Introduction To Photography fulfills the state learning outcomes in communication. With regards to Genre and Medium Awareness, students work in different genres including landscape, portraiture, documentary and street photography. Students are challenged to contrast and compare genres in their respective historical contexts.

The technical aspects of photography require a mastery of camera controls to suit various applications and subjects. Students must understand and employ the technical aspects of photography to

communicate their ideas effectively, these are the camera’s creative controls for focus and subject movement. Students are encouraged to experiment with the versatile functions of their cameras and dark room processes to visually communicate their ideas cohesively.

Strategies for Understanding, Evaluating, and Communicating as it pertains to photo composition are discussed in weekly presentations of noteworthy photography. Students evaluate, and discuss photographs to determine whether or not the image is achieving its objectives of showing an idea, communicating a message, mood or feeling, and is sufficiently creative. The ongoing evaluative/critique process is the most beneficial process that makes us think constructively about pictures and helps students develop the necessary skills.

Evaluation or appraisal is a circular process in which we take an action in regard to the image, appraise that action to see how effective it is in respect to our objective and then make an adjustment if required. This cycle is repeated as often as necessary and at each stage of the creative process represented by the five pillars of the art photograph production. E.g.; Conceptualization, Capture, Process and enhancement, Final evaluation, Output.
Evaluation and production of arguments regarding a student’s work is by means of individual and group critiques which assess both the adherence of process in the framework of the five pillars, and the photographs produced. Through ongoing self/group critique, the student acquires the ability to discern both objective and subjective evaluations of their work, and begins to form a personally synthesized approach to producing their work.

Finally, all students are required to assist in the curation and presentation of their select works in a public display. Through critique and consultation with the instructor the students select, frame, and hang three photographs for public consumption and juried competition at the end of each semester.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Introduction To Photography fulfills the state learning outcomes criteria as it relates to Problem Solving and Critical Thinking. With regards to Problem Solving, students are challenged with the highly technical

nature of the photographic process. Students must apply their problem-solving skills to troubleshoot technical issues as they arise. Students will apply the technical knowledge they have learned in class to help assist in developing their problem-solving skills.

Creating meaningful compositions requires critical thinking. Composition is the process of selecting and arranging subject matter elements within the photographic space to effectively communicate the subject of the photographer’s ideas and feelings to the viewer. Composition is the major factor involving aesthetics in an image; it can create a strong and interesting photograph, or a weak and confused photograph. Composition can make the photograph readable or unreadable.

The main objective of composition is to combine and arrange forms in the photographic space to produce a harmonious whole that is a meaningful statement that conveys the idea behind the image. Composition doesn’t just happen, when we see a really great photograph it was not the result of some accident or the throwing together forms and a background. It is the result of the photographer’s skill, knowledge and careful planning. A well composed photograph causes the viewer to stop and look and it effectively communicates the photographer’s idea.

There will almost surely be a number of possible compositions for any scene or subject that will be effective. In composing a photograph the photographer decides what the main point of focus will be; different photographers may see the same subject, but each is likely to choose a different composition. Critical decisions that photographers make in regard to the composition include the placement, orientation and size of the point of interest; should it be moved or made larger, clearer, stronger or brighter.

Students are given eight projects to complete throughout the semester. These projects consist of three images. Each project must have a consistent style and vision that contains meaningful content and responds to the subject/genre assigned by the instructor.

Evidence Acquisition is evidenced through critiques. Group/self critiques/evaluations, when done properly, form the basis for further analysis of existing work and provides the potential for capturing relevant evidence for the improvement of future work. The methodologies followed during the acquisition process are critical to the validity of any evidence found. In addition, following a formal critical approach will ensure that all relevant skills are identified for later analysis. Finally, all projects are graded on a rubric that is tailored for each genre/subject focused assignment. With regard to Reasoning/Conclusion, students and instructor present informed well-reasoned evaluations at critique.

Personal & Social Responsibility*. Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global*

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

Introduction To Photography meets the state learning outcomes criteria as it relates to Personal & Social Responsibility.

Intercultural Reasoning and Intercultural Competence is developed by exploring work and movements from other cultures, specifically outside the canon of Western European art history, in order to identify and understand ideas beyond western culture and to introduce students to new and unfamiliar ideas. Here, students discern the multitude of ways various people communicate, visually through photographs, and express values and interests within their cultures.

In assignment #6 of the genre/subject assignments, students are assigned an exploration of Water: Reflections on the acequias of Northern New Mexico. Given the perpetual challenge of water scarcity in the Southwest region, students are challenged to consider water both aesthetically, and how it relates to the sustainability of our regions' peoples presently, and historically through communal acequia (water sharing) systems. Students are granted access to a local acequia community, and interview parciantes (co-owners), of derecho's (water rights), and photograph their respective farms, ranches, homesteads. Students are encouraged to identify intersectional themes of the natural and human worlds, and compose work that communicates the interconnectedness of the parciantes and the natural resources they depend on. Students are further encouraged to explore the underpinnings of communal collaborative models, and the values buttressing communally shared natural resources. Legal issues, and civic engagement regarding historical dynamics around shared natural resources, and their protection through communal sharing models are discussed and explored.

Preceding the aforementioned assignment, an abridged lecture on the history of the Indo-Hispano diaspora in the southwest and the unique contributions of classical Arabic technology/design to the development of acequia systems is presented. A corollary module on ethics in photojournalism is also presented, and students are tasked with discussing the merits and pitfalls of the Voice of Visual

Journalists Code of Ethics.

For Collaboration Skills, Teamwork and Value Systems students work in active analog/digital darkroom(s) where they assist other students with technical issues as well as conceptual ideas.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://nnmc.libguides.com/c.php?g=996187&p=7209282

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Oct 1 2020

Upload Assessment

Completed - Jun 23 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

Intro to Photog assigment 6-pdf

Filename: Intro_to_Photog_assigment_6-pdf.pdf **Size:** 123.9 kB

Upload Rubric

Completed - Jun 23 2020

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Photo I Rubric-PDF

Filename: Photo_I_Rubric-PDF.pdf **Size:** 78.2 kB

Application: 0000001252

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001252
Status: Under Review
Last submitted: Sep 28 2020 09:22 AM (MDT)

Application Form

Completed - Sep 28 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility

5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

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Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Leandra Goldflam
Title	Lecturer III
Phone	277-2616
Email	lgoldflam@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Physics

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	PHYS
Number	1320L
Title	Calculus-based Physics II Lab
Number of credits	1

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	PHYS
Number	1320L
Name	Calculus-based Physics II Lab

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Science - Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

N/A

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

In Physics 1320L, students perform experiments related to specific areas of physics such as electricity, magnetism, and thermodynamics. Critical thinking is crucial in both being able to properly perform an experiment and in ascertaining what the results of an experiment has revealed. Problem Setting: In order to properly perform an experiment and to understand why it is being done, a student must first be able to state what physical concept or quantity the experiment is probing. Evidence Acquisition: Next the student must gather the necessary data. In order to do this properly, students must have an understanding of how the apparatus in each day's experiment works and how it acquires and records data. Evidence Evaluation: Here students must validate that the apparatus used in the experiment is functioning properly and that the students are correctly reading the data provided by the experimental apparatus. This can be more challenging than in the first semester lab since each electricity and magnetism quantity is given its own unit therefore making the determination of what constitutes unreasonable harder to judge. It therefore falls on the instructor and lab manual to help the students develop this intuition with the upside being that it affords many opportunities to assess student development in this component skill. Reasoning/Conclusion: The sole purpose of an experiment is to help develop conclusions about the natural world. Physics, like all sciences, is inherently experimental. All laws of nature are conclusions gathered from evaluating the outcomes of repeated experiments.

The problem setting component skill will most likely be given by the instructor during their introductory material in a given experiment. The rest of the component skills of this essential skill will be developed in a hands-on way by the students themselves. Instructors can assess that the students are developing all of these skills in a variety of ways. The longer meeting time and episodic nature of a lab course makes it easier to administer inventory surveys such as the CSEM (Conceptual Survey of Electricity and Magnetism) which can assess whether the students have acquired the problem setting and reasoning/conclusion component skills. The lab report turned in by students can be used to survey their development in both evidence acquisition and evaluation.

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

Since its invention, physics has used graphs to convey information simply and efficiently. In Physics 1320L, students continue developing the skill of gathering information from graphs that was begun in Physics 1310L. As such, students will develop and can be assessed on all of the component skills of this essential skill. Communication/Representation of Quantitative Information: In Physics 1320L, there is a much wider variety in the type of graphical representations encountered by students. Student must understand how the entire behavior of an electric or magnetic field can be summarized graphically using field lines. To understand the behavior and crucial aspects of a circuit, students must be able read and draw circuit diagrams. In magnetism, students must make extensive use of the famous “right-hand-rule” in determining the direction of the magnetic field, force, and torque. This rule is particularly challenging to students as it relies on bodily motion. The understanding of how electricity is generated relies on students being able to infer the slope of a graph. Through assessment data gathered from the students’ lab reports, mastery and understanding of this component skill can be assessed. Analysis of Quantitative Arguments: Students must always interpret, analyze, and critique the information given to them from others if they are to incorporate the subject matter into their mental models. Since lab classes, such as Physics 1320L, habitually have students working in groups, they are ideal for assessing this component skill. Every class requires students to interpret, analyze, and critique the information coming from their groupmates. Data from student surveys or embedded questions on lab reports will make it possible to assess the students’ progress in developing this component skill. Application of Quantitative Models: As a natural science, all topics covered in physics quantitatively model problems and aspects from the real world. The specific topics of electricity, magnetism, and thermodynamics covered in Physics 1320L are no exception. By repeatedly participating in the acquisition and analysis of data, students are developing and then gaining mastery of this component skill. As such, assessment data from lab reports can be used to track and report on student progress in this area.

Personal & Social Responsibility***. Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

As with all sciences, Personal and Social responsibility is an important part of Physics 1320L. Like all scientists, students are expected to be ethical individuals who contribute to the well-being of society and to the entire world, and, as such, are expected to develop all of the component skills in this essential skill. Sustainability and the natural and human worlds: Physics is a natural science; therefore, all of its topics touch directly on the natural world and most of them are directly related to sustainability. Specific examples from Physics 1320L include the learning of how electricity is generated and therefore understanding the difference between fossil fuel and renewable energy sources. In addition, the discussion of circuits includes an introduction to the workings and sustainability of batteries, their need for charging and the environmental impacts of their disposal. The Physics 1320L lab manual contains open-ended questions on these topics and others like them therefore aiding the students' development of a deep appreciation of sustainability and the natural world. Assessment data from these parts of the lab manuals or student surveys can be gathered to determine student proficiency. Ethical Reasoning: Ethical reasoning is at the core of all sciences. Our guiding principle, the scientific method, requires honesty in the gathering and reporting of experimental results. Students are expected to model this same honesty by gathering their own data, doing their own data analysis, and never plagiarizing others' work as their own. Comparing results across different groups can determine whether students are developing this component skill. Collaboration skills, teamwork and value systems: All laboratory courses, Physics 1320L included, are collaborative. As such, students are required to work together in groups of two or three during each class. In the acquisition of data, the analysis of that data, and the preparation of the lab report, group members must work with each other to determine which member performs each task. Student surveys, either written or online, can be used to gather assessment data that can be used to assess student growth in this component skill throughout the semester. Civic Discourse, civic knowledge and engagement: All teaching involves civic discourse and the teaching of physics is no exception. In turn students are expected to return this discourse to the instructor to show their mastery of the topics covered. To this end, student surveys or embedded laboratory manual questions can be used to assess a student's growth in this component skill.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Sep 28 2020

Upload Assessment

Completed - Sep 28 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

PHYS_1320L_combined

Filename: PHYS_1320L_combined.pdf **Size:** 789.9 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001253

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001253
Status: Under Review
Last submitted: Sep 28 2020 09:21 AM (MDT)

Application Form

Completed - Sep 28 2020

Application Form

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Essential Skills

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5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Leandra Goldflam
Title	Lecturer III
Phone	277-2616
Email	lgoldflam@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Physics

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	PHYS
Number	1310L
Title	Calculus-based Physics I Lab
Number of credits	1

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	PHYS
Number	1310L
Name	Calculus-based Physics I Lab

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Science - Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

N/A

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

In Physics 1310L, students perform experiments related to specific areas of physics such as motion, forces, and energy. Critical thinking is crucial in both being able to properly perform an experiment and in ascertaining what the results of an experiment has revealed. Problem Setting: In order to properly perform an experiment and to understand why it is being done, a student must first be able to state what physical concept or quantity the experiment is probing. Evidence Acquisition: Next the student must gather the necessary data. In order to do this properly, students must have an understanding of how the apparatus in each day's experiment works and how it acquires and records data. Evidence Evaluation: Here students must validate that the apparatus used in the experiment is functioning properly and that the students are correctly reading the data provided by the experimental apparatus. In many cases in Physics 1310L, this is aided by the fact that commonplace quantities such as speed and force are being measured. Readings that indicate their lab partner is walking at 50 miles an hour or that a small block of wood weighs 200 pounds, helps the students realize that there must be something wrong with the measuring apparatus. Reasoning/Conclusion: The sole purpose of an experiment is to help develop conclusions about the natural world. Physics, like all sciences, is inherently experimental. All laws of nature are conclusions gathered from evaluating the outcomes of repeated experiments.

The problem setting component skill will most likely be given by the instructor during their introductory for a given experiment. The rest of the component skills of this essential skill will be developed in a hands-on way by the students themselves. Instructors can assess that the students are developing all of these skills in a variety of ways. The longer meeting time and episodic nature of a lab course makes it easier to administer inventory surveys such as the FCI (Force Concept Inventory) which can assess whether the students have acquired the problem setting and reasoning/conclusion component skills. The lab report turned in by students can be used to survey their development in both evidence acquisition and evaluation.

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

Since its invention, physics has used graphs to convey information simply and efficiently. Both while recording and then analyzing data, students are expected to acquire information from graphs and to make their own graphs. As such, students will develop and can be assessed on all of the component skills of this essential skill. Communication/Representation of Quantitative Information: Physics 1310L begins its studies of graphs early as one of its first topics is the graphing of the position and velocity of moving objects as functions of time. From these graphs, students are supposed to discover the famous interrelation between them, first discovered by Newton himself, that the slope of the position graph gives the velocity while acceleration is the slope of the velocity graph. Through assessment data gathered from lab reports or concept inventory surveys, students will be able to show their mastery and understanding of this cornerstone of physics. Gathering information from and the making of graphs is a skill that continues throughout the semester. The calculating of the physical quantities impulse and work for forces that change during motion both require making graphs and the ability to find the area under those graphs. The final topics covered in the Physics 1310L is that of periodic motion and waves, both of which make extensive use of sinusoidal graphs. Students are expected to be able to determine physical properties of the motion, such as the motion’s period, from these graphs. Assessment of this ability from lab reports or concept inventories is a simple matter. Analysis of Quantitative Arguments: Students must always interpret, analyze, and critique the information given to them from others if they are to incorporate the subject matter into their mental models. Since lab classes, such as Physics 1310L, habitually have students working in groups, they are ideal for assessing this component skill. Every class requires students to interpret, analyze, and critique the information coming from their groupmates. Data from student surveys or embedded questions on lab reports will make it possible to assess the students’ progress in developing this component skill. Application of Quantitative Models: As a natural science, all topics covered in physics quantitatively model problems and aspects from the real world. The specific topics of motion, forces, and energy covered in Physics 1310L are no exception. By repeatedly participating in the acquisition and analysis of data, students are developing and then gaining mastery of this component skill. As such, assessment data from lab reports can be used to track and report on student progress in this area.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

As with all sciences, Personal and Social responsibility is an important part of Physics 1310L. Like all scientists, students are expected to be ethical individuals who contribute to the well-being of society and to the entire world, and, as such, are expected to develop all of the component skills in this essential skill. Intercultural reasoning and intercultural competence: Physicists come from all around the world and bring their unique cultural heritages with them. Students need to be able to interact respectfully and learn from those individuals thus showing intercultural competence. Sustainability and the natural and human worlds: Physics is a natural science; therefore, all of its topics touch directly on the natural world and most of them are directly related to sustainability. Specific examples from Physics 1310L include the motion of the earth around the sun and its relation to the seasons and conservation of energy and its profound implications of earth's future sustainability. The Physics 1310L lab manual contains open-ended questions on these topics and others like them thus aiding the students' development of a deep appreciation of sustainability and the natural world. Assessment data from these parts of the lab manual or student surveys can be gathered to determine student proficiency. Ethical Reasoning: Ethical reasoning is at the core of all sciences. Our guiding principle, the scientific method, requires honesty in the gathering and reporting of experimental results. Students are expected to model this same honesty by gathering their own data, doing their own data analysis, and never plagiarizing others' work as their own. Comparing results across different groups can determine whether students are developing this component skill. Collaboration skills, teamwork and value systems: All laboratory courses, Physics 1310L included, are collaborative. As such, students are required to work together in groups of two or three during each class. In the acquisition of data, the analysis of that data, and the preparation of the lab report, each group member must work with each other to determine which member performs each task. Student surveys, either written or online, can be used to gather assessment data that can be used to assess student growth in this component skill throughout the semester. Civic Discourse, civic knowledge and engagement: All teaching involves civic discourse and the teaching of physics is no exception. In turn students are expected to return this discourse to the instructor to show their mastery of the topics covered. To this end, student surveys or embedded laboratory manual questions can be used to assess a student's growth in this component skill.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Sep 28 2020

Upload Assessment

Completed - Sep 28 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

PHYS_1310L_combined

Filename: PHYS_1310L_combined_FzwjUxO.pdf **Size:** 938.8 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001262

Michael Bilopavlovich - michaelb@mesalands.edu
NM General Education Curriculum

Summary

ID: 0000001262
Status: Under Review
Last submitted: Oct 2 2020 03:39 PM (MDT)

Application Form

Completed - Oct 1 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

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3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

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Deadline for Next Curriculum Committee Meeting

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Tips for Completing the General Education Course

Application

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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Michael Bilopavlovich
Title	Faculty
Phone	5754614413 ext. 150
Email	michaelb@mesalands.edu

Submitting Institution

Name of HEI	Mesalands Community College
Submitting Department	Academic Affairs

Chief Academic Officer

Name	Natalie Gillard
Email	natalieg@mesalands.edu

Registrar

Name	Forrest Kaatz
Email	forrestk@mesalands.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	ENG
Number	104
Title	Freshman Composition II
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

Yes

Co-requisite Course

Prefix	ENG
Number	102
Title (if applicable)	English Compositions

New Mexico Common Course Information

Prefix	ENGL
Number	1120
Name	Composition II

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Communications - Communication, Critical Thinking, Information & Digital Literacy

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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).

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

NA

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

Students will engage in reading, writing, analysis, research, and discussion activities in which they identify, evaluate and respond to diverse rhetorical situations. Students will use diverse and appropriate communication strategies in various mediums. Students will pursue various reading strategies to seek out, evaluate, and support or rebut key points in diverse example texts. Students will practice applying both theoretical and cultural templates to contextualize their analysis and their written responses. Students will formulate hypotheses, opinions, and position statements – and communicate their conclusions using appropriate rhetorical forms. They will evaluate sources and evidence to support their theses through organized presentation of arguments and appropriately cited references using a designated citation system such as MLA or APA.

Written Communications skills will be assessed through multiple diverse composition assignments, including at least 4 completed and revised formal essays which integrate reading, research, evaluation and analysis, and quotation and citation of sources, as well as diverse homework and reading response assignments requiring different reading and reasoning strategies. Students will receive both formative and summative feedback which they will be expected to incorporate into their revisions. Effective use of digital media and appropriate document formatting will also be assessed.

Oral Communication skills will be assessed through documented participation in class discussion and oral argument (for in-person courses), as well as ability to give and follow instructions and collaborate with other students.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Students will define problems, evaluate issues, and formulate research questions to guide their inquiries. They will complete reading and research tasks to collect, qualify and evaluate sources and data for credibility, relevance, and possible bias. Students will cite their sources in a systematic and respectful manner. Students will consider rhetorical, historical, and cultural contexts as they develop and refine their theses and ideas, and they will effectively communicate their conclusions and their underlying reasoning through written, oral or digital presentations.
Critical thinking will be assessed in the formation and articulation of ideas within students' essay projects as well as in written and oral responses to assigned readings and homework. Students will demonstrate the ability to analyze a text and identify various features, such as rhetorical context, intended audience, credibility and bias, and rhetorical modes.

Information & Digital Literacy. ***Authority and Value of Information; Digital Literacy; Information Structure; and Research as Inquiry***

In this box, provide a narrative that explains how the proposed course addresses ***3*** *of the components of digital literacy.*

Students will acquire, assess, and communicate information across different mediums using digital tools. They will recognize the hazards and advantages of communicating in an integrated digital environment. Students will develop and pursue self-directed research which generates problem solutions or otherwise illuminates the complexity of issues and questions. They will document and share their inquiries using appropriate formats, tools, and digital presentation applications.
Information and digital literacy will be assessed throughout the semester as students utilize digital resources and word processing technology to research, compose, revise, format, and transmit their various assignments. Students will demonstrate competence utilizing research databases and other information tools to gather, organize and evaluate information, as well as their ability to navigate online learning platforms (where applicable) and standard electronic communications tools such as email, online chats, discussion forums, and digital meeting spaces such as Zoom or Skype.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://www.mesalands.edu/wp-content/uploads/2020/01/SLAC-Annual-Report-2018-19-Final.pdf

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Oct 1 2020

Upload Assessment

Completed - Oct 1 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

ENG 104 Sample Assignment Using Questions to develop a topic

Filename: ENG_104_Sample_Assignment_Using_Questi_TmaczyN.pdf **Size:** 156.5 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001282

Tycie Jackson - tjackson@luna.edu
NM General Education Curriculum

Summary

ID: 0000001282
Status: Under Review
Last submitted: Oct 5 2020 11:10 PM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Larry Fields
Title	Instructor
Phone	505-454-2557
Email	lfields@luna.edu

Submitting Institution

Name of HEI	Luna Community College
Submitting Department	Humanities

Chief Academic Officer

Name	Maxine Hughes
Email	mhughes@luna.edu

Registrar

Name	Melissa Cordova
Email	mcordova@luna.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	ANTH
Number	1115
Title	Introduction to Anthropology
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	N/A
Number	N/A
Title (if applicable)	N/A

New Mexico Common Course Information

Prefix	ANTH
Number	1115
Name	Introduction to Anthropology

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Social & Behavioral Sciences - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

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.

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

Lectures in ANTH 1115 are divided into four units, each dealing with the primary subfields studied by specialists in Anthropology: Evolutionary Anthropology, Archaeology, Cultural Anthropology, and Linguistics. Students are expected to be able to effectively evaluate different types of evidence used in each subfield in the study of humans and non-human primate ancestors and genetic relatives. This includes communicating basic concepts of biological and cultural evolution; the relationship between human demography, environments and environmental change; various ways humans organize themselves socially, economically and politically, and how anthropologists account for genetic, phenotypic, cultural, and linguistic diversity of humans in the context of a single unified biological species. These topics articulate with communication as an adaptive strategies related group living, the physical world and diverse worldviews. Communication focused on disciplinary conventions is emphasized in all areas of this course, as well as in exams, quizzes, and discussion assignments. Students are expected to evaluate and compare varying messages – as approaches to understanding the human collective experience, how and why diverse populations occupy every continent of the planet characterize. Students are expected to be able to effectively express how people are both shaped by and shape their environments, and how language, our primary communicative device, has led us to be successful as a species. Assessment is through evaluation on exams and quizzes, as well as individual oral and written discussion exercises as part of the discussion assignments' focus on applying the concepts and principles from the textbook and lectures to real situations.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Each Unit in ANTH 1115 (Evolutionary Anthropology, Archaeology, Cultural Anthropology, and Linguistics) focuses on broad aspects of the human experience that the sub-fields are uniquely able to investigate. Students receive direct instruction on how evidence of biological and cultural forms and change are acquired in order to address topics relevant to understanding the human experience in the past and present. These include the evidence of human biological and cultural change over time; how humans adapt to different physical, environmental, and social conditions; how technological innovations and complex social interactions allowed humans to adapt to numerous challenges throughout our history. Students learn how to recognize and formulate scientific hypotheses and how to evaluate theoretical and empirical evidence. In the three discussion assignments students are asked to evaluate evidence and arguments related to human history, diversity, and cultural practices and to assess the relevance of these for particular situations.Students are assessed for comprehension of evidence acquisition and evaluation through exams and quizzes.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

Lectures and discussions in ANTH 1115 examine a wide range of topics related to Personal and Social Responsibility. These include human subjects in research and ethical conduct of ethnographic and linguistic data collection, cultural properties and ethics of archeological excavations and analysis, and the use of human remains in archaeological and evolutionary anthropology analysis. These topics are included in each course unit centering on one of the four subfields of anthropology.All discussion assignments have components addressing personal and social responsibility, engaging students to consider how scientists balance (1) production of knowledge with the concerns of communities for privacy or control over narratives surrounding history and identity(Intercultural and ethical reasoning, civic knowledge and engagement – local and global); (2) control over cultural properties)intercultural reasoning) ; (3) the value of preserving aspects of human culture such as languages (sustainability and the natural and human world).

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

N/A

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Oct 5 2020

Upload Assessment

Completed - Oct 5 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

ANTH 115 Test

Filename: ANTH_115_Test.pdf **Size:** 60.2 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001248

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001248
Status: Under Review
Last submitted: Sep 28 2020 08:09 AM (MDT)

Application Form

Completed - Sep 27 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

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2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Diana Habel-Rodriguez
Title	Lecturer III
Phone	505-277-6655
Email	dianah@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Chemistry

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	CHEM
Number	1225
Title	General Chemistry II for STEM Majors
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	CHEM
Number	1225
Name	General Chemistry II for STEM Majors

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Science - Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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 spontaneityÍ¾ 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 cellÍ¾ or describe organic reactions.
9. Describe bonding theories, such as valence and molecular orbital theory.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

N/A

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Reasoning/Conclusion.
In Chem1225 students develop an understanding of the mechanisms that govern chemical behavior and chemical interactions, which grows in complexity throughout the course. The course starts with intermolecular interactions between molecules, which manifest on the macroscopic, human-scale level in a number of physical properties such as boiling points, melting points, surface tension, vapor pressures, viscosities, solubility and more. The boiling point of a substance, for example, depends on many variables: the strength of the intermolecular interactions between the individual molecules, but also the atmospheric, and also the nature of the substance (is this a pure liquid or a solution that contains a solute?) (problem setting, evidence evaluation)
Understanding and correctly predicting expected trends in the context of this complexity requires students to careful delineate the problem. If I compare several chemical samples, what factors are changing and what factors are the same? Depending on which factors are changing, what physical phenomenon (and hence which equation) is involved? (problem setting) Students practice this on in-class worksheet and in-class clicker questions. The included 'intermolecular interactions worksheet' gives students a data set of physical properties across a series of molecular compounds and requires the students to infer what the appropriate trends for intermolecular forces are. (evidence evaluation) This is both practiced and assessed on worksheets and assessed on midterm exams. Specifically, midterm exam questions do not usually name the chemical phenomenon for the student in the question - rather the students need to classify the problem and the variables systematically to realize what appropriate equation or phenomenon each question involves. A more nuanced skill is learning to evaluate what is or is not extraneous information. (evidence gathering, evidence evaluation) On in-class worksheets, on after-class ALEKS homework and on mid-term exams students are occasionally presented with extraneous information and must decide which piece of data contains the information that they are after. This is an aspect of critical thinking that students are often uncomfortable/insecure in and is assessed through carefully designed clicker questions and mid-term exam questions, where 'carefully designed' refers to the use of the incorrect answer choices to address specific student errors and misconceptions.

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

Students use data throughout the course both to qualitatively evaluate data (for example: standard molar entropies increase as molar masses of compounds increases) and quantitatively in calculations (for example: calculate the value of the reaction rate at a specific temperature).
Students practice interpreting and applying symbolic equations with various layers of depth. We expect students to know what the symbol in the equation stand for, to plug given values into the given equation to correctly calculated a numerical value for the variable of interest, and also to evaluate the unit consistency between the symbolic parts of an equation.
Throughout the semester, these skills are assessed as clicker questions, worksheet material and mid-term exam questions. For the Chem1225 course, exams include both multiple choice questions and short-answer questions. Short-answer questions require the students to show their work (including unit analysis) for complete credit or partial credit to allow us to assess and reward each part of the calculation process somewhat independently (Did the student recognize which equation is appropriate? Did the student consider the correct units? Did the student carry out the calculation correctly? Can the student interpret the final number they calculated in the context of the problem premise?) The equations utilized in this course are all quantitative models of the real world. Students learn how to calculate properties of interest such as boiling points, melting points, and vapor pressures of solutions, rates of various reactions as a function of temperature, the expected amounts of reactants and products in the equilibrium mixture for a given reaction, how cell voltage in an electrochemical cell (or across a membrane) is affected by concentration and more.
The collaborative set-up of class allows for the analysis and critique of lines of reasoning presented by others. Students engage in the analysis of quantitative arguments in group work sessions by reviewing each other’s work and conclusions through discussion and group worksheets. When students get different answers, for example, they work together to reconcile what mistakes might have occurred.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

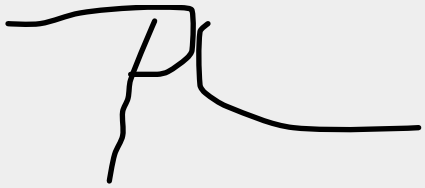
Sustainability and the ethical use of finite natural resources are crucial issues in the modern world. We review and expand the concepts of oxidation and reduction, which provide the basis for understanding alternative energy sources such as fuel cells and the scientific foundation of how batteries work to store energy – an essential combination with solar power as an alternative energy solution. Students get a very detailed and modern introduction to these topics in their pre-class reading assignments, which we assess with short online pre-class reading quizzes. These concepts may then be discussed further in lecture and explored as worksheet or clicker problems. Each instructor may have their own individual amount of emphasis on the connection between the lecture material and the natural environment. I believe that rather than telling students what to think and what is good or bad, giving students the skills and knowledge in key areas such as electrochemistry or catalysis enables them to (ultimately) realize for themselves how physical or natural systems will respond. This is in this course a more subtle connection than other, more specialized courses may develop, but we are training students to acquire skills to join the conversation, not to accept or repeat our own opinions.
In the interests of facilitating collaborative learning, students spend a significant portion of each class working together in small groups to solve challenging problems given as clicker questions or in scaffolded worksheets. Though it is acknowledged that each team member will contribute differently to the success of the team, equity of effort is the model students are given to aspire to so that each team member has a role to play and shared responsibility for the outcome.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Sep 27 2020

Upload Assessment

Completed - Sep 27 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

CHEM 1225 RECERT

Filename: CHEM_1225_RECERT.pdf **Size:** 744.8 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001245

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001245
Status: Under Review
Last submitted: Sep 28 2020 08:09 AM (MDT)

Application Form

Completed - Sep 27 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

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3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout

the course.

Contact Information

Name	Ezra Depperman
Title	Lecturer III
Phone	505-400-1336
Email	ezrad@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Chemistry

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	CHEM
Number	1215
Title	General Chemistry I for STEM Majors
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

Yes

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	CHEM
Number	1215
Name	General Chemistry I for STEM Majors

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Science - Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

N/A

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Critical thinking is a major area of development for students in General Chemistry. In a variety of different contexts, students are given quantitative and qualitative information describing a problem, and must identify the problem type given the question and information provided in order to solve the problem (problem setting). The student learns to characterize the problem by listing all the available information, sorting through relevant and irrelevant information, identifying any additional information needed (evidence acquisition and evaluation) and applying it to their existing and expanding conceptual framework. Once solved, they are trained to evaluate whether their solution makes sense, or to compare and contrast different approaches of solving the problem to recommend the optimum path (reasoning and conclusion).

The course explicitly introduces problem solving strategies, and students practice these for most of the content related learning outcomes. This course is a particularly good one to learn this skill because very similar prompts and information can lead to very different problem types and solutions, and without learning to pay attention to detail and having the discipline of the problem framing approach, students do not correctly solve the problem.

To achieve this outcome, students are introduced to a problem-solving framework in pre-class textbook reading for one of the early classes in the semester. The content area of unit conversions and dimensional analysis provides their first practice in application. In-class worksheets require students to not only solve the problem but first to set up a plan, and so students practise and instructors get feedback on how students are framing the problem. The foundation is prepared for the content area of stoichiometry which challenges students to do multi-step problems, in which problem setting and planning is essential. Again, in-class worksheets prompt students to first write down the plan as an explicit and graded step before solving the problem. In all content areas, this multi-step problem solving is practiced, usually in in-class worksheets and after-class homework, and then assessed in mid-term and final exams. A student’s ability to perform a multistep problem in any one of the content areas is excellent evidence that they have developed significant critical thinking skills. This is assessed in scaffolded worksheets completed in class and on summative mid term and final exams.

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

The course focuses strongly on the application of quantitative models to the physical world we experience every day. Students begin with a review of some mathematical concepts and terminology and then consider physical and chemical properties of everyday objects, like density, mass, and volume and performing simple calculations involving these types of concepts. Having been introduced to atomic theory, the idea that every physical object we are likely to encounter is made of atoms, students learn chemical formulas and the mole concept. Knowing the chemical formula of a substance, we can count the number of each type of atom present in a sample of that substance simply by weighing it. This idea is important for stoichiometry, a methodology that uses principles of dimensional analysis to determine how much of each reactant must be used to produce a desired amount of product without waste. We can also quantitate the efficiency of our chemical reaction when we determine percent yield, based on the ratio of what we actually obtain (actual yield) to what we calculate that we should obtain (theoretical yield). For solutions, we can use volume and molar concentration to count moles rather than mass and molar mass. Using similar methodology, students practice determination of the amount of energy produced or consumed by a chemical reaction (thermochemistry). Students also learn the quantitative interdependence of the volume, temperature pressure, and amount of a gas (gas laws). For each of these skills, students begin by reading the relevant section in the textbook before we go over it in class. Students then take a brief reading quiz that forces them to perform some of the simple skills covered in the reading and to reflect on their understanding. In class, the material is presented in interactive lecture format, where students are encouraged to ask questions. Clicker questions requiring students to perform calculations using topics from lecture are frequently employed to assess the effectiveness of the lectures. Students may also work together in small groups to complete worksheets that contain questions for which the students must synthesize the various skills and concepts learned in class that day. Homework problems provide further opportunity to hone these skills and midterm and final exams assess students’ degree of mastery.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

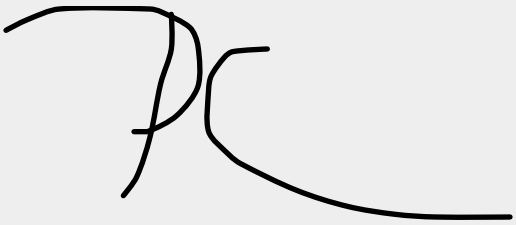
The course introduces the foundation of an understanding of the natural and human worlds at a molecular level. A critical issue facing humanity is how to provide energy for our growing needs in a way that is sustainable, as well as not exacerbating global warming due to rising levels of carbon dioxide. The first semester of General Chemistry provides an introduction to the concepts of energy that form the fundamental basis for understanding how energy is obtained from chemical reactions. Students will explain how energy is produced from or absorbed into chemical reactions by the balance of bond-breaking and bond-forming processes. Students will describe traditional sources of energy such as coal and oil and renewable sources of energy such as biofuels. They will relate energy produced from a certain amount of fuel to carbon dioxide created using reaction stoichiometry. In addition, the concepts of oxidation and reduction are introduced, which provide the basis for understanding the alternative energy source - fuel cells, as well as the scientific foundation of how batteries work to store energy – an essential combination with solar power as an alternative energy solution. To develop these skills, students complete pre-class reading assignments to acquire the basic knowledge and then solve problems on worksheets in class to test their understanding in a formative environment where they are interacting with peers and their instructor. Homework problems further reinforce the learning, and the concepts are tested on mid term and final exams.
In the interests of facilitating collaborative learning, students spend a significant portion of class time daily working together in small groups to solve challenging problems given in the scaffolded worksheets. Though it is acknowledged that each team member will contribute differently to the success of the team, equity of effort is the model students are given to aspire to so that each team member has a role to play and shared responsibility for the outcome.
Clicker questions may also be asked, with peer instruction invoked when the correct response rate is below a threshold value. Typically, peer instruction improves the correct response rate by 15 to 25%.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Sep 27 2020

Upload Assessment

Completed - Sep 27 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

CHEM 1215 RECERT

Filename: CHEM_1215_RECERT.pdf **Size:** 763.2 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001254

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001254
Status: Under Review
Last submitted: Sep 28 2020 09:21 AM (MDT)

Application Form

Completed - Sep 28 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

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Tips for Completing the General Education Course

Application

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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Leandra Goldflam
Title	Lecturer III
Phone	277-2616
Email	lgoldflam@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Physics

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	PHYS
Number	1230L
Title	Algebra-based Physics I Lab
Number of credits	1

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	PHYS
Number	1230L
Name	Algebra-based Physics I Lab

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Science - Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

N/A

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

In Physics 1230L, students perform experiments related to specific areas of physics such as motion, forces, and energy. Critical thinking is crucial in both being able to properly perform an experiment and in ascertaining what the results of an experiment has revealed. Problem Setting: In order to properly perform an experiment and to understand why it is being done, a student must first be able to state what physical concept or quantity the experiment is probing. Evidence Acquisition: Next the student must gather the necessary data. In order to do this properly, students must have an understanding of how the apparatus in each day's experiment works and how it acquires and records data. Evidence Evaluation: Here students must validate that the apparatus used in the experiment is functioning properly and that the students are correctly reading the data provided by the experimental apparatus. In many cases in Physics 1230L, this is aided by the fact that commonplace quantities such as speed and force are being measured. Readings that indicate their lab partner is walking at 50 miles an hour or that a small block of wood weighs 200 pounds, helps the students realize that there must be something wrong with the measuring apparatus. Reasoning/Conclusion: The sole purpose of an experiment is to help develop conclusions about the natural world. Physics, like all sciences, is inherently experimental. All laws of nature are conclusions gathered from evaluating the outcomes of repeated experiments.

The problem setting component skill will most likely be given by the instructor during their introductory material for a given experiment. The rest of the component skills of this essential skill will be developed in a hands-on way by the students themselves. Instructors can assess that the students are developing all of these skills in a variety of ways. The longer meeting time and episodic nature of a lab course makes it easier to administer inventory surveys such as the FCI (Force Concept Inventory) which can assess whether the students have acquired the problem setting and reasoning/conclusion component skills. The lab report turned in by students can be used to survey their development in both evidence acquisition and evaluation.

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

Since its invention, physics has used graphs to convey information simply and efficiently. Both while recording and then analyzing data, students are expected to acquire information from graphs and to make their own graphs. As such, students will develop and can be assessed on all of the component skills of this essential skill. Communication/Representation of Quantitative Information: Physics 1230L begins its studies of graphs early as one of its first topics is the graphing of the position and velocity of moving objects as functions of time. From these graphs, students are supposed to discover the famous interrelation between them, first discovered by Newton himself, that the slope of the position graph gives the velocity while acceleration is the slope of the velocity graph. Through assessment data gathered from lab reports or concept inventory surveys, students will be able to show their mastery and understanding of this cornerstone of physics. Gathering information from and the making of graphs is a skill that continues throughout the semester. The calculating of the physical quantities impulse and work for forces that change during motion both require making graphs and the ability to find the area under those graphs. The final topics covered in the Physics 1230L is that of periodic motion and waves, both of which make extensive use of sinusoidal graphs. Students are expected to be able to determine physical properties of the motion, such as the motion’s period, from these graphs. Assessment of this ability from lab reports or concept inventories is a simple matter. Analysis of Quantitative Arguments: Students must always interpret, analyze, and critique the information given to them from others if they are to incorporate the subject matter into their mental models. Since lab classes, such as Physics 1230L, habitually have students working in groups, they are ideal for assessing this component skill. Every class requires students to interpret, analyze, and critique the information coming from their groupmates. Data from student surveys or embedded questions on lab reports will make it possible to assess the students’ progress in developing this component skill. Application of Quantitative Models: As a natural science, all topics covered in physics quantitatively model problems and aspects from the real world. The specific topics of motion, forces, and energy covered in Physics 1230L are no exception. By repeatedly participating in the acquisition and analysis of data, students are developing and then gaining mastery of this component skill. As such, assessment data from lab reports can be used to track and report on student progress in this area.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

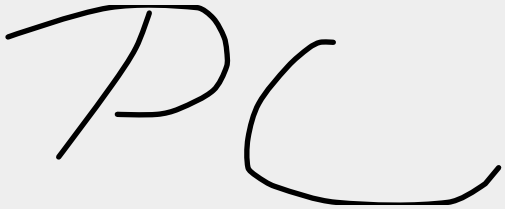
As with all sciences, Personal and Social responsibility is an important part of Physics 1230L. Like all scientists, students are expected to be ethical individuals who contribute to the well-being of society and to the entire world, and, as such, are expected to develop all of the component skills in this essential skill. Intercultural reasoning and intercultural competence: Physicists come from all around the world and bring their unique cultural heritages with them. Students need to be able to interact respectfully and learn from those individuals thus showing intercultural competence. Sustainability and the natural and human worlds: Physics is a natural science; therefore, all of its topics touch directly on the natural world and most of them are directly related to sustainability. A specific example from Physics 1230L is conservation of energy and its profound implications of earth's future sustainability. The Physics 1230L lab manual contains open-ended questions on this topic and others like it thus aiding the students' development of a deep appreciation of sustainability and the natural world. Assessment data from these parts of the lab manual or student surveys can be gathered to determine student proficiency. Ethical Reasoning: Ethical reasoning is at the core of all sciences. Our guiding principle, the scientific method, requires honesty in the gathering and reporting of experimental results. Students are expected to model this same honesty by gathering their own data, doing their own data analysis, and never plagiarizing others' work as their own. Comparing results across different groups can determine whether students are developing this component skill. Collaboration skills, teamwork and value systems: All laboratory courses, Physics 1230L included, are collaborative. As such, students are required to work together in groups of two or three during each class. In the acquisition of data, the analysis of that data, and the preparation of the lab report, each group member must work with each other to determine which member performs each task. Student surveys, either written or online, can be used to gather assessment data that can be used to assess student growth in this component skill throughout the semester. Civic Discourse, civic knowledge and engagement: All teaching involves civic discourse and the teaching of physics is no exception. In turn students are expected to return this discourse to the instructor to show their mastery of the topics covered. To this end, student surveys or embedded laboratory manual questions can be used to assess a student's growth in this component skill.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Sep 28 2020

Upload Assessment

Completed - Sep 28 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

PHYS_1230L_combined

Filename: PHYS_1230L_combined_yB5PrsS.pdf **Size:** 934.8 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001251

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001251
Status: Under Review
Last submitted: Sep 28 2020 08:10 AM (MDT)

Application Form

Completed - Sep 27 2020

Application Form

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Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

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Tips for Completing the General Education Course

Application

- When pasting into the application from another document, paste your text without formatting.
- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Christopher Holden
Title	Associate Professor, Co-chair of Curriculum and Assessment
Phone	505-328-6458
Email	cholden@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Honors

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	UHON
Number	204
Title	Seminar in the Individual & the Collective
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	In progress
Number	In progress
Name	In progress

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Social & Behavioral Sciences - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

n/a

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

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.

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

This seminar is a writing- and reading-intensive course that teaches students communications skills through critical reading skills-development, in-class discussion, in-class presentations, and written arguments in a variety of genres. Students develop genre and medium awareness and application by reading and writing in different genres (e.g. historical texts, academic texts, political manifestos, and newspaper articles) and building arguments appropriate to different audiences and rhetorical situations (e.g. academic essays, verbal presentantations, and letters to policy makers). Students develop strategies for understanding and evaluating messages through in-class discussions of key texts in the social sciences, undertaking research to identify and describe empirical evidence of a particular social phenomenon, applying social scientific theories to support claims and explain the empirical phenomenon. Students develop skills for evaluating and producing arguments through seminar discussion of primary texts, and through written arguments in which they develop their own claims by applying social scientific theory to empirical phenomena, drawing upon literatures and citing appropriately using Chicago Style or another major social scientific citation system.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

This course teaching students skills related to critical thinking by:
1) reading the key texts in social theory, wherein key figures in the social sciences delineate a social problem or questions and present theories about them explaining or solving these problems and questions. Students will examine these texts for credibility, reliability, validity, and bias; will compare and contrast these perspectives; and will explore how social scientific theories are useful for thinking through contemporary social issues, or if these theories need to be revised to better address our contemporary social reality.
2) identifying an empirical social problem or question; acquiring evidence and evaluate this evidence for credibility, truth, and relevance; and reaching a conclusion that applies social theory to develop solutions or responses to the problems and questions. Students will be able to apply different social theories to their problem or question, and will evaluate the relevance of these ideas and tools for their particular problem.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

In this course, students will develop personal and social responsibility first by researching an empirical problem or question. This research will require the students to learn about situations outside of their own experience -- thereby developing strong intercultural competence. They will have to identify and evaluate evidence related to their chosen problem -- thereby developing intercultural reasoning skills. They will develop arguments examining and explaining their social problem or question, and will articulate these ideas and arguments in multiple genres and media -- thereby developing skills for participating in civil discourse and engagement. Students will present and discuss these social problems in the seminar discussion -- furthering their ability to engage in civil discourse. Students will think critically about the relationship between the individual and the collective, asking how each of us individually fits into the larger social world, and by developing their social scientific reasoning skills that contemplates our place in the natural and human worlds. They will ask develop arguments about an empirical problem, first outlining what this problem is and why it matters and then using social theories to develop a solution or responses — this will give students ethical reasoning skills. In classroom discussion and activities, students will learn collaboration skills and teamwork, recognizing how different value system influences how people interact with others.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

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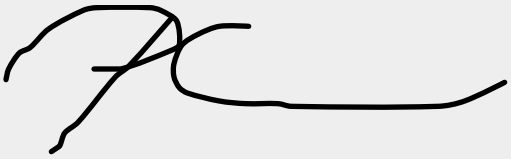

Date

Sep 27 2020

Upload Assessment

Completed - Sep 27 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

UHON 204 Sample Assignment

Filename: UHON_204_Sample_Assignment_SaxCO6U.pdf **Size:** 46.9 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001277

Tycie Jackson - tjackson@luna.edu
NM General Education Curriculum

Summary

ID: 0000001277
Status: Under Review
Last submitted: Oct 5 2020 10:57 PM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

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7. Other: 3 Essential Skills chosen by the institution

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- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Olivia Kuykendall
Title	Instructor
Phone	5054542557
Email	okuykendall@luna.edu

Submitting Institution

Name of HEI	Luna Community College
Submitting Department	Humanities

Chief Academic Officer

Name	Maxine Hughes
Email	mhughes@luna.edu

Registrar

Name	Melissa Cordova
Email	mcordova@luna.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	ARTH
Number	2110
Title	History of Art I
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	ARTH
Number	2110
Title (if applicable)	History of Art I

New Mexico Common Course Information

Prefix	ARTH
Number	2110
Name	History of Art I

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Creative & Fine Arts - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

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.

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

In this course, a diverse range of art forms, art eras, historical artists, art and cultural traditions as well as their effect on and of society will be explored and evaluated using a variety of learning mechanisms. Through research, writing and discussion, students are able to contextualize various art forms throughout history. Students will focus on specific genres and art traditions that occurred in the past as well as the present. They will evaluate artworks and compare them to the time period in which they were created in order to understand the socio-cultural circumstances then. By observing and studying certain forms of art, students will be able to articulate messages and meanings of them and reflect/relate to them on a personal and social level. Students can then compare and contrast the differences and similarities of different art forms, eras and specific artworks in order to understand the connection between art and society. Together, students are able to collaborate through group projects and discussions concerning art forms, eras and specific stylistic choices. Varying strategies are utilized to ensure students are absorbing and interpreting art such as: research papers, group discussions and activities, presentations and examinations. Using these strategies, students will begin to participate in conversations in the classroom discussing and evaluating arguments and opinions of historical artists and scholars regarding art and the eras in which they existed. Students will explore how art forms and conventions of the time affected and reflected community life, personal life and cultural traditions. By the completion of this course, students will be better skilled and prepared for their next courses of study as well as future aspirations.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Through identification of a wide range of art forms and their origins, students will begin to understand and evaluate art as it relates to life. Students will be able to use scholarly interpretations already made, as well as personal reflections of art and the relationship between the history of art and the world. Students will be introduced to regional historical periods and their art forms, including the socio-cultural issues and impact surrounding them. Varying sources of art and the history of will be presented to students during this course through readings, presentations and classroom activities. Students will also gather their own evidence, including biographical information of specific artists, the mediums that were used and why and what that meant during that time in history. Students will then evaluate information from the sources by completing research papers, preparing presentations and leading group discussions that examine meaning and impact of art throughout history. During group discussions, students are able to share evidence gathered and evaluate each other's work. They will look at where the information came from, the accuracy of it and what context it holds in regards to art history and the reflections of civic life. Through evaluation of specific art forms and eras, students will form personal reflections of their connections to historical art eras as an individual and a member of society. Through personal reflection of the evidence at hand, students can make informed judgments, arguments and opinions, leading to a deeper understanding of how art functions in history and society.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

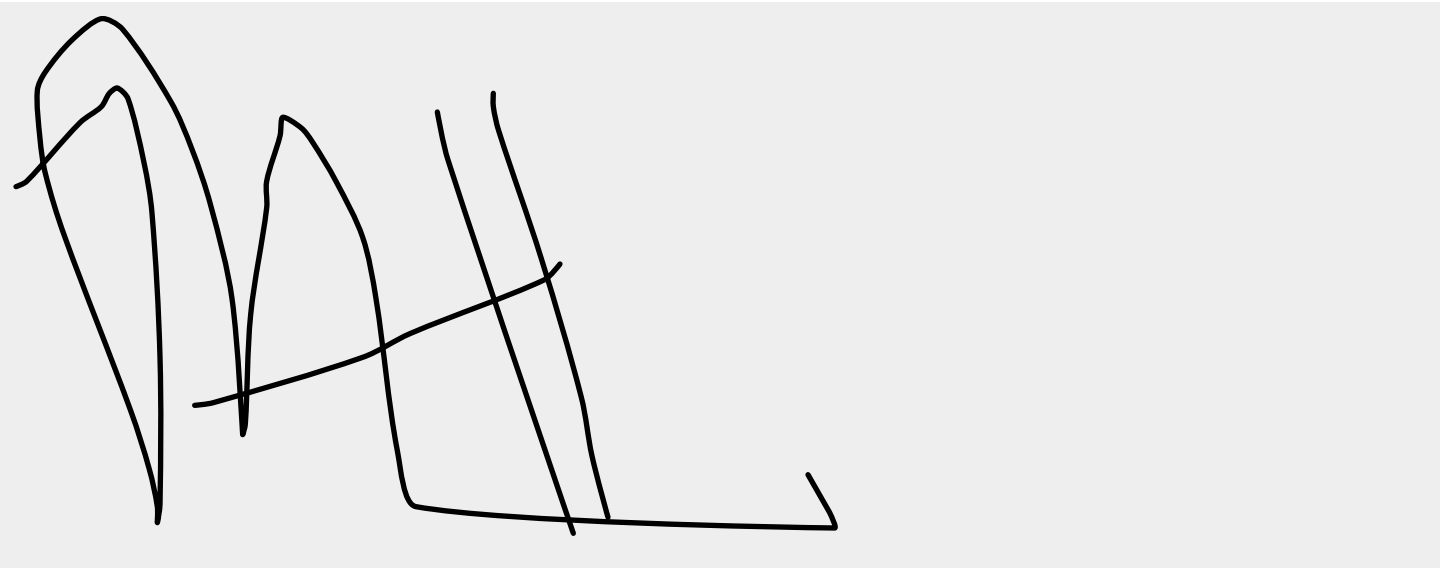
Personal and societal reflection is the key component that enables students to identify individual issues as well as societal issues, globally and locally. Students will study culture in the form of art throughout time and region. They will discover what art forms existed in certain historical periods and what tools or materials were used to create them and why. By researching, reading, discussing, presenting and group activity, students can begin to recognize social and political themes throughout history, including the reflection through art and its impact in the world through time and place. Various global issues are then identified and analyzed by looking at how historical eras relate to the art being created during these periods. Students will be required to research specific issues in history and how art was used to visually depict civic life. Through group discussion and activities, students can work together to form ethical solutions to current local and global issues. Discussions of art in terms of intellect and spirituality throughout history will help students relate history to the present circumstances. Students will need to study multiple scholarly viewpoints in order to determine a sustainable strategy to correct specific problems identified. After group activities, projects and discussions, students can also figure out how to work as a team more effectively, recognizing and respecting the diversity of the classroom. Using these methods, students will then be able to make accurate solutions for unsustainable personal and societal issues, furthering their reflection of and impact of art all through history.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

N/A

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Oct 5 2020

Upload Assessment

Completed - Oct 5 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

HISTORY OF ART 1 - 2110

Filename: HISTORY_OF_ART_1_-_2110.pdf **Size:** 67.8 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001255

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001255
Status: Under Review
Last submitted: Sep 28 2020 09:21 AM (MDT)

Application Form

Completed - Sep 28 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Leandra Goldflam
Title	Lecturer III
Phone	277-2616
Email	lgoldflam@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Physics

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	PHYS
Number	1240L
Title	Algebra-based Physics II Lab
Number of credits	1

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	PHYS
Number	1240L
Name	Algebra-based Physics II Lab

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Science - Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

N/A

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

In Physics 1240L, students perform experiments related to specific areas of physics such as electricity, magnetism, and optics. Critical thinking is crucial in both being able to properly perform an experiment and in ascertaining what the results of an experiment has revealed. Problem Setting: In order to properly perform an experiment and to understand why it is being done, a student must first be able to state what physical concept or quantity the experiment is probing. Evidence Acquisition: Next the student must gather the necessary data. In order to do this properly, students must have an understanding of how the apparatus in each day's experiment works and how it acquires and records data. Evidence Evaluation: Here students must validate that the apparatus used in the experiment is functioning properly and that the students are correctly reading the data provided by the experimental apparatus. This can be more challenging than in the first semester lab since each electricity and magnetism quantity is given its own unit therefore making the determination of what constitutes unreasonable harder to judge. It therefore falls on the instructor and lab manual to help the students develop this intuition with the upside being that it affords many opportunities to assess student development in this component skill. Reasoning/Conclusion: The sole purpose of an experiment is to help develop conclusions about the natural world. Physics, like all sciences, is inherently experimental. All laws of nature are conclusions gathered from evaluating the outcomes of repeated experiments.

The problem setting component skill will most likely be given by the instructor during their introductory material in a given experiment. The rest of the component skills of this essential skill will be developed in a hands-on way by the students themselves. Instructors can assess that the students are developing all of these skills in a variety of ways. The longer meeting time and episodic nature of a lab course makes it easier to administer inventory surveys such as the CSEM (Conceptual Survey of Electricity and Magnetism) which can assess whether the students have acquired the problem setting and reasoning/conclusion component skills. The lab report turned in by students can be used to survey their development in both evidence acquisition and evaluation.

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

Since its invention, physics has used graphs to convey information simply and efficiently. In Physics 1240L, students continue developing the skill of gathering information from graphs that was begun in Physics 1230L. As such, students will develop and can be assessed on all of the component skills of this essential skill. Communication/Representation of Quantitative Information: In Physics 1240L, there is a much wider variety in the type of graphical representations encountered by students. Student must understand how the entire behavior of an electric or magnetic field can be summarized graphically using field lines. To understand the behavior and crucial aspects of a circuit, students must be able read and draw circuit diagrams. In magnetism, students must make extensive use of the famous “right-hand-rule” in determining the direction of the magnetic field, force, and torque. This rule is particularly challenging to students as it relies on bodily motion. The understanding of how electricity is generated relies on students being able to infer the slope of a graph. The topic of optics and electromagnetic waves makes extensive use of sinusoidal graphs. Students are expected to be able to determine the physical properties of a wave, such as its period and wavelength, from these graphs. Through assessment data gathered from the students’ lab reports, mastery and understanding of this component skill can be assessed. Analysis of Quantitative Arguments: Students must always interpret, analyze, and critique the information given to them from others if they are to incorporate the subject matter into their mental models. Since lab classes, such as Physics 1240L, habitually have students working in groups, they are ideal for assessing this component skill. Every class requires students to interpret, analyze, and critique the information coming from their groupmates. Data from student surveys or embedded questions on lab reports will make it possible to assess the students’ progress in developing this component skill. Application of Quantitative Models: As a natural science, all topics covered in physics quantitatively model problems and aspects from the real world. The specific topics of electricity, magnetism, and optics covered in Physics 1240L are no exception. By repeatedly participating in the acquisition and analysis of data, students are developing and then gaining mastery of this component skill. As such, assessment data from lab reports can be used to track and report on student progress in this area.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills,***

teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

As with all sciences, Personal and Social responsibility is an important part of Physics 1240L. Like all scientists, students are expected to be ethical individuals who contribute to the well-being of society and to the entire world, and, as such, are expected to develop all of the component skills in this essential skill. Sustainability and the natural and human worlds: Physics is a natural science; therefore, all of its topics touch directly on the natural world and most of them are directly related to sustainability. Specific examples from Physics 1240L include the learning of how electricity is generated and therefore understanding the difference between fossil fuel and renewable energy sources. In addition, the discussion of circuits includes an introduction to the workings and sustainability of batteries, their need for charging and the environmental impacts of their disposal. The Physics 1240L lab manual contains open-ended questions on these topics and others like them therefore aiding the students' development of a deep appreciation of sustainability and the natural world. Assessment data from these parts of the lab manuals or student surveys can be gathered to determine student proficiency. Ethical Reasoning: Ethical reasoning is at the core of all sciences. Our guiding principle, the scientific method, requires honesty in the gathering and reporting of experimental results. Students are expected to model this same honesty by gathering their own data, doing their own data analysis, and never plagiarizing others' work as their own. Comparing results across different groups can determine whether students are developing this component skill. Collaboration skills, teamwork and value systems: All laboratory courses, Physics 1240L included, are collaborative. As such, students are required to work together in groups of two or three during each class. In the acquisition of data, the analysis of that data, and the preparation of the lab report, group members must work with each other to determine which member performs each task. Student surveys, either written or online, can be used to gather assessment data that can be used to assess student growth in this component skill throughout the semester. Civic Discourse, civic knowledge and engagement: All teaching involves civic discourse and the teaching of physics is no exception. In turn students are expected to return this discourse to the instructor to show their mastery of the topics covered. To this end, student surveys or embedded laboratory manual questions can be used to assess a student's growth in this component skill.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Sep 28 2020

Upload Assessment

Completed - Sep 28 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

PHYS_1240L_combined

Filename: PHYS_1240L_combined_53hJUbK.pdf **Size:** 789.2 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001271

Tycie Jackson - tjackson@luna.edu
NM General Education Curriculum

Summary

ID: 0000001271
Status: Under Review
Last submitted: Oct 5 2020 04:41 PM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

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1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Geno Castillo
Title	Instructor
Phone	505-454-5304
Email	gcastillo@luna.edu

Submitting Institution

Name of HEI	Luna Community College
Submitting Department	STEM

Chief Academic Officer

Name	Maxine Hughes
Email	mhughes@luna.edu

Registrar

Name	Melissa Cordova
Email	mcordova@luna.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	PHYS
Number	1320
Title	Calculus-based Physics II w/ lab
Number of credits	4

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	N/A
Number	N/A
Title (if applicable)	N/A

New Mexico Common Course Information

Prefix	PHYS
Number	1320
Name	Calculus-based Physics II

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Science - Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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 Topics may include
1. Oscillations, Waves, and Sound
2. Thermodynamics
3. Optics
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

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

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.
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1. Describe the function of simple lenses.
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C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

To develop critical thinking skills, students in PHYS 1320 will be engaged through in-class, homework, and laboratory exercises. Students will practice the scientific method, and engage in assignments using observation, interpretation using mathematical concepts. Students will identify and gather the data/information to address the problem, explain how to answer a specified problem, and check the validity of the solution. Students will develop the ability to express quantitative information symbolically, graphically, and in written language. Students will apply reasoning by continued characterization, identify and answer the questions of which physics concepts are occurring. Students will participate in lab and demonstrate their critical thinking skills by determining basic physical principles that can be tested with the device. Furthermore, the students will perform and analyze the results of these experiments. Students will form conclusions at the end of each lab.

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

To develop quantitative reasoning, PHYS 1320 students will solve problems related to physical world we live in. Students will be practicing the scientific method by using numerical datasets. Students will express quantitative information symbolically by using mathematical differential and integral calculus equations, graphically by drawing pictures to interpret and understand the problem, and by representing motion and vectors in two dimensional
Cartesian plane. Students will apply their knowledge of physics to address and solves specific problems within physics.
The communication/ representation of quantitative data will be done by tables, maps and written descriptions. Analysis of quantitative arguments will be done by evaluating the reasonability of the data collected. The application of quantitative models occurs when students use the numerical data to solve physical problems. In the canned heat: cooling down lab, students will make observations and compare the thermal radiation ability of two surfaces: silver and black. The students will do this by filling two cans with these surfaces with hot water, then allowing them to cool down. Students will measure the temperature of the water in both cans while they are cooling and see if there is a difference in the rate at which the temperature decrease and will calculate the temperature difference of both the silver and black cans.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

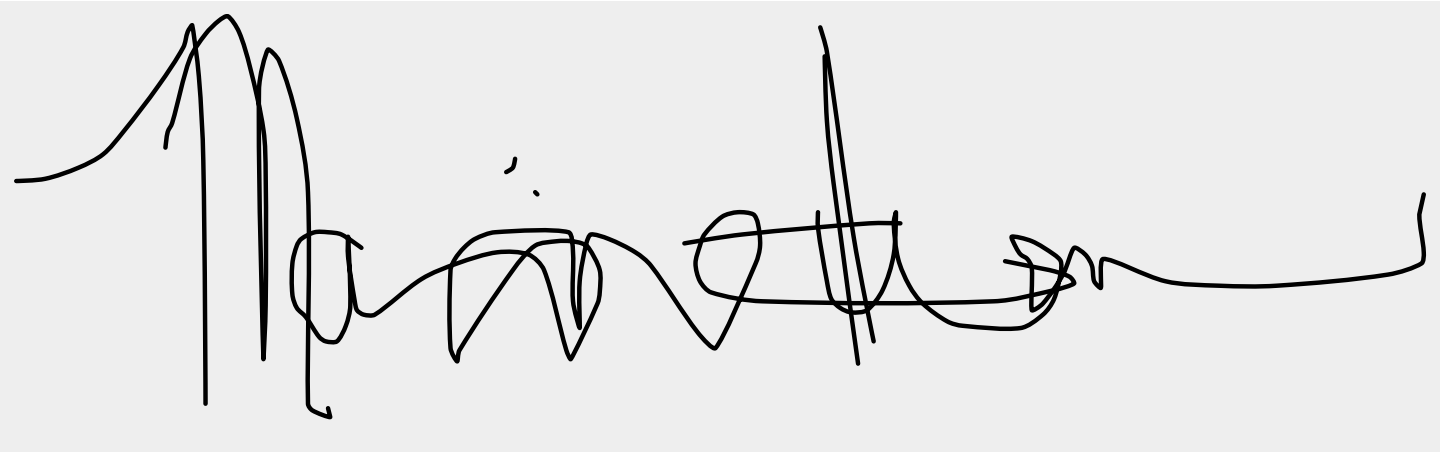
PHYS 1320 Students work in groups, which allows them to develop their personal and social responsibility. This enables students to develop skills such as teamwork, collaboration, and communication, which are used in the real world. Most topics presented in PHYS 1320 will end with a discussion of human interactions with the environment.
For example, using energy concepts to formulate reasons for using and not using renewable energy sources. Students engage in concepts of human interaction with climate change. Students identify some causes that are affecting climate change such as hydrocarbon emissions and work as a team to suggest how it can be minimized.

D. Assessment Plan **(Must be on file with HED by August 1, 2019)**

Link to Institution's General Education Assessment Plan

N/A

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Oct 5 2020

Upload Assessment

Completed - Oct 5 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

Phys 1320_LCC_Sample_Assessment

Filename: Phys_1320_LCC_Sample_Assessment.pdf **Size:** 548.4 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001234

Julia Deisler - julia.deisler@sfcc.edu
NM General Education Curriculum

Summary

ID: 0000001234
Status: Under Review
Last submitted: Oct 4 2020 12:39 PM (MDT)

Application Form

Completed - Aug 27 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

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3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

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****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Belin Tsinnajinnie,
Title	Mathematics Faculty
Phone	5056907698 (J Deisler/Assoc. Dean)
Email	belin.tsinnajinnie@sfcc.edu

Submitting Institution

Name of HEI	Santa Fe Community Colleg
Submitting Department	Math

Chief Academic Officer

Name	Margaret Peters
Email	margaret.peters@sfcc.edu

Registrar

Name	Kathleen Sena
Email	kathleen.sena@sfcc.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	MATH
Number	1110
Title	Math for Teachers I
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

No

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	MATH
Number	1110
Name	Math for Teachers I

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Mathematics - Communication, Critical Thinking, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

1. Unpack arithmetic.
Component 1: Explain procedures for doing addition, subtraction, and multiplication with whole numbers, integers, and fractions
Component 2: Do addition, subtraction, and multiplication of multi-digit numbers in several different ways
Component 3: Analyze student work, assess validity of arguments, and identify mathematical misconceptions in mistakes
Component 4: Use the decomposition of whole numbers to find factors, multiples, and prime numbers
Component 5: Use the relationships between operations, to solve simple algebraic equations

2. Apply mathematical concepts
Component 1: Recognize the difference between multiplicative and additive situations
Component 2: Solve problems involving fractions

3. Represent mathematical concepts
Component 1: Use tactile representations, including base blocks and integer chips to represent numbers and operations
Component 2: Use visual representations, including discrete pictures, number lines, and rectangles, to represent operations
Component 3: Use tactile and visual representations to explain how estimation and rounding work
Component 4: Use concrete applications to represent operations

4. Communicate mathematical concepts
Component 1: Describe the equivalence between different representations of numbers and operations
Component 2: Create justifications for properties and procedures in arithmetic
Component 3: Use correct terminology and notation

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

none

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

Overview:
Although the list of topics are arithmetic based, the purpose of this course is to provide a critical examination and exploration of mathematical concepts, ideas, and reasonings. Often we view arithmetic algorithms as standardized procedures for students to memorize and follow. However, students often do not have opportunities to explore why those algorithms work, what other algorithms exist, and that algorithms (and mathematics itself) can be created. This course is designed to provide preservice elementary school teachers to engage in mathematics through various forms of communication mathematical ideas, thinking critically about algorithms and procedures, and exploring multiple worldviews of numeracy and quantification.

For preservice teachers, this opportunity engage in such mathematics is essential as they prepare to critically analyze mathematics curricula and then communicate and implement mathematics curricula to serve and empower diverse communities of learners.

(Genre and Medium Awareness)
In this course, students describe mathematical ideas, concepts, and methods through a variety of mediums. Students create addition, subtraction, multiplication, and division posters which include a written story situation, a visual image, and a mathematical equation. In mathematics, various mediums can include written and oral narratives and explanations, mathematics-specific symbols (e.g., showing steps to calculations and solving equations symbolically), and visual diagrams (e.g. graphs, tables, and pictures). Students are encouraged to develop their understandings through these multiple ways of representing and communicating mathematical ideas.

(Application and Versatility)
Providing multiple representations of certain mathematical topics is a prevalent theme throughout the course. For example, students draw pictures (example, diagrams of area models of multiplication) and engage in oral and written communications to explain how the area models connect to the symbolic manipulation when multiplying multidigit numbers.
Students also make connections between multiple ways of representing fractions with numbers and symbols, pictures, and words.

(Strategies for Evaluating Messages/ Evaluation and Production of Arguments)
Students create story problems that involve grade-level calculations, but must include real, interesting, and contextualized situations. Students create and orally explain games that help other students to practice operations and procedures. Students take an analysis of patterns presented to them and create their own rules based on those patterns. Students present their analysis of these patterns through oral presentations, posters, and writing.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

A primary theme in this course is to take common algorithms and methods in mathematics introduced to students elementary school, and to compare these approaches with alternative approaches, in order to develop a deeper understanding about the logic behind these common algorithms and approaches, and to be able to explain why these algorithms and methods work. Although the critical thinking process is inherent throughout the course with each mathematical concept, in this application we focus on the critical thinking process as it pertains to exploring numeration systems.

(Problem Setting)
This includes exploring and analyzing how various numeration systems work and how structures of numeration systems lend themselves to developing and understanding algorithms. The driving question behind the exploration of each numeration system is “How does this numeration system work?”

(Evidence Acquisition)
In this course, students study the counting systems of a variety of cultures, including Babylonian, Egyptian Chinese, Roman, and Mayan numeration systems in order to compare and contrast the varying structures of numeration systems and why they may have made sense for these societies. Students learn how to count and work binary operations (addition, subtraction, multiplication, division) in different bases in order to better understand the logic behind common algorithms in our base 10 system.

(Evidence Evaluation)
After exploring each of the numeration systems, there are several points of discussion that are used to compare and contrast the various numeration systems. Some systems are Additive Numeration systems (each symbol represents a value, so a quantity is determined by adding up the values that each symbol represents). Some systems are Place Value Numeration systems (symbols represent quantities, but the placement of the symbol determines the true quantity of that value). Many systems are based on the value ten, meaning that ten, multiples of ten, and powers of ten tend to get their own symbols or place value. However, some cultures use systems that are based on five or even sixty.

These discussions on various numeration systems lead to a discussion on the properties and characteristics of Hindu-Arabic base 10 numeration system that is standard in the United States.

(Reasoning/Conclusion)
After seeing how various numeration systems work, what it means for a numeration system to be a Place Value system versus an Additive System and what it means to be a base-10 system, students then have some tools to describe the rules and properties of the Hindu-Arabic Base 10 system. Understanding the

properties of this system is key to analyzing and understanding how addition, subtraction, multiplication, and division algorithms work (e.g., why we manipulate symbols to show that we “carry” or “borrow”).

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

Math includes quantitative reasoning. Math is a study of patterns and systems and figuring out ways to solve problems. It is important to consider alternative ways to do math. There are many ways to figure out the basic math facts if you don't have them all memorized. There are alternative ways to do “hard” addition, subtraction, multiplication and division. And, importantly, there are several ways to figure out all the components of a complex problem so you can better understand what it is you need to do. Part of it has to do with (paraphrasing Marilyn Burns) knowing there's a difference between not knowing the answer and not knowing the answer right away.

(Communication/Representation of Quantitative Information)
See the “Communication” section which refers to the various forms of communication involving mathematical ideas, topics, and representations.

(Analysis of Quantitative Arguments)
See the “Critical Thinking” section that discusses the analysis of various numeration systems and their properties. Students also create posters that describe their identification and analysis of various patterns.

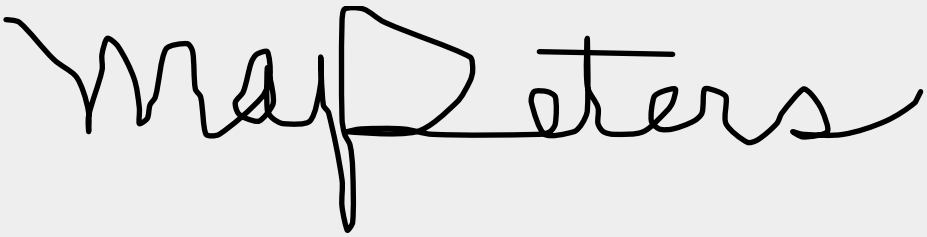
(Application of Quantitative Models)
See the activities described in the critical thinking narrative. In addition to exploring numeration systems from various cultures and exploring non-base-10 systems in order to gain a deeper understanding of common procedures and ways of counting, students explore alternative forms of addition, subtraction, multiplication, and division. Exploring alternative algorithms provides additional opportunities for students to both understand how such algorithms are dependent on the structures of base-10 systems and emphasize the creative opportunities for both students themselves and children to create algorithms of their own based on these deeper understandings of arithmetic operations and base-10 systems.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://www.sfcc.edu/quality/learning-assessment/

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Aug 26 2020

Upload Assessment

Completed - Oct 4 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

MATH1110SampleAssessment

Filename: MATH1110SampleAssessment.pdf **Size:** 350.9 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001257

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001257
Status: Under Review
Last submitted: Sep 28 2020 09:20 AM (MDT)

Application Form

Completed - Sep 28 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course

Application

- When pasting into the application from another document, paste your text without formatting.
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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Paul Livingston
Title	Professor of Philosophy
Phone	505.277.2405
Email	pmliving@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Philosophy

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	PHIL
Number	2225
Title	Greek Thought
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	PHIL
Number	2225
Name	Greek Thought

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Humanities - Information & Digital Literacy, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

N/A

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Philosophy 2225: Greek Thought (formerly: Phil. 201) is a centrally important course in building students' critical thinking in engagement with the Western tradition of philosophical thought and with philosophical problems and questions broadly. 1) Problem Setting: Beginning with mythology and continuing with the breakthrough to the inauguration of critical reflective philosophical thinking on core problems of human life, Greek thought is consumed with questions and problems about the nature of human life, how we should act to be ethical, the problems of understanding the natural order and the place of human beings within it, and the fundamental problems of our existence. Students in the course are introduced to these problems and their pursuit through readings in translation of the original texts in which they were first posed in the Western tradition and required to pursue these problems in dialogue with the Greeks in their own thought and writing. 2) Evidence Acquistion: Original historical, literary, and philosophical texts are used to model and teach skills of close reading and textual and historical interpretation. 3) Evidence Evaluation: Students practice close critical reading and assessment of the claims, arguments, and broader historical contexts of the materials that are read and discussed. 4) Reasoning/Conclusion: As this is a course in which students do not only learn about but actually do philosophy, the focus on the course is on developing critical thinking practices of reasoning and arriving at philosophical conclusions in close dialogue with the historical texts and with students' own engaged reflection and considerations about core problems of human life.

Personal & Social Responsibility*. Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global*

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

1) Intercultural reasoning and intercultural competence. Course material is grounded in the Hellenistic world from roughly 700 BC to the third century AD. Reading and engaging with historical and philosophical texts in context requires a high degree of cross-cultural competence in comprehending reasons and motivations first given in a very different cultural and historical context to our own. In class discussions and interactions, students are required and encouraged to maintain awareness of cultural differences and culturally specific perspectives on core philosophical questions. 2) Sustainability and the natural and human worlds. Many of the texts and themes discussed involve the nature of human beings in relation to the natural world and pose fundamental ideas about our place in nature for critical discussion. 3) Ethical reasoning Socrates' pursuit of an essential reflection on ethics in the form of the question of the nature of the life well lived for human beings is a centerpiece of the course both thematically and methodologically. Students are introduced to the main ethical questions about the pursuit of life and the nature of the Good through the texts of Plato that first systematically pursued these questions in the Western tradition and then through key works of Aristotle, including inter alia Aristotle's main ethical work, the Nichomachean Ethics. Throughout the course, students engage in ethical reasoning about their own lives and the determination of goals, ends, and pursuits of human life. 4) Collaboration skills, teamwork and value systems. Students collaborate on a variety of in-class activities and responses to readings. A core concern of the class is the question of the critical and reflective determination of values and goals for life and practice. 5) Civic discourse, knowledge, and engagement. Philosophy as taught in this course occupies a central and essential role in the civic discourse of democracy, including centrally the critical space of reflection on and critique of prevailing and dominant practices and norms. Political philosophy is discussed in connection with Plato's Republic and Aristotle's Ethics, and the question of the relationship of philosophy with democracy is a key point of discussion.

Information & Digital Literacy. ***Authority and Value of Information; Digital Literacy; Information Structure; and Research as Inquiry***

In this box, provide a narrative that explains how the proposed course addresses ***3*** *of the components of digital literacy.*

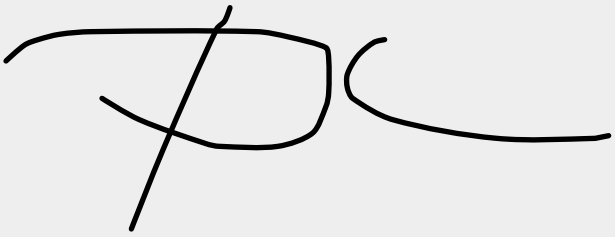
1) Authority and Value of Information: Students are required to read and engage closely with original sources and to discuss and determine the context, credibility, and philosophical merit of historical texts and sources. Students are also typically required to read secondary and scholarly material in the form of introductions to contextualize and locate the relevant sources. 2) Digital Literacy: Course materials including powerpoint slides used in teaching need to be accessed from learn.unm.edu. 3) Information Structures: Students must gain competence in using on-line resources for the course and texts. 4) Research as Inquiry: Beginning with the Pre-Socratic Greek philosophers and continuing through Socrates' historical examination of the nature of human life, critical inquiry is the heart of philosophical activity as it is understood and taught in this course. In the course, students are introduced to a variety of models of inquiry into fundamental questions, including empirical methods, critical reflection, research into the structure and nature of linguistic meaning, metaphysical reasoning and historical, political, and cultural contextualization. All of this is connected in ways that students come to understand to philosophical discussion, analysis, and argumentation as tools of inquiry into the world and ourselves.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Sep 28 2020

Upload Assessment

Completed - Sep 28 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

PHIL 2225 - FINAL EXAMINATION - Fall 2015

Filename: PHIL_2225_-_FINAL_EXAMINATION_-_Fall_2015.pdf **Size:** 204.4 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001266

Michael Bilopavlovich - michaelb@mesalands.edu
NM General Education Curriculum

Summary

ID: 0000001266
Status: Under Review
Last submitted: Oct 2 2020 03:39 PM (MDT)

Application Form

Completed - Oct 1 2020

Application Form

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5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout

the course.

Contact Information

Name	Michael Bilopavlovich
Title	Faculty
Phone	5754614413 ext. 150
Email	michaelb@mesalands.edu

Submitting Institution

Name of HEI	Mesalands Community College
Submitting Department	Academic Affairs

Chief Academic Officer

Name	Natalie Gillard
Email	natalieg@mesalands.edu

Registrar

Name	Forrest Kaatz
Email	forrestk@mesalands.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	ENG
Number	271
Title	Women in Literature
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	ENGL
Number	2680
Name	Women’s Literature

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Humanities - Information & Digital Literacy, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.
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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

NA

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Students will define problems, evaluate issues, and formulate research questions to guide their inquiries. They will complete reading and research tasks to collect, qualify and evaluate sources and data for credibility, relevance, and possible bias. Students will cite their sources in a systematic and respectful manner. Students will consider rhetorical, historical, and cultural contexts as they develop and refine their theses and ideas, and they will effectively communicate their conclusions and their underlying reasoning through written, oral or digital presentations.
Critical thinking will be assessed in the formation and articulation of ideas within students' essay projects as well as in written and oral responses to assigned readings and homework. Students will demonstrate the ability to analyze a text and identify various features, such as rhetorical context, intended audience, credibility and bias, and rhetorical modes.

Personal & Social Responsibility*. Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global*

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

Intercultural reasoning and intercultural competence
Through multiple writing and discussion assignments throughout the course, students will Explicate, Compare, and Interpret texts to gain insight into the people of other times and other cultures, and reflect on how their own values and moral structures are both a product of and a reaction to their own native environments. Student responses may take the forms of Argument or Discussion, and students will be encouraged to 'interrogate' texts to discern their deeper meanings. Comparisons with their own experiences will allow students to develop greater sensitivity and an awareness of the diversity of social, political, and cultural issues which characters may face. Considerations of characters' motivations and desires will help students develop a greater appreciation for the ways art (literature) may illuminate

psychology and the human condition.

Ethical Reasoning

Drawing on history, psychology and their own experiences, students will analyze the characters, motivations and sense of ethical responsibilities portrayed by characters and cultures in works of literature. Many stories and novels involve moral dilemmas and difficult choices; studying the evaluation, decision-making process and consequences of choice by others helps students formulate and examine their own approach to matters of ethics, integrity, philosophy, and what it takes to lead a ‘moral life’.

Collaboration skills, teamwork and value systems

Through discussion, debate, group projects, and presentations, students will practice collaborative and interactive modes of inquiry and the respectful free exchange and critique of ideas. Collaboration and group projects promote planning skills, division of labor, esprit de corps and mutual accountability - which are all highly prized skills in academia and the contemporary workplace.

The habits of mutual respect, collaboration, and cooperative problem-solving may also impact how young adults will react to larger societal dilemmas such as racism, gender equality, environmental responsibility, and income inequality.

Information & Digital Literacy. ***Authority and Value of Information; Digital Literacy; Information Structure; and Research as Inquiry***

In this box, provide a narrative that explains how the proposed course addresses ***3*** *of the components of digital literacy.*

Students will acquire, assess, and communicate information across different mediums using digital tools. They will recognize the hazards and advantages of communicating in an integrated digital environment. Students will develop and pursue self-directed research which generates problem solutions or otherwise illuminates the complexity of issues and questions. They will document and share their inquiries using appropriate formats, tools, and digital presentation applications.
Information and digital literacy will be assessed throughout the semester as students utilize digital resources and word processing technology to research, compose, revise, format, and transmit their various assignments. Students will demonstrate competence utilizing research databases and other information tools to gather, organize and evaluate information, as well as their ability to navigate online learning platforms (where applicable) and standard electronic communications tools such as email, online chats, discussion forums, and digital meeting spaces such as Zoom or Skype.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://www.mesalands.edu/wp-content/uploads/2020/01/SLAC-Annual-Report-2018-19-Final.pdf

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This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Oct 1 2020

Upload Assessment

Completed - Oct 1 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

PSA Add a Course Form for ENG 271 - ENGL 2680 Wom

Filename: PSA_Add_a_Course_Form_for_ENG_271_-_EN_ezQry9E.pdf **Size:** 232.1 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001268

Julia Deisler - julia.deisler@sfcc.edu
NM General Education Curriculum

Summary

ID: 0000001268
Status: Under Review
Last submitted: Oct 6 2020 10:39 AM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Corey Jones
Title	Adjunct faculty, Performing Arts
Phone	505-453-4416
Email	corey.jones@sfcc.edu

Submitting Institution

Name of HEI	Santa Fe Community Colleg
Submitting Department	Arts and Design

Chief Academic Officer

Name	Margaret Peters
Email	margaret.peters@sfcc.edu

Registrar

Name	Kathleen Sena
Email	kathleen.sena@sfcc.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	MUSC
Number	1130
Title	Music Appreciation: Western Music
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	MUSC
Number	1130
Name	Music Appreciation: Western Music

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Creative & Fine Arts - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

na

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

Genre and Medium Awareness:
Students listen to new music every week via YouTube links on Canvas. This is a familiar medium that can be utilized to expose students to many new genres and performing forces. The class will be in a different era of music each week. The textbook progresses in the same way; each chapter is a different era of music. Assigned readings, class lectures and discussion, provide students with a foundational knowledge of the social and historic context that inform their understanding of specific musical eras.

In weekly discussions students are challenged to demonstrate their ability to discern style and various genre within a musical era is based on the trends and developments of a specific period of music.

Students identify the genre and historical era of a piece of music by Identifying what forms, instrumentation, ensemble type, musical devices, and the way harmony, melody and rhythm change or stay the same between historical periods.

Strategies for Understanding and Evaluating Messages:
Students explore how musical elements such as harmony, timbre, and dynamics affect our emotions and senses. Listening for these different elements will allow students to consider what the music is trying to communicate. Understanding how composers used musical devices to create emotional states or imagery will help students better hear the intended message of a given piece.

Students access supplemental interactive online resources for additional information about basic concepts like form, rhythm, and melody. One such source is www.musictheory.net. Thus, students experience a different way of learning information that is covered in class, and develop the skills needed to listen intently to music.

Evaluation and Production of Argument:
Students listen carefully to musical devices and consider context in order to get the message of a piece. For example, renaissance music tried to create connections between the meaning of a text and the music that was played. Josquin Des Prez, a renaissance composer, used devices like accents and quick, syncopated rhythms to match the movements of the cricket that the piece was set to. A more general example is how sudden changes in dynamics and shifts in harmonic quality may be understood as representing contrasting emotional states. Students explore how to understand harmony in proper context as not every period has the same idea of how this is done. Chant, for example, does not have the same connection to what harmonies represent as romantic music does. Classical era music, with its clear and often happy sound, may be better understood by seeing how the preferred harmonies and musical textures represented the ideas of the day.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Critical Thinking:
During the midterm and final examinations, students will be given musical pieces to listen to that they have not heard before. Students demonstrate their ability to identify the musical era of the piece based on their developing understanding and appreciation of the contextual influences , the unique qualities of musical as a mode of communication and what aspects of musical elements are unique .
(Please see sample question form Midterm, attached.)

Problem Setting:
They assess the compositional and stylistic aspects of each example in order to correctly identify the music’s correct time period.

Evidence Acquisition:
Students will ask themselves several questions about what they are hearing. Some of these will be: “What is the character of the harmony and melody and how are they relating to each other?” “What is the nature of the bass line?” “What are the characteristics of the rhythm?” “What instruments am I hearing and what period do those belong in?” “Do I hear instruments at all?” “If I hear vocals, are they monophonic or polyphonic?” “What is going on with dynamic contrasts?” These are some basic and necessary questions to ask in order to acquire evidence. The next step will be to consider all of the answers to the questions. This will eliminate certain possibilities that share some but not all of the required characteristics of a given period in music. For example, both Medieval and Renaissance music contain chant. That means they are both vocal in nature and sacred in nature. Imitative polyphony, however, is a Renaissance invention. If a student hears imitative polyphony, they should know that is important evidence to consider.

Evidence Evaluation:
After acquiring the evidence from their questions, they will evaluate how well the evidence lines up with the music being in a specific time period. In the case of imitative polyphony, all periods from the Renaissance on use imitation. Some is simple and some is complex. After properly identifying that what is being heard is in fact imitative, the student evaluates the nature of the polyphonic imitation. Evaluating this will more clearly put the music in its proper context. If it is fugal, for example, then that is a good indication that the music belongs in the Baroque.

Reasoning and Conclusion:
After correctly identifying and evaluating the right evidence, students will use their reasoning to reach the correct conclusion. If, for example, a student is able to identify imitation and evaluate the nature of the imitation but is unable to reason from those what specific styles or genres the type of imitation fits, they will not correctly reach a conclusion. To be more specific with this example, polyphony in the form of a fugue is defined by the imitation of multiple motives and counter motives. A student cannot assume a correct period from this alone. Other evidence must be reasoned with too. The types of harmony, instruments used, melodic treatment, texture, dynamic contrast, and rhythmic quality must all be considered. These things together provide adequate evidence to reach a conclusion. Reasoning which of these most strongly suggests a period’s musical style requires students to draw on the knowledge they have acquired and apply it to everything they hear. This could look like this for a student as they think about what they hear:
“I hear polyphony that is imitative. I hear piano and no other instruments or voices. The dynamics change abruptly with sudden changes in tempo as well. The music sounds very fast and flashy. The

melody is made of irregular and long phrases, is conjunct, and uses rubato. I know the piano was used after the Baroque period so it must be Classical period or later. The harmony is more dissonant than Classical era music and the playing sounds more virtuosic. Also, Classical melodies were evenly phrased and short. This must mean it is later than the 18th century. The sudden changes of tempo and dynamics are both indicative of Romantic and 20th century music. The harmony is not as dissonant as what can occur in the 20th century and the style of playing uses a lot of rubato. All of these things considered leave me with two choices: Romantic era or 20th century. The lack of atonality and the more conjunct melodic motion and use of rubato leads me to conclude that this piece belongs in the Romantic."

Students list the reasons why the music they hear belongs in the period they have identified. They will name the period they think the music comes from, and list specific reasons why they have come to their conclusion.

Personal & Social Responsibility*. Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global*

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

Within all the musical eras, there are examples of difficult contradictions between the society and the composer or musical artist or the piece of music itself. Grappling with these contradictions challenges students to learn to consider different social and historic world views. In this class, students learn to engage in civil discourse, engage in ethical reasoning and work I teams to collaborate on the development of a point of view.

Ethical Reasoning:
Several great musical figures have parts of their lives that run contrary to what is considered ethical behavior, by historic or contemporary standards. . Class readings and discussions focus on the ethical contradiction that occurs when particular music, that is valued and promoted, has been given to a society by men and women who may have been unethical during their lifetimes. Or perhaps the work of a particular composer is not valued during their lifetime due to their race, religion, national origin or sexual identity. Or a price of music can contain a narrative where unethical people do horrible things.

Historic and contemporary examples are discussed.

For example, during the Romantic era, Felix Mendelssohn was a composer that was derided by [European] society because he was a Jew. Even his attempt to convert to Christianity was not enough to remove the anti-Semitic hatred for him. Richard Wagner wrote scathing essays such as “Judaism in Music” in which he derides Mendelssohn and Jews as incapable of true artistic depth or quality. Mendelssohn’s brilliant music and contributions, such as introducing Bach to larger society for the first time, would be undermined even into the 20th century, when all of Nazi-occupied territory made his music illegal. This, alongside the fact that Wagner had a profound influence on Hitler, sets the stage for a discussion on the ethics of separating the artist from the art.

The class will focus on these two questions:

1. Considering the tendency of a society to idolize its great musicians, how should it navigate the admiration of art when its creator is not admirable?

2. Considering the impact of music on a society’s identity, and the influence it has on individuals, is there a way to appreciate the art and still hold the artist accountable? What would that look like?

Civil Discourse and Team- collaboration:
Students break into teams of 2-3 and hold small group discussions around these topics. Each team reports back to the larger class group, on the main points of agreement and disagreement that emerged from their group discussions.
Students develop the ability to look at real issues (historic and contemporary) and come up with ways to deal with this specific dilemma, in their own appreciation of western European music. They grapple with the dilemma- It is impossible to remove the artist from the art? Can work by artists from a different historical period, with different social views be held accountable to contemporary standards of behavior? It is worth appreciating the artistic beauty that comes from imperfect people.? These are difficult issues and students are challenged to discuss and debate these issues is a respectful and compassionate manner.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://www.sfcc.edu/54536-2/

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Oct 4 2020

Upload Assessment

Completed - Oct 4 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

Period Identification Portion From Midterm

Filename: Period_Identification_Portion_From_Midterm.pdf **Size:** 42.9 kB

Upload Rubric

Completed - Oct 4 2020

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Critical Thinking Assessment

Filename: Critical_Thinking_Assessment.MUSC1130.pdf **Size:** 23.8 kB

Application: 0000001279

Tycie Jackson - tjackson@luna.edu
NM General Education Curriculum

Summary

ID: 0000001279
Status: Under Review
Last submitted: Oct 5 2020 10:55 PM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

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Essential Skills

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7. Other: 3 Essential Skills chosen by the institution

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- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Olivia Kuykendall
Title	Instructor
Phone	5054542557
Email	okuykendall@luna.edu

Submitting Institution

Name of HEI	Luna Community College
Submitting Department	Humanities

Chief Academic Officer

Name	Maxine Hughes
Email	mhughes@luna.edu

Registrar

Name	Melissa Cordova
Email	mcordova@luna.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	ARTS
Number	1610
Title	Drawing I
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	N/A
Number	N/A
Title (if applicable)	N/A

New Mexico Common Course Information

Prefix	ARTS
Number	1610
Name	Drawing I

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Creative & Fine Arts - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

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C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

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Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

Faculty will help students learn the art of drawing by applying multiple genres of drawing into the course agenda. Learning to draw involves a wide range of practices and skills that require communication between the students and the classroom space, faculty and student, as well as student and student. Utilizing observational techniques along with individual expression and imagination, students can begin to understand, apply and develop a range of drawing techniques including the following: gesture, contour, measuring and sighting, line, negative/positive space, shape, value, volume, texture and plane. The students will learn to communicate and connect with the physical space around them in order to translate that visual information to paper. Traditional drawing tools such as graphite pencils, blenders and erasers will be in consistent use throughout the duration of this course. These tools will help students demonstrate the illusion of space, volume, depth, size, proportion, weight, light and texture. Through these drawing exercises, students can learn to develop arguments to defend their work and how to properly and respectfully critique others work. During group and individual critiques, students can react and evaluate their own art, as well as others. Using these practices and stylistic choices, students will produce visually striking and evocative images, causing viewers to ask questions and think. Drawings are open to interpretation by the appropriate audience in regards to contextualized messages or opinions presented within the artwork. The audience is able to determine whether the intended message from the artist speaks within the drawing and what ways the artist can use their drawings to better communicate and connect with the viewers. By the end of this course, students should be better prepared for future subsequent courses, the workplace, personal/social spheres and society.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

While drawing, artists ponder a number of different curiosities such as, lighting, shadow, visual measurements of forms and their volume, mass, size, weight and proportion. Artists evaluate the physical and imaginary world through observation of thoughts and surroundings—what they see in front of them and what the mind sees. When presented with a wide range of evidence – forms, subjects or still life set-ups, students are able to learn how to observe, visibly study and measure the versatile attributes of the physical world that surrounds them for evaluation. Students can create an informed understanding of the evidence at hand by visually measuring and sighting, contouring, gesturing and shading to create the illusion of form. With practice throughout this course on how one can observe the physical world and translate it to paper through different tools and techniques, they will learn to view and understand the concept of form, volume, value, weight, space, shape, light, texture, composition, depth and size. Students are then able to make stylistic choices to express their own imagination by manipulating forms. By observing and drawing what they see, students then observe other students' drawings from observation. Because no students will ever produce the exact same image, students can compare and contrast each other's drawings. Group and individual critiques of these drawing studies will allow students to share thoughts and opinions of their own drawings and others. Critiques will help students form opposing and respective conclusions about visual intention, technique, execution, the level of success achieved and inquiry from faculty and peers as to how the drawings could achieve the visual communication of the intended message. Once critiques have been executed, students can form their final opinions of their work and the work they saw during critique.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

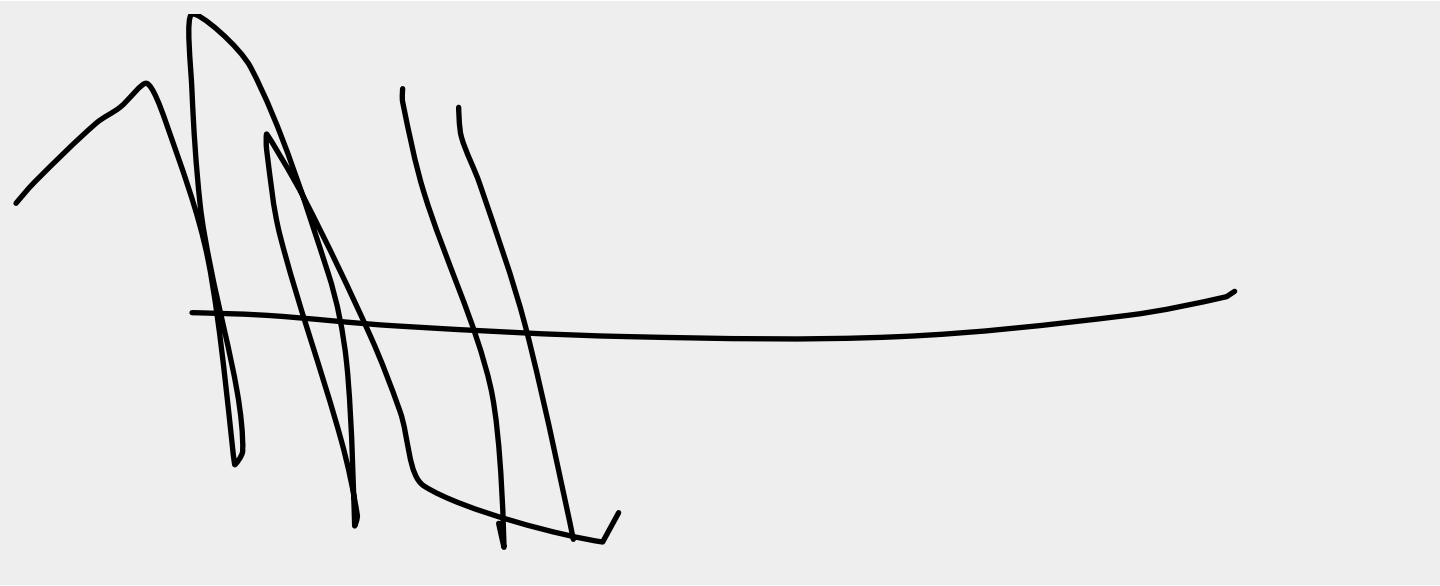
Drawing starts as observing your physical surroundings and using the tools at hand to express your observations. In comparison, artists of all mediums use the world around them as inspiration to express inner and outer hardships they face in society. Starting in the classroom, students can begin to recognize their own personal injustices as well as others through the creative process. The creative process allows students to share their experiences and discuss the world around them. In the classroom community, students are open to share their personal experiences and perspectives of various local and global issues. Learning to draw helps students to not only express their inner creativity, but also serves as an opportunity to convey personal and societal messages or issues. Comparing and contrasting solutions to improvement of drawing techniques and stylistic choices can prepare students to talk about real world issues that affect the everyday lives of themselves and society. In the classroom social setting, it will be understood that students must share respect among themselves, others and the materials they are working with to ensure the safety of everyone in the class as well as the community. Ethical practices such as proper disposal of materials are part of this course, in order to maintain a healthy local environment. Each individual is given the opportunity to collaborate in a group drawing setting, helping students and faculty to continue improvements and effectiveness of teamwork within the classroom community. Using all of these different methods, students and faculty are expected to gain insight on how to better themselves as artists, learners and members of society.

D. Assessment Plan **(Must be on file with HED by August 1, 2019)**

Link to Institution's General Education Assessment Plan

NA

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Oct 5 2020

Upload Assessment

Completed - Oct 5 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

Drawing 1

Filename: Drawing_1.pdf **Size:** 245.9 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001240

Elena Viltchinskaia - elena@nmmi.edu
NM General Education Curriculum

Summary

ID: 0000001240
Status: Under Review
Last submitted: Sep 21 2020 10:38 AM (MDT)

Application Form

Completed - Sep 9 2020

Application Form

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- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Elena Viltchinskaia
Title	Dr.
Phone	5756248131
Email	elena@nmmi.edu

Submitting Institution

Name of HEI	New Mexico Military Institute
Submitting Department	Math & Science

Chief Academic Officer

Name	D. Murray
Email	dmurray@nmmi.edu

Registrar

Name	C. Wright
Email	cris.wright@nmmi.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	CHEM
Number	1224
Title	General Chemistry II
Number of credits	4

Was this course previously part of the New Mexico General Education curriculum?

No

Will this course only count toward General Education for the AAS degree (at your institution)?

Yes

Co-requisite Course

Prefix	CHEM
Number	1220L
Title (if applicable)	General Chemistry II Lab

New Mexico Common Course Information

Prefix	CHEM
Number	1225
Name	General Chemistry II for Stem Majors

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Science - Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

1. Understand and describe intermolecular forces, and their relation to physical properties and phase transitions. Qualitatively evaluate intermolecular forces from the structure and be able to predict physical properties.
2. Use knowledge and computational skills to calculate different types of solution concentrations, convert one concentration unit of a solution to another. Explain and understand how structure, temperature, and pressure affect solubility. Understand and apply colligative properties to determine solution concentrations and vice versa.
3. Understand and explain rates of a 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. Derive a rate law from a reaction mechanism, evaluate the consistency of a mechanism and the rate law. Explain and use the collision theory of chemical kinetics.
4. Explain the dynamic nature of chemical equilibrium and its relation to reaction rates. Predict the effect of concentration, pressure, and temperature changes on equilibrium mixtures using Le Chatelier's Principle. Understand and apply equilibrium constants to determine whether the equilibrium has been established. Calculate equilibrium constants using equilibrium concentrations and vice versa.
5. Understand different models of acids and basis. Describe acid strength using molecular structure. Apply equilibrium principles to aqueous solutions, including acid-base and solubility reactions. Calculate pH and species concentrations in buffered and unbuffered solutions.
6. Understand and use titration curves and speciation diagrams to calculate concentrations, and determine the dominant species as a function of pH.
7. Explain and calculate the thermodynamic functions, enthalpy, entropy, and Gibb's free energy, for a chemical system. 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. Use these parameters to predict spontaneity direction.
8. Construct a model of galvanic or electrolytic cell.
9. Understand classes of organic compounds and functional groups. Explain different types of isomerism. Use IUPAC rules to name organic compounds.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

1. Understand and explain the Kinetic Molecular Theory of Liquids and Solids. Identify different types of crystals using their properties and intermolecular forces and vice versa. Explain phase diagrams and use them to predict phase changes. Understand and use heating curves to calculate the amount of energy needed or released to heat or cool a certain compound in a certain temperature range.
2. Determine the molar mass of an unknown compound using colligative properties of solutions. Understand and explain the differences in the colligative properties of nonelectrolytes and electrolytes.
3. Explain and calculate activation energy. Describe catalysis.
4. Understand acid-base properties of salts.
5. Understand and describe buffer solutions. Calculate pH of a buffer solution. Apply the solubility product constant to calculate solubility and vice versa.
6. Explain and understand the three Laws of Thermodynamics
7. Understand and describe the nature of nuclear reaction, nuclear stability and radioactivity. Describe, explain and identify the types of nuclear reactions. Write and balance nuclear equations.
8. Bonding theories, such as valence and molecular theories, are addressed in General Chemistry I.

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Critical thinking is an integral component of the scientific method and science itself. Development of critical thinking skills is an important part of teaching/learning General Chemistry which commonly employs the scientific method. It includes gathering and assessing relevant scientific data and information, forming a hypothesis, designing and conducting research, critically interpreting data and assessing the quality of results, forming well-reasoned scientific conclusions and solutions, and keeping an open mind as to how new discoveries can impact environmental issues and influence our well-being. Every topic learned in General Chemistry requires an application of critical thinking. For example, an understanding of the rate law and its application requires critical interpretation of data, critical analysis of scientific interpretations, and exercising independent thought and judgment in deriving and applying the law. Only when a student can apply knowledge, critically evaluating the evidence, and building a case based on facts, will the student be able to understand the rate law at its core and grasp strongly the key concepts of the theory rather than simply trusting theory as immutable law on the basis of it being in a book or having been shown on a website. Another example is critically assessing the nature of chemical equilibrium prior to applying Le Chatelier’s Principle to predict the effect of concentration, pressure, and temperature changes on equilibrium mixtures. Generating and assessing solutions to scientific problems in thermodynamics is another example of the development of critical thinking skills. Critically analyzing and defining the problem, planning and organizing the data, generating possible solutions, and evaluating whether the solutions work are thoroughly taught in class. Assessment is done by using in-class questioning and homework assignments, during tutoring, during Chemistry Club meetings, in class discussions, through self-assessment quizzes, and in quizzes and tests.

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

Chemical and physical properties of matter can be measured, expressed in and used in mathematical formulas and terms, approximations, and calculations. Quantitative reasoning is required in the classroom and laboratory learning processes. The ability to collect data and represent them digitally and graphically, to mathematically use data, and to evaluate the results are taught as essential steps of laboratory work and of in-class work. Most topics, such as chemical kinetics, chemical equilibrium, acids – base equilibria, thermodynamics, and others, are taught using and emphasizing the quantitative reasoning technique. The process involves understanding a problem, finding important facts/data, understanding questions, devising a plan, carrying out calculations, and checking the answer against the original problem to ensure the answer is sensible. When teaching quantitative reasoning we teach how to identify the relationships among the quantities in the problem and how to connect those relationships to appropriate operations, and how to conduct the calculations and evaluate the validity of the results. Assessment is done by using in-class questioning and homework assignments, during tutoring, during Chemistry Club meetings, in class discussions, through self-assessment quizzes, and in quizzes and tests.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

Chemistry is a science that has the potential to transform human lives and significantly impact environmental issues. Advances in chemistry can improve quality of life in many ways. Progress in the fields of alternative energy, genetic modification, life-saving medicine, environmental rehabilitation, and the development of space-age materials are a few of the facets of personal and social responsibility as relate to chemistry that are discussed in class. Acid rain and acidification of the oceans, misuse of genetic modifications, climate change and the health effects of radiation, biochemical weapons, environmental pollution, and the mishandling or overuse of chemicals harmful to people, animals and nature in general are also discussed. Personal and social responsibility, such as ethical reasoning, being responsible for your own actions, treating other people with respect, concern for others' well-being, fairness to others, no plagiarism policy, and others, are discussed and reinforced in class and laboratory. Assessment is done through discussion, guided reading, and debates.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://www.nmmi.edu/assessment-plans/

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

`

Date

Sep 9 2020

Upload Assessment

Completed - Sep 9 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

Test HED

Filename: Test_HED.pdf **Size:** 361.8 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001246

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001246
Status: Under Review
Last submitted: Sep 28 2020 08:09 AM (MDT)

Application Form

Completed - Sep 27 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Kuangchiu Ho
Title	Principal Lecturer III
Phone	505-277-1753
Email	khoj@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Chemistry

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	CHEM
Number	1215L
Title	General Chemistry I Lab for STEMMajors
Number of credits	1

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	CHEM
Number	1215L
Name	General Chemistry I Lab for STEMMajors

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Science - Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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 spectrophotometricmeasurements
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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

N/A

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

This course provides learning opportunities for students to practice critical thinking by first asking students to study the lab scenario, learn about background information in a prelab reading assignment and submit questions for discussion to further develop an understanding of the problem to be investigated. This step is implemented before students meet in the physical lab. During physical labs, students are guided to identify, design and collect experimental data in order to support the conclusion for the lab questions. While doing these exercises, students are given enough time to develop experimental ideas through peer discussions and test the ideas out collaboratively in a group work. They are also provided with opportunities to make mistakes and learn from mistakes in the laboratory. Through the iterative cycles of design-reflect-refine, students learn about the process of evidence acquisition. After adequate data being collected, students will then learn about various ways of analyzing experimental data and apply inductive and deductive reasonings for making proper scientific argumentations. They will be focusing on preparing for convincing presentation of evidence and arguments in both the oral and written formats. They will also learn how best a conclusion can be made for the investigation using strong scientific arguments to the general audiences.
This skill is assessed by various course assignments students are submitted before and after each lab period such as, but not limited to, discussion questions, hypothesis, lab reports, scientific arguments, and presentations, and by various assessments for practical work such as lab quizzes, practical exam and skill assessments.

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

All measurements collected in this course are quantitative and therefore, students must learn the skills of how to handle, present and communicate quantitative information orally in the discussions and through the format of the presentations as well as in writing lab notebook and experimental reports. Students learn how to create a chart, table, or plots from quantitative data manually on paper or by using a computer program such as EXCEL. They are also required to follow the question-claim-evidence-justification protocol for making proper scientific arguments during the analysis section of each lab after data are collected from an experiment. They make the quantitative arguments from experimental data, calculated data, or by comparing quantitative data in the forms of charts and tables. They learn the basic elements of a scientific argument and practice to critique other student's argument critically. They also refine their quantitative arguments by peer review before they make the final arguments in the lab reports.

In some experiments, students learn to apply given models of calculations or analyses found in the literature to the experimental data as proposed by the hypothesis they wrote. This practice allows them to verify whether a proposed hypothesis is true or not or to derive a new model for the question being asking by the lab.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

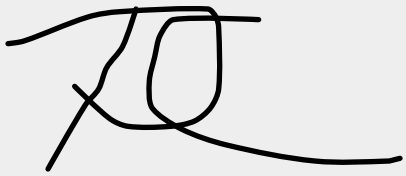
This course teaches students ethical reasoning for laboratory safety by providing students a basic training in safety awareness for chemicals involved in the experiments. They will learn to identify chemical and health hazards, to properly handle chemical spills, and to correctly collect chemical waste for disposal. Students will conduct a search for Safety Data Sheets and extract safety information from SDS. We also ask students to discuss each of their finding about safety and make a note of safety for each experiment as a required element of the preparation of the lab.
This course also teaches students ethical reasoning for intellectual properties. They are required to keep a laboratory notebook as a legal record of their experimental work. They practice proper way of maintaining the lab notebook including not erasing any record, not falsifying data, and having a witness to sign off the record. We also enforce the rules for plagiarism and educate students about what to be avoided for committing plagiarism.
In this course, we also require students to learn how to work in a team to accomplish collaborative work of the experiments. We expect each group to work out an assignment where all team members will have an equal share of responsibilities. Through teamwork, each student is expected to gain an experience of how to collaborate with other people.
We provide students with the civic knowledge regarding working in a chemical laboratory and engaging them in “Good Lab Practices”. We adopt the “Good Lab Practices” as a model where students are expected to follow when working in our lab. During lab discussions and experiments, students learn how to conduct themselves and actively contribute to the collaborative work. They also learn the proper way of behavior when working in the lab. We enforce these protocols as explained in the course syllabus and lab manual.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Sep 27 2020

Upload Assessment

Completed - Sep 27 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

CHEM 1215L RECERT

Filename: CHEM_1215L_RECERT.pdf **Size:** 3.2 MB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001249

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001249
Status: Under Review
Last submitted: Sep 28 2020 08:10 AM (MDT)

Application Form

Completed - Sep 27 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

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3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

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****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Timothy Krebs
Title	Professor and Chair
Phone	5052775218
Email	tbkrebs@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Political Science

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	POLS
Number	1120
Title	American National Government
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	POLS
Number	1120
Name	American National Government

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Social & Behavioral Sciences - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

n/a

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

In the American National Government curriculum, we engage in Genre and Medium Awareness, Application, and Versatility" throughout the course by regularly incorporating current events, opinion news, scientific blogs, and video to demonstrate important theoretical concepts and their application to everyday life and politics. For example, when studying federalism and the separation of powers at the state and federal governments, students are asked to read and discuss a standard textbook chapter and compare it to current questions of federalism (such as the legalization of marijuana by states) through current data and news articles addressing the issue. We promote "Strategies for Understanding and Evaluating Messages”" by actively presenting multiple viewpoints for all theoretical and current political issues addressed. More specifically, this course dedicates a section to understanding public opinion, political communication, and media effects, which help students to recognize how people process information differently as a result of their personal characteristics. Finally, this course engages with "Evaluation and Production of Arguments”" in three ways, through in-class discussion, written papers, exams, and other assignments. Classroom discussions and debates are supplemented with writing exercises including exam essays and assignments that require use of properly cited scholarly sources to buttress their arguments. Discussions of scholarly readings and current events require students to identify authors’ main points, connect them to current political phenomena, and identify possible counterarguments.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

American National Government develops skills in critical thinking by organizing material around key political theories and related contemporary debates, such as political participation, representation, political institutions, and public policy. In-class lectures and discussion encourage students to identify problem settings by applying political theories to current issues and events. Students must develop skills in evidence acquisition through written papers, on exams, in discussion, and in other assignments where they must supply empirical evidence and scholarly research to support their claims. To evaluate evidence, classroom discussions also interrogate claims around debates, including discussion of the role of bias, validity of data and reliability of sources that inform political opinions surrounding enduring and contemporary political issues. Finally, these discussions (as well as written assignments and exams) also develop the students' reasoning/conclusion skills, since they require them to critically consider the issue, assess the evidence they have gathered, make logical connections between different arguments and positions, and ultimately form their own judgment about the topic.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

The majority of topics covered in the course encourage the development of skills in personal and social responsibility, such as the study of collective action and political participation. We engage in intercultural reasoning and intercultural competence in a variety of ways related to participation and public opinion. For example, we discuss historical and contemporary racial injustice, policies of affirmative action, and intercultural differences in political participation and civic engagement. A constant theme of the course is to reflect on the political decision-making process at the elite level in terms of who benefits and who suffers, as a result this course and lens regularly engages important intercultural considerations in U.S. politics. We address sustainability and the natural and human worlds by learning about the relationship between collective action, self-interest, and policy outcomes. For example, we devote considerable time to understanding how people are represented through interest groups, how interest groups compete for scarce resources, and what impact this has on the human and environmental condition. Much of this also calls on ethical reasoning as we grow to understand the disparate consequences that differently powered interest groups and communities bring to the table. This course has theoretical roots in understanding collaboration skills, teamwork and value systems as we constantly evaluate the outcomes of these forces on politics and policy in the U.S. In the classroom, we also apply these skills through discussion, debate, and teamwork to actively engage students with the material. Finally, the entirety of this course is devoted to communicating and inspiring a better command of civic discourse, civic knowledge and engagement at the local and global levels. From the beginning of the class to the end we work through what it means to be an individual, living in a city, within a state, as part of a country and how politics and policy work at each of these levels. Students learn through appropriate pedagogical techniques why civic engagement matters and how to do it effectively.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Sep 27 2020

Upload Assessment

Completed - Sep 27 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

POLS 1120 Assignment for Paper 1_POLS1120

Filename: POLS_1120_Assignment_for_Paper_1_POLS1120.pdf **Size:** 99.5 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001267

Michael Bilopavlovich - michaelb@mesalands.edu
NM General Education Curriculum

Summary

ID: 0000001267
Status: Under Review
Last submitted: Oct 2 2020 04:04 PM (MDT)

Application Form

Completed - Oct 2 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

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****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course

Application

- When pasting into the application from another document, paste your text without formatting.
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- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Michael Bilopavlovich
Title	Faculty
Phone	5754614413 ext. 150
Email	michaelb@mesalands.edu

Submitting Institution

Name of HEI	Mesalands Community College
Submitting Department	Academic Affairs

Chief Academic Officer

Name	Natalie Gillard
Email	natalieg@mesalands.edu

Registrar

Name	Forrest Kaatz
Email	forrestk@mesalands.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	ENG
Number	275
Title	The Motion Picture
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	ENGL
Number	2520
Name	Film as Literature

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Humanities - Information & Digital Literacy, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

NA

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Critical thinking will be assessed in the formation and articulation of ideas within students' essay projects as well as in written and oral responses to assigned readings and homework. Students will demonstrate the ability to analyze a text and identify various features, such as rhetorical context, intended audience, credibility and bias, and rhetorical modes.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

Students' understanding, engagement, and commitment to critical thinking and ethical evaluation will be evaluated through written responses (including essays, critiques, and short responses to readings), homework, discussions, presentations, and collaborative exercise. Essays will adhere to the same standardized formatting and citation standards as other communication and literature courses, such as provision of a clear thesis statement, supporting evidence, appropriately cited references to texts and additional critical material, and an appropriately formatted Works Cited/References page.

Information & Digital Literacy. ***Authority and Value of Information; Digital Literacy; Information Structure; and Research as Inquiry***

*In this box, provide a narrative that explains how the proposed course addresses **3** of the components of digital literacy.*

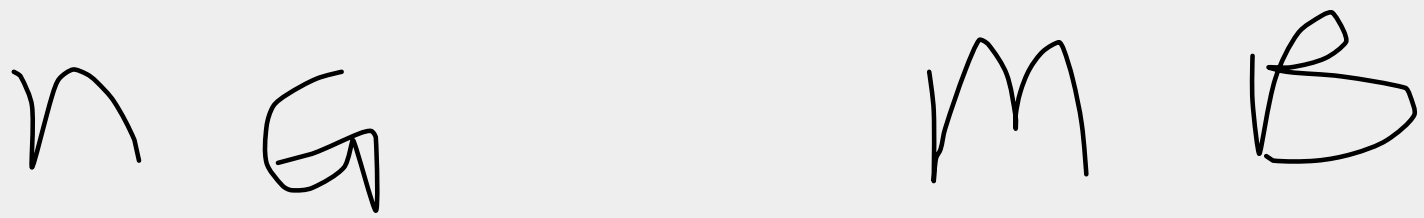
Information and digital literacy will be assessed throughout the semester as students utilize digital resources and word processing technology to research, compose, revise, format, and transmit their various assignments. Students will demonstrate competence utilizing research databases and other information tools to gather, organize and evaluate information, as well as their ability to navigate online learning platforms (where applicable) and standard electronic communications tools such as email, online chats, discussion forums, and digital meeting spaces such as Zoom or Skype.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://www.mesalands.edu/wp-content/uploads/2020/01/SLAC-Annual-Report-2018-19-Final.pdf

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Oct 2 2020

Upload Assessment

Completed - Oct 2 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

ENG 275 Film Sample Assignment

Filename: ENG_275_Film_Sample_Assignment.pdf **Size:** 202.2 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001278

Tycie Jackson - tjackson@luna.edu
NM General Education Curriculum

Summary

ID: 0000001278
Status: Under Review
Last submitted: Oct 5 2020 10:52 PM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Olivia Kuykendall
Title	Instructor
Phone	5054542557
Email	okuykendall@luna.edu

Submitting Institution

Name of HEI	Luna Community College
Submitting Department	Humanities

Chief Academic Officer

Name	Maxine Hughes
Email	mhughes@luna.edu

Registrar

Name	Melissa Cordova
Email	mcordova@luna.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	ARTH
Number	1120
Title	Introduction to Art
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	N/A
Number	N/A
Title (if applicable)	N/A

New Mexico Common Course Information

Prefix	ARTH
Number	1120
Name	Introduction to Art

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Creative & Fine Arts - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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
89
Revised 9/9/2020
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

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

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
89
Revised 9/9/2020
4. Students will become proficient in understanding and identifying a wide variety of techniques and materials that artists use to make art
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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

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

When students are engaging in discussions using appropriate terminology used to talk about art, they are able to begin understanding the formal idea of what art is, what an artist does and the origins. Introduction to Art should help students learn to look at art differently and see the world in a new context. This course should also ultimately prepare students for other future Arts courses. Using and understanding the principles of design as well as the subsequent elements of art, students are able to follow the rules and conventions of traditional art. Discussing certain works of art and their origins will facilitate an environment in which students can evaluate art in terms of artists intention, formal vision elements, along with media and materials used. Various methods of learning throughout the course include discussions, essays, informed presentations, observation and thought journals, as well as field trips to art museums. Through these methods, a diverse range of cultural art traditions will be studied and evaluated. Reading credited documentation that identifies, organizes and interprets art in terms of cultural significance, art traditions, religion, politics, and commercial art will provide students with the evidence to support specific arguments they formulate within this course. Throughout the duration of this course a wide range of perspectives, interpretations, analysis', content and controversies surrounding art will be explored. With art, always comes controversy such as, restoration, censorship, public art and removal of art works. Students will be encouraged and assigned to study these controversies and make informed opinions. Learning methods used in this course will equip students with the essential skills that are necessary for all other college level courses. Once through with this course, students will be able to look at art with more confidence and a more in depth understanding of what they see when they look at art.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Students are presented with a wide range of views of art traditions, terminology, design principles and the controversies that are involved. They will begin to learn how to question certain rhetorical situations and develop informed opinions with the evidence presented. This course will introduce students to the appropriate terminology to use when discussing art, creating an environment in which students will be able to identify the what, why, how and when in terms of art. There is a vast amount of controversy when it comes to the restoration, censorship, the use of public art and removal of certain art works. Through the exploration of the evidence presented, students will be able to evaluate each argument and form their own conclusions. Evidence being studied and researched throughout this course includes individual works of art, materials used in art, art traditions, terminology and the controversies in art. Readings, discussions, writings and field research will be applied to ensure students absorb the information and skills needed to prepare for future research in the classroom and workplace. Students are expected to use these methods in order to find reasons for certain arguments and opinions surrounding art. Students can have a chance to see the world through one another's eyes when reading, researching and discussing the diversity of cultural art traditions. Applying the principles of design and art will help students to look at art and see it with a new perspective. Logical conclusions will be made by students in regards to individual works of art and cultural art traditions versus the controversies that surround them.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

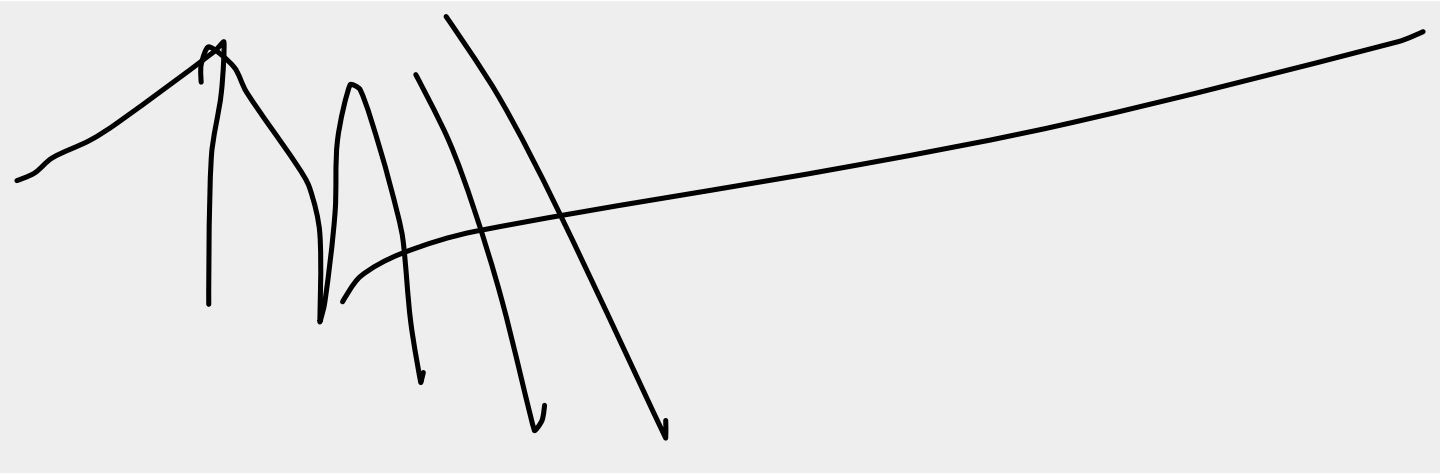
Through readings, writings and discussions, students will begin or further their understanding of a wide range of personal and social art cultures, traditions and controversies that come with. Appropriate terminology, as well as principles of design will be taught so that students can begin to study all aspects of art and the origins of individual works of art from the Paleolithic Era to today's Contemporary art. By studying cultural art traditions and art eras, students can begin to make the connection between art and cultural relations. When reading about and observing certain types of artwork, students can identify and evaluate the global or local issues happening during the creation of the piece, when previously they might not have looked long enough to see it that way. Students should develop the ability to compare a vast range of moral views of which they will use to create virtuous solutions. Group projects will be implemented to help students develop appropriate and respectful collaboration and teamwork skills which they can carry over into future academics and jobs. Students will be given the task of identifying socio-cultural issues, both worldwide and in the local community to conclude what is keeping them from being taken care of and what can be done to solve the problems. During discussions and group projects, students will develop ideas of how artists already have and can continue to use their art as a facilitator for change by building cultural awareness, expose social injustices, and examine sustainable solutions to these ethical issues.

D. Assessment Plan **(Must be on file with HED by August 1, 2019)**

Link to Institution's General Education Assessment Plan

N/A

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Oct 5 2020

Upload Assessment

Completed - Oct 5 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

Intro to Art - Sample Assignment

Filename: Intro_to_Art_-_Sample_Assignment.pdf **Size:** 365.3 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001256

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001256
Status: Under Review

Last submitted: Sep 28 2020 09:21 AM (MDT)

Application Form

Completed - Sep 28 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.

- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Mary Domski
Title	Professor of Philosophy
Phone	505.277.2405
Email	mdomski@unm.edu

Submitting Institution

Name of HEI	UNM
Submitting Department	Philosophy

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	PHIL
Number	2210
Title	Early Modern Philosophy
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	PHIL
Number	2210
Name	Early Modern Philosophy

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Humanities - Information & Digital Literacy, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

N/A

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

The assigned readings for PHIL 2210 are selections from philosophical texts that were written during the 17th and 18th centuries, and each selected reading addresses a specific philosophical problem or set of philosophical problems. For instance, a standard reading for all sections of PHIL 2210 is Rene Descartes's Meditations of First Philosophy (1641). In different sections of this text, Descartes explicitly engages problems such as the possibility of attaining knowledge, the nature and existence of the self, and the criteria for distinguishing good from evil. Such problems are treated by other authors who are commonly included in the PHIL 2210 curriculum, such as John Locke, David Hume, and Immanuel Kant. Consequently, to successfully complete any of the assigned readings for PHIL 2210 students must first identify the specific problem that is examined critically by the author (Problem Setting), and then identify the author's solution to this problem as well as the supporting reasons that the author provides to defend his/her solution (Evidence Acquisition). The students' effectiveness in developing these two essential skills is typically evaluated during in-class discussion and activities and through in-class assessments (such as quizzes and exams) that require students to communicate the argument(s) an author deploys to defend his/her position. See for instance the questions included in Sections II and III of the representative final exam that is attached. In every section of PHIL 2210, students are also required both to evaluate the credibility and general strength of the arguments presented by authors (Evidence Evaluation) and to communicate their evaluations of the arguments treated in the readings and discussed in class (Reasoning/Conclusion). The students' effectiveness in developing these two essential skills is typically evaluated based on their written responses to short-answer or essay questions on in-class assessments (such as quizzes and exams), or based on their composition of longer take-home writing assignments. See for instance question (d) of the essay prompt (Section IV) in the representative final exam that is attached.

Personal & Social Responsibility*. Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills,*

teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

As noted in the Student Learning Outcomes above, students who complete PHIL 2210 learn to identify and critically engage with questions of metaphysics, epistemology, and ethics through their study of primary texts from early modern Western Philosophy. They also learn to summarize and compare various responses to these fundamental questions, and to assess how these responses changed during the early modern period. Learning these skills, and learning specifically how to become skillful readers of early modern texts, requires that students develop a sensitivity to cultural and social shifts that characterize the 17th and 18th centuries. It is essential, for instance, that they are aware of how the scientific developments of the 17th Century -- including the move from an earth-centered to a sun-centered model of the universe, and the growing popularity of explaining natural objects in terms of matter and motion -- informed and shaped the philosophical landscape of the early modern period (Sustainability and the Natural and Human Worlds). To this end, students are taught about the work of scientific revolutionaries such Galieo, Bacon, and Newton, and oftentimes, they are asked to read selections from their scientific texts. Students also learn about the history of early modern religion and early modern politics so they can properly situate the texts they are reading and properly evaluate them in relation to current trends in scientific, religious, and ethical thinking (Intercultural Reasoning and Intercultural Competence). The students' effectiveness in developing this historical awareness and the above essential skills are typically evaluated through in-class assessments (such as quizzes and exams) or through longer take-home writing assignments. See for instance Section I (especially questions #3-7) and also Section IV of the representative final exam that is attached. During their study of early modern texts and early modern history, students are asked to reflect on how and to what extent the changing cultural, scientific, and social landscape changed the way that early modern philosophers portrayed our human place in nature. As a consequence, students learn to appreciate the distinctive character of early modern ethics. Namely, they learn to appreciate that while the ethical theories of John Locke and Immanual Kant have been foundational to our contemporary ethical theories, those theories were developed in a scientific, religious, and political landscape very different from our own and thus, developed to address very specific

early modern questions about our human obligations and human rights (Ethical Reasoning; Civic Discourse, Civic Knowledge and Engagement). The students' effectiveness in developing all of the above essential skills are typically evaluated during in-class discussion and activities, through essay questions that are included on in-class assessments (such as quizzes and exams), or through longer take-home writing assignments. See for instance Section I (especially questions #1,2, and 17-20) and also Section III (especially questions #1 and 2) of the representative final exam that is attached.

Information & Digital Literacy. ***Authority and Value of Information; Digital Literacy; Information Structure; and Research as Inquiry***

In this box, provide a narrative that explains how the proposed course addresses ***3*** *of the components of digital literacy.*

Students in PHIL 2210 are required to engage with philosophical texts from the 17th and 18th centuries readings, and during the course of the semester, they are required to compare the reliability and credibility of arguments from different early modern authorities in Philosophy. For instance, students might be asked to compare the account of knowledge that Descartes provides in the 17th century text Meditations on First Philosophy (1641) with the account offered by David Hume in the 18th century text Enquiry Concerning Human Understanding (1748). Effectively comparing these sorts of arguments requires a recognition of the contrasting points of view of the authors and sensitivity to the specific sort of authority that the authors represent (Authority and Value of Information). In the case of comparing Descartes's and Hume's analyses of knowledge, for instance, a student must be sympathetic to Descartes's rational attempt to respond to skeptical attacks on knowledge and also to Hume's attempt to use the limits and tendencies of human nature to evaluate the extent of human knowledge. Students must also be able to decipher from the texts the specific information that the authors use to support their arguments, and use this information both to evaluate the author's argument and to evaluate its strength when compared with the argument presented by other authors (Information Structures). The students' effectiveness in developing these essential skills is typically evaluated either through in-class assessments (such as quizzes and exams) or through longer take-home writing assignments that require students to provide a comparative evaluation of the argument(s) presented by two or more authors. See for instance the short-answer questions

included in Section III of the representative final exam that is attached. When completing writing assignments, students in PHIL 2210 are required to gather ideas from multiple sources and then analyze, evaluate, and synthesize these ideas to draw reasonable conclusions (Research as Inquiry). Specifically, students in PHIL 2210 learn to defend and explain what they find to be the most effective argument or argument strategy for addressing a clearly stated philosophical problem. For instance, they may be asked to address whether Descartes or Hume has the most convincing account of human knowledge, and to present reasons for their stated position. The students' effectiveness in developing this essential skill is typically evaluated through essay questions that are included on in-class assessments (such as quizzes and exams) or through longer take-home writing assignments. See for instance question (d) of the essay prompt (Section IV) in the representative final exam that is attached.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Sep 28 2020

Upload Assessment

Completed - Sep 28 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of

the course.

PHIL 2210 UNM Gen Ed Recertification

Filename: PHIL_2210_UNM_Gen_Ed_Recertification.pdf **Size:** 383.4 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001270

Julia Deisler - julia.deisler@sfcc.edu
NM General Education Curriculum

Summary

ID: 0000001270
Status: Under Review
Last submitted: Oct 6 2020 10:40 AM (MDT)

Application Form

Completed - Oct 5 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility

5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Jennifer E. Breneiser
Title	Assistant Professor of Psychology
Phone	505-428-1668
Email	Jennifer.breneiser@sfcc.edu

Submitting Institution

Name of HEI	Santa Fe Community Colleg
Submitting Department	Humanities and Social Sciences

Chief Academic Officer

Name	Margaret Peters
Email	margaret.peters@sfcc.edu

Registrar

Name	Kathleen Sena
Email	kathleen.sena@sfcc.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	PSYC
Number	2120
Title	Developmental Psychology
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	PSYC
Number	2120
Name	Developmental Psychology

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Social & Behavioral Sciences - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

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

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Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

na

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

Genre and Medium Awareness: Discussions (online or in-class) are used for students to respond to course prompts, videos, or course textbook content. Written responses may also require students to communicate information relating to course textbook content, supplementary materials (such as journal articles), or content learned from video materials (such as relevant Ted Talks). Within these methods, students learn that the form that a message takes shapes the message/information itself. Students may also complete quiz or test assessments to communicate what they have learned about course content. All assignments, including short response papers, class discussions, Application Papers, or other assessments, are assessed via rubrics which are shared with students along with assignment requirements.

Application and Versatility: Students communicate what they have learned in a variety of ways, including in-class oral or online discussions, as well as paper assignments such as application papers. An application paper assignment is one example of a way that students are expected to apply course concepts and content to real-world examples; students are instructed to independently identify an example of a developmental psychology concept that they have encountered in the real world (such as a scene in a movie or TV show, a comic strip, a novel, etc.) and write an explanatory justification of why they believe the example illustrates the concept. The key questions in the Application Papers are 1) What is the example you have identified? 2) What is the concept that this example relates to? 3) How is this item an example of the concept? Students typically complete two application papers in the course, to reinforce learning and to help students improve from one paper to the next.

Strategies for Understanding and Evaluating Messages: Students' reading assignments provide course content knowledge as a foundation for the course and to promote comprehension of the course content. Supplemental materials (e.g., journal articles and videos) often reinforce and reiterate course content in different ways, or with different examples, than those in class or the course textbook. Students use class discussion (in person or online) and written responses in paper assignments to evaluate information from various outside sources (such as scholarly journal articles, videos, and popular culture sources) based on their knowledge of developmental theory and concepts.

Evaluation and Production of Argument: Discussions also provide a venue for students to practice developing an informed opinion and evaluating their arguments as well as others'. The Application Papers also require students to justify their position that a given example IS an example of a developmental psychology concept. These papers are assessed, in part, in how well the students address the strengths as well as the weaknesses of the example they provide of a given concept in developmental psychology.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Problem setting: Developmental psychology includes different theories and perspectives, and students identify such issues as nature and nurture, the controversy around "spanking" as punishment, and other issues. In discussion and short response paper assignments, students may be asked to synthesize and reconcile information that they have learned from the text compared to in a supplementary source, such as taking what they have learned from a TED Talk on "what babies think" and how that fits (or does not fit) with what they learned in the text.

Evidence Acquisition: Students learn about the various research methods used to examine scientific questions in developmental psychology (such as twin studies and longitudinal studies). In learning theory and research methods, students learn how researchers frame and investigate questions, as well as how they acquire evidence to investigate a problem. Additionally, Application Papers help students to articulate specific reasons why they feel that the example they have found in the real-world is an example of a specific concept they have identified from the course textbook; the Application Papers ask students to apply their knowledge of developmental psychology to the real world and to not only find an example of a developmental psychology concept, but also to think critically about why they consider the example the student identified is an example of a specific concept.

Evidence Evaluation: Short response papers are used to ask students to challenge their own assumptions about information in developmental psychology, using what they have learned in course materials (which are sometimes contradictory, such as the evidence around Piaget's theory of cognitive development) to

evaluate the evidence and arrive at an informed position on topics in developmental psychology. Students may participate in class discussions/debates where they must develop an argument in favor or opposed to a theoretical position relevant to the class.

Reasoning/Conclusion: Students develop reasoning skills by writing response papers with prompts that ask them to take a position and provide evidence for that position (such as comparing early-childhood education programs), and the Application Paper assignment allows them to evaluate their real-world example and course concept pairing. Even if a student selects a weak example of a concept, the student will earn full credit on a paper if they accurately evaluate any strengths and weaknesses of the example and concept pairing that they identified for the paper assignment.

Personal & Social Responsibility*. Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global*

*In this box, provide a narrative that explains how the proposed course addresses **2** of the components of personal & social responsibility.*

Ethical Reasoning: Students learn about ethical research methods in developmental psychology, and the limitations of research in developmental psychology due to ethical constraints (e.g., researchers can't randomly assign babies to families to investigate parenting styles; this research is by ethical necessity correlational). Students demonstrate what they understand about ethics in research and ethics in developmental psychology via short response papers and class discussions, such as writing about how they would ethically build resilience in grade, middle, or high school students. Developmental psychology also includes presentation of foundational research studies in development, such as Watson and Raynor's "Little Albert" study (and the ethical implications of that study), and thought questions are used to ask students whether similar research conclusions can be reached, but using modern ethical research methods instead of outdated, unethical research designs.

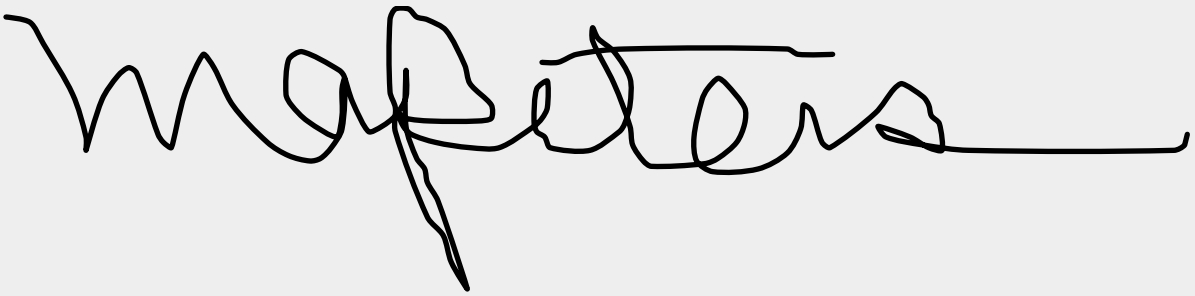
Civic Discourse, Civic Knowledge and Engagement – Local and Global: Students complete a variety of assessments, such as class discussions and short response papers, which are designed to encourage students to articulate their informed opinions on different topics in developmental psychology, such as charging minors as adults in the criminal justice system, spanking as punishment, legal ages to drive (and consume alcohol), legal rights for older adults who are developing dementia, and other controversies in developmental psychology research. Particularly in discussion assignments, whether online or in person, students are expected to discuss their ideas respectfully, reply to other students appropriately, and to acknowledge the differing opinions of others equally respectfully. These activities allow students to practice engaging in civil discourse in a setting that is specific to developmental psychology content.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://www.sfcc.edu/54536-2/

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).



Date

Oct 4 2020

Upload Assessment

Completed - Oct 4 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

PSYC 2120 Application Papers 1 and 2

Filename: PSYC_2120_Application_Papers_1_and_2.pdf **Size:** 149.6 kB

Upload Rubric

Completed - Oct 4 2020

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

PSYC 2120 Application Paper Rubric

Filename: PSYC_2120_Application_Paper_Rubric.pdf **Size:** 143.6 kB

Application: 0000001284

Julia Deisler - julia.deisler@sfcc.edu
NM General Education Curriculum

Summary

ID: 0000001284
Status: Under Review
Last submitted: Oct 6 2020 10:41 AM (MDT)

Application Form

Completed - Oct 6 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

The defining characteristic of the New Mexico General Education Curriculum Model is its focus on essential skills. Three essential skills are associated with each of six content areas:

1. Communications: Communication, Critical Thinking, Information & Digital Literacy
2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17,**

2019 to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

Tips for Completing the General Education Course Application

- When pasting into the application from another document, paste your text without formatting.
- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.
- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Lenny Gannes
Title	Chair of Science
Phone	505-428-1757
Email	leonard.gannes@sfcc.edu

Submitting Institution

Name of HEI	Santa Fe Community Colleg
Submitting Department	Science

Chief Academic Officer

Name	Margaret Peters
Email	margaret.peters@sfcc.edu

Registrar

Name	Kathleen Sena
Email	kathleen.sena@sfcc.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

No

Institutional Course Information

Prefix	GEOL
Number	2210
Title	Historical Geology
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

Yes

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	GEOL
Number	2210
Name	Historical Geology

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Science - Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

GEOL 2110
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.

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

na

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

Students use critical thinking throughout the class to think through the various theories that explain physical processes of the natural world and its interrelated ecosystems. For example, in one assignment students identify the six most cited geologic theories that are used to explain geological/biological processes on the planet (problem setting) and research each in the textbook and other sources, citing their sources appropriately; they write a short definition of each theory in their own words and give examples of geologic events that apply to each theory (evidence acquisition). The students then create a table ranking the theories from the best supported to the least-well supported by the evidence (evidence evaluation). Students then write a synopsis of the best-supported theory, outlining the evidence that supports this theory (reasoning/conclusion). Students submit for grading theory definitions, theory ranking table, a discussion/synopsis of the best-supported theory, and a citation list. Critical thinking is also assessed in the course’s main research and mapping project, a series of weekly assignments asking students to analyze the trapped water reservoir beneath the fictitious town of Wagon Wheel in the Water Melon Mountains somewhere out West.

Quantitative Reasoning. ***Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models***

In this box, provide a narrative that explains how the proposed course addresses ***all*** *of the components of quantitative reasoning.*

Students also demonstrate quantitative reasoning in that extended research and mapping project on the trapped water reservoir beneath the fictitious town of Wagon Wheel. Playing the part of a young geo-hydrologist just out of school, students map out the water reservoir, calculate the volume of water remaining, and estimate the life span of the town's water supply. Each week the students use the given water well drill data to construct several geological reports and maps – cross-sections, a topographic map, a fence diagram, a structure maps, and an isopach map (communication/representation of quantitative information). The students write a weekly report of their work in progress to be presented to the "town" (communication/representation of quantitative information). Lastly, the students calculate the volume of water remaining in the reservoir and compare it to yearly water consumption by the town. At that point they calculate the lifespan of the reservoir and its effects on the longevity of the town itself (analysis of quantitative arguments & application of quantitative models).

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

The personal and social responsibility elements with which students must wrestle in their extended project are sustainability and the human and natural worlds and ethical reasoning. In mapping out the water reservoir, calculating the volume of water remaining, and estimating the life span of the town's water supply in relation to yearly consumption, students address the idea of sustainability in the natural and human worlds directly. Based on the data given, they calculate the volume of the reservoir and compare it to the town's yearly water consumption, and, through this process, students can project the sustainability and longevity of the town into the future; the student explores ways to extend the life of the reservoir and the lifespan of the town and advises the town of their options (sustainability & the natural & human worlds). The student must also deal with the issue of how to tell the town – which has "employed" them – that their resources are limited, and therefore to what extent the lifespan and/or size of their town is limited (ethical reasoning).

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

https://www.sfcc.edu/54536-2/

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Oct 6 2020

Upload Assessment

Completed - Oct 6 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

GEOL2110 waterMelon final

Filename: GEOL2110_waterMelon_final.pdf **Size:** 89.3 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Application: 0000001217

Michael Raine - mraine@unm.edu
NM General Education Curriculum

Summary

ID: 0000001217
Status: Under Review
Last submitted: Sep 26 2020 04:06 PM (MDT)

Application Form

Completed - Sep 26 2020

Application Form

The goal of the new models of General Education is to create an intentional curriculum that develops the essential skills that college graduates need to be successful. The New Mexico Curriculum & Articulation Committee will evaluate each certification form to understand how the course introduces, reinforces, and assesses the three essential skills. New Mexico's new General Education models must be adopted by all of New Mexico's public higher education institutions by **August 1, 2019.**

Essential Skills

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2. Mathematics: Communication, Critical Thinking, Quantitative Reasoning
3. Science: Critical Thinking, Personal & Social Responsibility, Quantitative Reasoning
4. Social & Behavioral Sciences: Communication, Critical Thinking, Personal & Social Responsibility
5. Humanities: Critical Thinking, Information & Digital Literacy, Personal & Social Responsibility
6. Creative and Fine Arts: Communication, Critical Thinking, Personal & Social Responsibility
7. Other: 3 Essential Skills chosen by the institution

Faculty teaching courses within any given content area must weave the three related essential skills throughout their course while also addressing content knowledge and skills.

Deadline for Next Curriculum Committee Meeting

Applications to add courses to the new General Education Curriculum must be received by **May 17, 2019** to be heard at the **June 13-14, 2019** NMCAC Meeting.

****Applications approved at the April meeting will be archived on May 17, 2019.****

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- In the narratives, avoid qualifiers (frequently, often, given the opportunity) when discussing what students do throughout the course.
- The assessment that is uploaded should be an example of what is discussed in the narrative.

- Narratives should describe what activities students **do** to develop the essential skills throughout the course.

Contact Information

Name	Irene Vasquez
Title	Chair
Phone	505-277-6414
Email	ivasquez@gmail.com

Submitting Institution

Name of HEI	UNM
Submitting Department	CCST

Chief Academic Officer

Name	Pamela Cheek
Email	pcheek@unm.edu

Registrar

Name	Michael Raine
Email	mraine@unm.edu

Is this application for your entire system (ENMU, NMSU, & UNM)?

Yes

Institutional Course Information

Prefix	CCST
Number	1125
Title	Chicano and Latino Musical Cultures
Number of credits	3

Was this course previously part of the New Mexico General Education curriculum?

No

Will this course only count toward General Education for the AAS degree (at your institution)?

No

Co-requisite Course

Prefix	(No response)
Number	(No response)
Title (if applicable)	(No response)

New Mexico Common Course Information

Prefix	CCST
Number	1125
Name	Chicano and Latino Musical Cultures

A. Content Area and Essential Skills

To which area should this course be added?

Indicate "Other" if the course is not associated with one of the six NM General Education areas.

Creative & Fine Arts - Communication, Critical Thinking, Personal & Social Responsibility

B. Learning Outcomes

List all common course student learning outcomes for the course.

Common Course Student Learning Outcomes (find Common Course SLOs at: http://www.hed.state.nm.us/programs/request-a-change-to-the-nmccns.aspx)

1. Analyze the influence of musical cultural diversity and its applications to multicultural populations in the United States.
2. Apply intercultural reasoning and intercultural competence in analyzing contemporary Chicano Latino Music in the United States.
3. Develop conclusions about cultural sources and outcomes of creativity among Latina/o populations in the arts.
4. 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).
5. Analyze and critically interpret significant primary texts and/or works of art (this includes fine art, literature, music, theatre, & film).
6. Applying diverse theoretical lens (e.g. cultural, political, economic) to understand and evaluate messages in terms of aesthetic rhetorical situation (audience, purpose, and context).

Institution-specific Student Learning Outcomes

List all institution-specific Student Learning Outcomes that are common to all course sections offered at the institutions regardless of instructor.

NA

C. Narrative

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Exp;lain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Communication. Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of communication.*

This course requires that students compare art forms, modes of thought, expression, and theories across a range of historical periods and/or structures and analyze and critically interpret significant primary texts and/or works of art in order to understand and evaluate messages in terms of aesthetic rhetorical situation (audience, purpose, and context). Students will exercise communication skills through sharing why music performances are effective for specific audiences. They will learn how to evaluate music performances. Faculty will ask students to produce a music album of previously published music in order to address Student Learning Outcomes 4, 5 and 6. Students will be expected to craft a technically proficient end-of- semester music album and album essay that correctly identifies music genres and historical and cultural contexts. They will publish this album using the Adobe Creative Suite. This assignment will prepare students to consider cultural production and clearly state and describe all relevant information for a full understanding of Latina/o music genres; select and use information to investigate a point of view or conclusion, consider the context and different assumptions regarding cultural music, provide a unique perspective of Latina/o music, and draw conclusions and implications about the music's impact on diverse communities. Faculty will utilize the LEAP Written Communication rubric to evaluate the music album.

Critical Thinking. Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion.

*In this box, provide a narrative that explains how the proposed course addresses **all** of the components of critical thinking.*

This course requires that students compare art forms, modes of thought, expression, and theories across a range of historical periods and/or structures and analyze and critically interpret significant primary Chicano and Latino texts and/or works of art. Students are expected to address the specific genre of music, evaluate evidence, and draw conclusions of its influences on Latina/o communities. This course assesses students for critical thinking. Faculty will assign discussion board assignments that address Student Learning Outcomes 3 and 5. Student discussion board responses should improve over the semester because they will utilize a rubric to guide their learning process. Students will need to demonstrate that they can identify and critically assess different genres of Latina/o music production, identify a thesis, counter-arguments and, explain issues, and use evidence in order to evaluate quality of the music and creative production. Faculty will assign concert summaries that require them to evaluate the differences between music genres and performances. Faculty will use the LEAP Critical Thinking Rubric. Responses will be evaluated based on the following criteria: Excellent, Proficient, Developing, and Emerging.

Personal & Social Responsibility. ***Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global***

In this box, provide a narrative that explains how the proposed course addresses ***2*** *of the components of personal & social responsibility.*

This course requires students to draw on intercultural reasoning to analyze the influence of musical cultural diversity and its applications to multicultural populations in the United States. Students will strengthen their knowledge about local and global music that reflect multiple valid perspectives through sharing why music performances are effective for specific audiences. Students will be asked to attend and analyze two different concert presentations. These assignments address Student Learning Outcome 1 and 2. In addition, students will produce a cultural artifact that requires them to effectively use sound and image to convey knowledge about why diverse forms of music appeal to them, their families, and their specific communities. and draw conclusions and implications about the music's impact on diverse communities. They will explain how and on why certain populations gravitate toward music with social justice content being attentive to moral norms and values. Student short essay writing should improve over the semester because they will utilize a rubric to guide their learning process. Faculty will use the LEAP rubric on Social Responsibility to assess student concert summaries and the final music album.

D. Assessment Plan (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan

http://assessment.unm.edu/assessment-types/gened-assessment/index.html

This course has been reviewed by the institution's Chief Academic Officer and meets institutional standards for general education (signature of CAO below).

Date

Jul 10 2020

Upload Assessment

Completed - Sep 26 2020

The assessment should illustrate how at least one of the essential skills is assessed within the context of the course.

CCS 1125 ChicanoLatino Musical Cultures (3)

Filename: CCS_1125_ChicanoLatino_Musical_Cultures_3.pdf **Size:** 181.2 kB

Upload Rubric

Incomplete

The optional rubric should illustrate how at least one of the essential skills is assessed within the context of the course.

Engaging Production Value and Personal Value

Note to evaluator: this assignment is effective in assessing Personal and Social Responsibility.

In class we watched Martin Scorsese's 1974 film "italianamerican." He once said that, of all his films, this is his favorite.

You have also googled Martin Scorsese and determined that he shows up on all the "greatest living director" lists havng made many extrordinary films of high production value.

Please write a half page on each of the following topics.

1. Make a list of all the ingredients that went into the film, "italianamerican." What is the recipe for this film? If you were to make a film like this film, what would you need to do it? Think carefully, like a producer, and think of everthing you would need: equipment, people, shots, images, sounds. Make a list. Decribe what your version of this film would look like? Who would be in it? Try to describe all the parts and pieces.

2. Martin Scorsese—if he were in the room with us today—would be very excited to hear that you were making a film inspired by his. He would probaby say that your film would be just as good as his. What woud he mean by saying that? Would you agree?

3. We have talked about production value in class before. What do you think about the production value of Scorsese's film, "italianamerican?" How does its production value compare with any other Scorsese film or any other recent film you have seen?

4. Why does Scorsese even compare "italianamerican" to any of his other films? How could it be his favorite? What are the values Scorsese deploys and assess his own work?

5. Finally, for your final project, begin planning to make your own "italianamerican." As you develop and plan your project think back to the other Scorsese video we watched wherin he talked about "documenting" and "interpreting."

6. Break a leg.

MUSC - 1160
Music Theory 1

FINAL PROJECT

FINAL PROJECT

Write a 12-measure piece in 4-part harmony and include a complete Roman Numeral analysis of the harmonization.

Here are the steps to accomplishing the Final Project:

1) Determine Key Signature for the piece.
2) Write out Major scale for the piece.
3) Write in chords above each Scale degree; on the 5th Scale degree (V) add the 7th so that a V7 chord is created.
4) Write out the I, IV, and V7 chords and their Inversions.
5) Set up a Grand Staff with Key Signature of the piece.
6) Determine Time Signature of the piece and add to the Grand Staff.
7) Compose a 12-measure melody using the notes of the scale in the key of the piece.
8) Determine what chords (from Step 3 above) would work with the melody notes - there are 3 chord possibilities for each melody note.
9) Begin writing your selected chords on the Grand Staff in 4-part harmony, remembering that the melody must always be the highest note. You will likely need to write some chords in their Inversions in order to accomplish this task.
10) Check your composition for note stem direction indicating Soprano, Alto, Tenor and Bass. Soprano and Tenor stem direction is up, Alto and Bass stem direction is down.
11) Check the composition for parallel 5th movement within the voices - parallel 5ths need to be avoided, you will need to put your harmony chord into an Inversion. (Remember to keep the melody as the top voice).
12) After you have completed the harmonization, provide Roman Numeral Analysis beneath the Grand Staff for the piece. Remember to indicate the positions (Inversions) of the chords you have used to harmonize the piece.

During the Final Exam period, faculty will play each of the pieces for the class to hear. At this time, after having heard a piece, time will be given to write reactions and responses to each piece. These responses will be confidential and contribute to your final grade.

NEW MEXICO HIGHER EDUCATION DEPARTMENT

MICHELLE LUJAN GRISHAM
GOVERNOR

KATE M. O'NEILL, ED.D.
CABINET SECRETARY

New Mexico General Education Curriculum Course Certification Form

A. Institution and Course Information

Name of Institution Mesalands Community College
Department Composition and Communications
Course Number, Title, Credits ENG 271, Women in Literature, 3 credits > ENGL 2680, Women's Literature, 3 credits
Co-requisite Course Number and Title, if any
Is this application for your system (ENMU, NMSU, & UNM)?
Name and Title of Contact Person Forrest Kaatz
Email and Phone Number of Contact Person

Was this course previously part of the general education curriculum?

☒ Yes ☐ No

B. Content Area and Essential Skills

To which content area should this course be added? *Indicate "Other" if the course is not associated with one of the six NM General Education content areas.*

☐ Communications ☐ Mathematics ☐ Science ☐ Social & Behavioral Sciences
☒ Humanities ☐ Creative & Fine Arts ☐ Other

Which essential skills will be addressed?

☐ Communication ☒ Critical Thinking ☒ Information & Digital Literacy
☐ Quantitative Reasoning ☒ Personal & Social Responsibility

C. Learning Outcomes

This course follows the CCNS SLOs for

List New Mexico Common Course Prefix, Number and Name

List all learning outcomes that are shared between course sections at your institution.

D. Narrative

Explain what students are going to do to develop the critical skills (selected above) **and how you will assess their learning?**

Communication. *Genre and Medium Awareness, Application and Versatility; Strategies for Understanding and Evaluating Messages; and Evaluation and Production of Arguments.*
In this box, provide a narrative that explains how the proposed course addresses the outcomes of the first essential skill. 250 – 400 words.

Critical Thinking. *Problem Setting; Evidence Acquisition; Evidence Evaluation; and Reasoning/Conclusion*
Students will define problems, evaluate issues, and formulate research questions to guide their inquiries. They will complete reading and research tasks to collect, qualify and evaluate sources and data for credibility, relevance, and possible bias. Students will cite their sources in a systematic and respectful manner. Students will consider rhetorical, historical, and cultural contexts as they develop and refine their theses and ideas, and they will effectively communicate their conclusions and their underlying reasoning through written, oral or digital presentations. **Critical thinking will be assessed in the formation and articulation of ideas within students' essay projects as well as in written and oral responses to assigned readings and homework. Students will demonstrate the ability to analyze a text and identify various features, such as rhetorical context, intended audience, credibility and bias, and rhetorical modes.**

Quantitative Reasoning. *Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; and Application of Quantitative Models*
In this box, provide a narrative that explains how the proposed course addresses the outcomes of the third essential skill. 250 – 400 words.

Personal & Social Responsibility. *Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical reasoning; Collaboration skills, teamwork and value systems; and Civic discourse, civic knowledge and engagement – local and global*
Intercultural reasoning and intercultural competence **Through multiple writing and discussion assignments throughout the course, students will Explicate, Compare, and Interpret texts to gain insight into the people of other times and other cultures, and reflect on how their own values and moral structures are both a product of and a reaction to their own native environments. Student responses may take the forms of Argument or Discussion, and students will be encouraged to 'interrogate' texts to discern their deeper meanings. Comparisons with their own experiences will allow students to develop greater sensitivity and an awareness of the diversity of social, political, and cultural issues which characters may face. Considerations of characters' motivations and desires will help students develop a greater appreciation for the ways art (literature) may illuminate psychology and the human condition.** **Ethical Reasoning** **Drawing on history, psychology and their own experiences, students will analyze the characters, motivations and sense of ethical responsibilities portrayed by characters and cultures in works of literature. Many stories and novels involve moral dilemmas and difficult choices; studying the evaluation, decision-making process and consequences of choice by others helps students formulate and examine their own approach to matters of ethics, integrity, philosophy, and what it takes to lead a 'moral life'.**

Collaboration skills, teamwork and value systems

Through discussion, debate, group projects, and presentations, students will practice collaborative and interactive modes of inquiry and the respectful free exchange and critique of ideas. Collaboration and group projects promote planning skills, division of labor, esprit de corps and mutual accountability - which are all highly prized skills in academia and the contemporary workplace.

The habits of mutual respect, collaboration, and cooperative problem-solving may also impact how young adults will react to larger societal dilemmas such as racism, gender equality, environmental responsibility, and income inequality.

Information & Digital Literacy. *Authority and Value of Information; Digital Literacy; Information Structure; and Research as Inquiry*

Students will acquire, assess, and communicate information across different mediums using digital tools. They will recognize the hazards and advantages of communicating in an integrated digital environment. Students will develop and pursue self-directed research which generates problem solutions or otherwise illuminates the complexity of issues and questions. They will document and share their inquiries using appropriate formats, tools, and digital presentation applications.

Information and digital literacy will be assessed throughout the semester as students utilize digital resources and word processing technology to research, compose, revise, format, and transmit their various assignments. Students will demonstrate competence utilizing research databases and other information tools to gather, organize and evaluate information, as well as their ability to navigate online learning platforms (where applicable) and standard electronic communications tools such as email, online chats, discussion forums, and digital meeting spaces such as Zoom or Skype.

E. Supporting Documents.

☒ **Sample Assessment Attached** (required) ☐ **Rubric Attached** (Optional)

F. Assessment (Must be on file with HED by August 1, 2019)

Link to Institution's General Education Assessment Plan Click here to enter text.

This course meets institutional standards for general education.

_____ _____

Signature of Chief Academic Officer Date

HED Internal Use Only

Presented to NMCC on _____
Date

☐Approved ☐Denied

If denied, rationale:

Institution Notified on _____
Date

New Mexico General Education Curriculum Course Certification Instructions

A. Institution and Course Information

Fill in the table provided with institutional and course information. Include the name, title, and contact information for a faculty member who will be available to respond to questions about the course and provide supplemental material.

B. Content Area and Essential Skills

The defining characteristic of a New Mexico general education course is its focus on essential skills. Three essential skills are associated with each of six content areas, as shown in the table below. Faculty teaching courses within any given content area must work to instill the three related essential skills in their students while also addressing content and skills associated with the particular course.

Each of the essential skills listed in the table below is linked to a general education essential skills rubric on the New Mexico Higher Education Department Website.

ALIGNMENT OF ESSENTIAL SKILLS TO CONTENT AREAS WITHIN THE NEW MEXICO GENERAL EDUCATION CURRICULUM	
General Education Content Area	**Skills associated with the content area**
Communications	Communication Critical Thinking Information & Digital Literacy
Mathematics	Communication Critical Thinking Quantitative Reasoning
Science	Critical Thinking Personal & Social Responsibility Quantitative Reasoning
Social & Behavioral Sciences	Communication Critical Thinking Personal & Social Responsibility
Humanities	Critical Thinking Information & Digital Literacy Personal & Social Responsibility
Creative and Fine Arts	Communication Critical Thinking Personal & Social Responsibility

On the certification form, check the box of the content area to which the course will be added. Then check the boxes next to the three essential skills associated with that content area.

> ***Note:*** *If proposing a course that does not fall within a single General Education content area (as part of your institution's flexible nine), including interdisciplinary courses, select any three of the five essential skills from the table above for association with course learning outcomes.*

C. Learning Outcomes

List all shared learning outcomes for the course. Shared learning outcomes are those that are common to all sections offered at the institution regardless of instructor and may include outcomes that are not related to essential skills. In Section D, you will be asked to demonstrate how learning outcomes from the shared outcomes list address the essential skills associated with the selected content area.

> ***Note:*** *Shared learning outcomes should be provided to all course instructors for inclusion in their course syllabi.*

D. Narrative

In the boxes provided, write a short (less than 500 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Please refer to the general education essential skills rubric on the New Mexico Higher Education Department Website when completing the narrative portion of the form.

E. Supporting Documents

Attach a sample assessment. The assessment should illustrate how the essential skills are assessed within the context of the content area.

F & G. Assessment Narrative

Provide a link to a description of your institutional plan for assessment of general education learning outcomes. Describe the relationship between this course and your institution's general education assessment plan.

> ***Note:*** *A copy of your institution's general education assessment plan and how this course fits into that plan should be provided to all instructors for the course.*

Physics 1320; Calculus Physics 2

Sample Assessment

Computation problems for Canned Heat: Cooling Down are copied below. These problems link to Essential Skill: Quantitative Reasoning as students will collect data for temperature at one minute intervals and calculate the temperature changes.

Canned Heat: Cooling Down Lab

Today we'll compare the ability to different surfaces to radiate thermal energy. In this experiment you will compare the thermal radiation ability of two surfaces: silver and black. You'll do this by filling two cans with these surfaces with hot water, then allowing them to cool down. You will measure the temperature of the water in both cans while they are cooling and see if there is a difference in the rate at which the temperature decrease.

First we will do a discussion. Does the color of a surface make a difference in how well it radiates thermal energy? If so, how? The answer to these questions could help you decide what color coffeepot will best keep its heat and what color might be used to radiate hear away from a computer chip.

Pre-lab questions

1. In which of the two cans do you think the water will cool down at the faster rate?

2. In which of the two cans do you think the water will cool down at the slower rate?

Procedure

Step 1

Carefully fill the cans with hot water and wipe up any spills. Quickly measure the initial temperature of the water in each of the cans and record it in the date table. Place the thermometer in the silver can.

Step 2

At the 1-minute mark, read the temperature of the water in the silver can and record it in the data table. Quickly move the thermometer to the black can. Gently swirl the water in the can with the thermometer.

Step 3

At the 2-minute mark, read the temperature of the water in the black can and record it in the data table. Quickly move the thermometer to the silver can. Gently swirl the water in the can with the thermometer.

Step 4

Repeat Steps 2-3 until the 20-minute mark temperature reading is made

Record all measurements in table provided below.

Data Table

Silver Can Temperatures (°C)	Black Can Temperatures (°C)
Initial	Initial
T at 1:00	T at 2:00
T at 3:00	T at 4:00
T at 5:00	T at 6:00
T at 7:00	T at 8:00
T at 9:00	T at 10:00
T at 11:00	T at 12:00
T at 13:00	T at 14:00
T at 15:00	T at 16:00
T at 17:00	T at 18:00
T at 19:00	T at 20:00

Step 5

Plot your data for both cans on a single temperature vs. time graph

Step 6

Determine the change in the temperature for the water in each can while it was allowed to cool.

a. Determine the temperature change in the silver can. Subtract the 1-minute temperature reading from the 19-minute mark temperature reading. T_{fs} is the 19-minute mark temperature reading for the silver can and T_{is} is the 1-minute temperature reading for the silver can. Use the following formula to calculate the change in temperature.

$$\Delta Ts = T_{fs} - T_{is}$$

b. Determine the temperature change in the black can. Subtract the 1-minute temperature reading from the 19-minute mark temperature reading. T_{fs} is the 19-minute mark temperature reading for the black can and T_{is} is the 1-minute temperature reading for the black can. Use the following formula to calculate the change in temperature.

$$\Delta Tb = T_{fs} - T_{is}$$

Summing Up

1. In which can did the water cool down at the faster rate? In which can did the water cool down at the slower rate? Did your observations match your predictions?

2. What color should the surface of a coffeepot be in order to keep the hot water inside it hot for the longest time?

3. The central processing units (CPU's) in personal computers sometimes get very hot. To prevent damage and improve processing speed, they need to be kept cool. Often, a piece of metal is placed in contact with the CPU to draw some heat away. The metal then radiates its heat to the surroundings. To best remove from the CPU, should the metal's surface be colored black or left silvery?

Conclusion: Write an explanation of the findings you discovered during this experiment.

ENG 104 Week 2

Using Patterned Questions to develop a topic

Assignment:

ASSIGNMENT: Using sets of questions to explore different facets of a topic.

Chose 3 different possible research essay topics, and pair each one with one of the four sets of questions described below:

the 'Reporter's Questions' (Who, What, Why, Where, When, and How)

Academic Disciplines Questions (choose several academic subjects and try to ask a question from the perspective of each, such as “What are the sociological aspects of this issue?”),

'Rhetorical Set' Questions (formulate a question for each of the rhetorical patterns- Comparison/Contrast, Classification, Definition, Cause & Effect, Process)

Or the 'Pentad' Questions which address five aspects of a topic as a unique event:

The ACT/ACTION (What happened?), The AGENT (Who did it?), SCENE (Where and When?), AGENCY (How did it occur?), PURPOSE (What is a possible motive for this event?)

HINT: Different sets of questions work better for some topics than others; for, example, the Pentad is good for analyzing stories or historical events – but not so useful for examining a chemistry experiment.

Here is an example of what one set of questions, using the 'Academic Disciplines' set, might look like:

***Sample Topic**: Bioremediation*

Economics: What are some of the economic issues and challenges of bioremediation? How accurate are cost/benefit projections for a new industry such as bioremediation?

History: How has the history of mineral extraction in the West created a need for bioremediation? How long should such projects be monitored before being approved for wider application? What historical data is available for bioremediation projects?

Sociology/Political Science: What are the political implications of supporting bioremediation? Are there political winners and losers in using this technology? Are there any polling data about how people feel about it?

Science: What is the science behind it? How many different pollutants can be addressed this way? Is it possible to develop new cleaning organisms for new problems? Can multiple processes take place at once?

Philosophy/Ethics: Bioremediation raises biological, environmental and bio-ethics questions: how would members of other science disciplines regard it?

Communication/Media: What does the public know about bioremediation? What does it need to know? How might we study public opinion/reactions to this technology? How is this issue being discussed or marketed now? How should it be discussed or marketed?

For the assignment, you will generate three different sets of questions; one set for each of 3 different topics you might be interested in writing about.

Remember, for this assignment, you are only asking questions -not necessarily answering them.

Instead, you are actually working to define the limits of your own knowledge and identifying possible areas for future research.

NOTE: You do not have to use any of these topics or questions for your next writing project – but you can if you want to.

General Education Course NMHED Recertification Form

This form has been designed to guide you through the recertification process for the UNM General Education course in question. Please fill out your contact information below, and then review the information about the course provided to us by the New Mexico Department of Higher Education *(*NMHED*). After this, you will be instructed to fill out three separate narratives concerning the course and its relevance to NMHED's area and skills associated with the course.*

UNM Course Information

Prefix	**PHIL**
Number	**2210**
Name	**Early Modern Philosophy**

Contact Information

Name	Mary Domski
Title	Professor of Philosophy
Phone	505.277.2405
Email	mdomski@unm.edu

NMHED's Description and Outcomes for the Common Course

The description and student learning outcomes below come from NMHED's Common Course Catalog, *which can be found here, and is meant to designate standard descriptions and outcomes of courses registered as a NMHED* Common Course.

PHIL 2210: Early Modern Philosophy

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.

Institution-specific Student Learning Outcomes

Please add additional SLOs of the general education course to the ones provided by NMHED, or if no SLOs are provided by NMHED, input the SLOs used in assessment for the course.

Not applicable

Area and Essential Skills

Below gives information concerning the area and associated skills of the course to be re-certified. The area here matches the General Education Area of UNM; the "Essential Skills" and their respective Component Skills are characterizations of the area determined by NMHED. You will use this information to fill out the narratives below.

Area in which *PHIL 2210* resides: Humanities

Essential Skills in the Area:

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.

Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.

Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.

Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well-reasoned evaluation.

Information and Digital Literacy

Authority and Value of Information: Recognize the interdependent nature of the authority and value of information and use this knowledge ethically when selecting, using, and creating information.

Digital Literacy: Understand, communicate, compute, create, and design in digital environments.

Information Structures: Select, use, produce, organize, and share information employing appropriate information formats, collections, systems, and applications.

Research as Inquiry: Engage in an iterative process of inquiry that defines a problem or poses a question and through research generates a reasonable solution or answer.

Personal and Social Responsibility

Intercultural reasoning and intercultural competence

Sustainability and the natural and human worlds

Ethical Reasoning

Collaboration skills, teamwork and value systems

Civic discourse, civic knowledge and engagement -- local and global

Narrative Input

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Explain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking: *Problem Setting; Evidence Acquisition; Evidence Evaluation; Reasoning/Conclusion.*

In this box, provide a narrative that explains how the proposed course addresses the outcomes of the first essential skill. 250-500 words.

The assigned readings for PHIL 2210 are selections from philosophical texts that were written during the 17th and 18th centuries, and each selected reading addresses a specific philosophical problem or set of philosophical problems. For instance, a standard reading for all sections of PHIL 2210 is Rene Descartes's *Meditations of First Philosophy* (1641). In different sections of this text, Descartes explicitly engages problems such as the possibility of attaining knowledge, the nature and existence of the self, and the criteria for distinguishing good from evil. Such problems are treated by other authors who are commonly included in the PHIL 2210 curriculum, such as John Locke, David Hume, and Immanuel Kant. Consequently, to successfully complete any of the assigned readings for PHIL 2210 students must first identify the specific problem that is examined critically by the author (**Problem Setting**), and then identify the author's solution to this problem as well as the supporting reasons that the author provides to defend his/her solution (**Evidence Acquisition**). The students' effectiveness in developing these two essential skills is typically evaluated during in-class discussion and activities and through in-class assessments (such as quizzes and exams) that require students to communicate the argument(s) an author deploys to defend his/her position. See for instance the questions included in Sections II and III of the representative final exam that is attached. In every section of PHIL 2210, students are also required both to evaluate the credibility and general strength of the arguments presented by authors (**Evidence Evaluation**) and to communicate their evaluations of the arguments treated in the readings and discussed in class (**Reasoning/Conclusion**). The students' effectiveness in developing these two essential skills is typically evaluated based on their written responses to short-answer or essay questions on in-class assessments (such as quizzes and exams), or based on their composition of longer take-home writing assignments. See for instance question (d) of the essay prompt (Section IV) in the representative final exam that is attached. (324 words)

Information and Digital Literacy: *Authority and Value of Information; Digital Literacy; Information Structures; Research as Inquiry.*

In this box, provide a narrative that explains how the proposed course addresses the outcomes of the second essential skill. 250-500 words.

Students in PHIL 2210 are required to engage with philosophical texts from the 17th and 18th centuries readings, and during the course of the semester, they are required to compare the reliability and credibility of arguments from different early modern authorities in Philosophy. For instance, students might be asked to compare the account of knowledge that Descartes provides in the 17th century text *Meditations on First Philosophy* (1641) with the account offered by David Hume in the 18th century text *Enquiry Concerning Human Understanding* (1748). Effectively comparing these sorts of arguments requires a recognition of the contrasting points of view of the authors and sensitivity to the specific sort of authority that the authors represent (**Authority and Value of Information**). In the case of comparing Descartes's and Hume's analyses of knowledge, for instance, a student must be sympathetic to Descartes's rational attempt to respond to skeptical attacks on knowledge and also to Hume's attempt to use the limits and tendencies of human nature to evaluate the extent of human knowledge. Students must also be able to decipher from the texts the specific information that the authors use to support their arguments, and use this information both to evaluate the author's argument and to evaluate its strength when compared with the argument presented by other authors (**Information Structures**). The students' effectiveness in developing these essential skills is typically evaluated either through in-class assessments (such as quizzes and exams) or through longer take-home writing assignments that require students to provide a comparative evaluation of the argument(s) presented by two or more authors. See for instance the short-answer questions included in Section III of the representative final exam that is attached. When completing writing assignments, students in PHIL 2210 are required to gather ideas from multiple sources and then analyze, evaluate, and synthesize these ideas to draw reasonable conclusions (**Research as Inquiry**). Specifically, students in PHIL 2210 learn to defend and explain what they find to be the most effective argument or argument strategy for addressing a clearly stated philosophical problem. For instance, they may be asked to address whether Descartes or Hume has the most convincing account of human knowledge, and to present reasons for their stated position. The students' effectiveness in developing this essential skill is typically evaluated through essay questions that are included on in-class assessments (such as quizzes and exams) or through longer take-home writing assignments. See for instance question (d) of the essay prompt (Section IV) in the representative final exam that is attached.(416 words)

Personal and Social Responsibility: *Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical Reasoning; Collaboration skills, teamwork and value systems; Civic discourse, civic knowledge and engagement -- local and global.*

In this box, provide a narrative that explains how the proposed course addresses the outcomes of the third essential skill. 250-500 words.

As noted in the Student Learning Outcomes above, students who complete PHIL 2210 learn to identify and critically engage with questions of metaphysics, epistemology, and ethics through their study of primary texts from early modern Western Philosophy. They also learn to summarize and compare various responses to these fundamental questions, and to assess how these responses changed during the early modern period. Learning these skills, and learning specifically how to become skillful readers of early modern texts, requires that students develop a sensitivity to cultural and social shifts that characterize the 17th and 18th centuries. It is essential, for instance, that they are aware of how the scientific developments of the 17th Century -- including the move from an earth-centered to a sun-centered model of the universe, and the growing popularity of explaining natural objects in terms of matter and motion -- informed and shaped the philosophical landscape of the early modern period (**Sustainability and the Natural and Human Worlds**). To this end, students are taught about the work of scientific revolutionaries such Galieo, Bacon, and Newton, and oftentimes, they are asked to read selections from their scientific texts. Students also learn about the history of early modern religion and early modern politics so they can properly situate the texts they are reading and properly evaluate them in relation to current trends in scientific, religious, and ethical thinking (**Intercultural Reasoning and Intercultural Competence**). The students' effectiveness in developing this historical awareness and the above essential skills are typically evaluated through in-class assessments (such as quizzes and exams) or through longer take-home writing assignments. See for instance Section I (especially questions #3-7) and also Section IV of the representative final exam that is attached. During their study of early modern texts and early modern history, students are asked to reflect on how and to what extent the changing cultural, scientific, and social landscape changed the way that early modern philosophers portrayed our human place in nature. As a consequence, students learn to appreciate the distinctive character of early modern ethics. Namely, they learn to appreciate that while the ethical theories of John Locke and Immanual Kant have been foundational to our contemporary ethical theories, those theories were developed in a scientific, religious, and political landscape very different from our own and thus, developed to address very specific early modern questions about our human obligations and human rights (**Ethical Reasoning**; **Civic Discourse, Civic Knowledge and Engagement**). The students' effectiveness in developing all of the above essential skills are typically evaluated during in-class discussion and activities, through essay questions that are included on in-class assessments (such as quizzes and exams), or through longer take-home writing assignments. See for instance Section I (especially questions #1,2, and 17-20) and also Section III (especially questions #1 and 2) of the representative final exam that is attached. (470 words)

Additional Information

Course Materials

NMHED requires that both a syllabus and a sample course assignment (project, paper, exam,etc.) from the course in question to be attached to the recertification form. Be sure and pick an assignment that correlates with the descriptions provided in the narratives above.

Assessment Plan

When it is submitted to NMHED, each general education course will also have attached the assessment plan that is used for General Education Assessment at UNM. For more information on this process, please visit this page from UNM's Office of Assessment.

Phil 2210.001: Early Modern Philosophy (CRN: TBA)

Spring 2020, TR 8-9:15am, Location: TBA

Instructor: Prof. Mary Domski
Email: mdomski@unm.edu; Office: 531 Humanities Building

Office Hours: Tuesdays and Thursdays 9:30am-10:30am and by appointment

** Understanding this Syllabus **

As a member of this class, it is your responsibility to become familiar with all the information presented below. I will assume that any student who is enrolled in the class at the start of Week 2 of the semester has read and understood all of the policies included on the syllabus. If there are any changes to the policies or reading schedule described below, I will notify you well in advance by making announcements in class and on UNM Learn.

Course Description

The philosophies that emerged during the early modern period can be seen as a response to a two-fold challenge: 1) the skeptical challenge to human knowledge and 2) the challenge to find a scientific method appropriate for study of the natural world. We'll begin the course by considering the growing popularity of skepticism in the wake of the Protestant Reformation and focus in particular on the skeptical arguments forwarded in Montaigne's *Apology for Raymond Sebond*. This background will set the stage for our examination of the anti-skeptical arguments of 'rationalists' such as Descartes and Leibniz.

The second half of the course will be dedicated to the 'empiricists', primarily, Locke and Hume. Their philosophies will be placed in the scientific context of the seventeenth century, and we'll examine how the 'empiricists' attempted to integrate the empirical method of science into their respective approaches to knowledge and nature. At the end of the semester, we'll take a brief look at Kant's blending of 'rationalism' and 'empiricism', or what he terms his 'transcendental' treatment of the possibility of knowledge.

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.

Course Requirements and Policies

1) Email and Internet Access

Class announcements, course materials, and grades will be posted on UNM Learn (https://learn.unm.edu/). Therefore, you must have reliable and regular access to the internet, and you must have a UNM username and password. If you do not already have a Net ID, you can obtain one by visiting the CIRT account creation page: http://netid.unm.edu.

2) Required Texts (NB: You are expected to bring the appropriate text to class.)

- Roger Ariew and Eric Watkins (eds.), *Modern Philosophy: An Anthology of Primary Sources* (Hackett Publishing; First (1998) edition, ISBN 978-0-87220-440-9; Second (2009) edition, ISBN 978-0-87220-978-7)
- Supplementary materials: These materials will be distributed in class and/or posted in UNM Learn.

NOTE: If you have never written a philosophy paper, or if you don't have a strong background in writing in general, I highly recommend that you purchase Lewis Vaughn's *Writing Philosophy: A Student's Guide to Writing Philosophy Essays* (Oxford University Press; Second (2018) edition ISBN 9780190853013). It has been ordered by the UNM Bookstore as an optional text for this course, and it's an excellent resource.

3) UNM's Withdrawal Policy for semester-long courses, Spring 2020

- Friday 6 February is the last day to withdraw without a grade. This is also the last day to drop any 16-week course and receive a 100% refund or credit to your account.
- If you withdraw from the course between Saturday 7 February and Friday 17 April, you will be assigned a W (withdrawal) as your semester grade and will **not** need approval from the Dean.
- If you withdraw from the course between Saturday 18 April and Friday 8 May, you **will** need approval from the Dean. If the withdrawal is approved, you will be assigned a W (withdrawal) as your semester grade.

4) Instructor Withdrawal Policy

I will enforce the following instructor withdrawal policy for this course:

- If, by 9:15am on Thursday 20 February, a student has not turned in the Short Essay Assignment and also has not taken Exam #1, he/she will be dropped from the course. A W (withdrawal) will be assigned as the student's grade at the end of the semester.
- If, by 8am on Friday 24 April, a student has not submitted his/her Essay and also did not take Exam #2, he/she will be dropped from the course. A W (withdrawal) will be assigned as the student's grade at the end of the semester.

5) Appropriate Classroom Behavior

Cheating or disruptive behavior of any form will be dealt with very seriously. Penalties for cheating and plagiarism range from a 0 or F on a particular assignment, to an F for the course, to dismissal from the university. UNM's Policy on Academic Dishonesty is included below:

"Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course. Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records."
(URL = https://pathfinder.unm.edu/campus-policies/academic-dishonesty.html)

Please be aware of the following rules of behavior for this class:

- **Cell phones must be turned off during class. In other words, phone calls and text-messaging will NOT be tolerated. If you use your phone during class, you will be asked to leave.**
- You may use a laptop during class to take notes. However, if using your laptop becomes disruptive to those seated around you (because, for instance, you are playing a game or surfing the web), then you will be asked to put your computer away.
- Please be respectful of your classmates. Among other things, this means that if you are arriving late to class, you should enter the room quietly to prevent disruptions.

6) Other Key Policies

[a] Accessibility Services (Mesa Vista Hall 2021, 277-3506) provides academic support to students who have disabilities. If you think you need alternative accessible formats for undertaking and completing coursework, you should contact this service right away to assure your needs are met in a timely manner. If you need local assistance in contacting Accessibility Services, see the Bachelor and Graduate Programs office.

[b] In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see pg 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html

7) Grading Policy

- ***Short Writing Assignment*** **[1 WA; 10% of your grade]**

To help you acclimate yourself to the sort of writing that is expected in a Philosophy course, you will be assigned a short writing assignment early in the semester. The guidelines for this assignment will be distributed no later than Thursday 30 January, and you will be required to turn in a hard copy of your assignment at the beginning of class (8am) on **Thursday 6 February**. Emailed assignments will not be accepted unless you are turning it in late. If you turn in your assignment after the deadline, you will be penalized 5 points per day late. Also, I will not accept the assignment after 8am on Saturday 8 February.

- ***Essay*** **[1 essay; 25% of your grade]**

You will be assigned one essay (approximately 5-6 double-spaced pages in length). For this essay, you will be offered a choice of 2 topics on which you can write. More details on the expectations for this assignment will be given later in the semester. You are required to turn in a hard copy of your essay at the beginning of class (8am) on **Thursday 23 April**. Emailed papers will not be accepted unless you are turning the paper in late. If you turn in your paper after the deadline, you will be penalized 5 points per day late. Also, I will not accept any essays after 8am on Saturday 25 April.

- ***In-Class Exams*** **[2 exams; 40% of your grade (20% each)]**

There will be two in-class exams administered during the semester, one on **Thursday 20 February** and another on **Thursday 9 April**. In both cases, you will be given the entire class period to complete the exam. The exams are meant to test how well you've processed what we've covered in class, and thus, questions will address material from previous lectures and previously assigned readings. The types of questions on the exams might include: multiple choice, true/false, fill-in-the-blank, matching quote to author, and short-answer questions. To help you prepare for these assessments, I will periodically (roughly every two weeks) distribute questions that will look similar to what you might expect on an upcoming exam. Also, during class on Tuesday 18 February and Tuesday 7 April, we'll spend at least a half hour reviewing material that might be addressed on the forthcoming exam.

- ***Final Exam*** **[1 exam; 25% of your grade]**

A final exam will be administered during Final Exam Week on **Thursday 14 May from 7:30 to 9:30am**. The format of the exam will be discussed during the later stages of the semester and there will be an in-class review for the final exam on 5 and 7 May.

GRADING SCALE

When calculating your final grade, I will use the standard grading scale below. I reserve the right to change this scale later in the semester if I see fit. Any changes will only be made to help the class!

A = 92.5 or above	B- = 79.5 – 82.4	D+ = 66.5 – 69.4
A- = 89.5 – 92.4	C+ = 76.5 – 79.4	D = 62.5 – 66.4
B+ = 86.5 – 89.4	C = 72.5 – 76.4	D- = 59.5 – 62.4
B = 82.5 – 86.4	C- = 69.5 – 72.4	F = 59.4 and below

NB: In order for this class to count towards the Humanities Distribution of the Core Curriculum and/or the degree requirements for the Philosophy major or minor, you must earn a final grade of C or higher.

Phil 2210.001: Tentative Schedule

The schedule of topics we'll cover may vary; however, the dates for exams and the deadlines for writing assignments essays will **not** change unless absolutely necessary. Please be sure to note the dates for these assessments on your calendar.

The numbers in brackets refer to the page numbers of the Ariew and Watkins anthology. The numbers marked by 'A' refer to the pagination of the first (1998) edition of the anthology; the numbers marked by 'B' refer to the pagination of the second (2009) edition.

	TOPIC	READINGS
WEEK 1 21 January	Intro to the Course: The Skeptical and Scientific Background to the Modern Period	Syllabus
22 January	The Protestant Reformation and the Erasmus-Luther Debates	Erasmus-Luther Handout (on UNM Learn)
WEEK 2 28 January	Montaigne's Skeptical Challenge to Rational Knowledge	*Apology for Raymond Sebond* (On UNM Learn); Read pp. 1-17
30 January		*Apology for Raymond Sebond* (On UNM Learn); Read pp. 17-22 and pp. 32-36
WEEK 3 4 February	Descartes's Method of Doubt	*Meditations* I-II [A22-34; B35-47]
6 February	**SHORT WRITING ASSIGNMENT DUE**	*Meditations* III-IV [A34-44; B47-58]
WEEK 4 11 February		*Meditations* V-VI [A44-55; B58-68]
13 February	Challenges to Descartes	Princess Elisabeth's 1643 letters to Descartes (on UNM Learn)
WEEK 5 18 February		More from Princess Elisabeth (on UNM Learn) and Review for Exam #1
20 February	**EXAM #1**	**You will have the full class period to take the exam.**
WEEK 6 25 February		Hobbes's Objections & Replies to the *Meditations* [A63-70; B76-82] Leibniz's "Discourse on Metaphysics," Sections 1-16 [A184-193; B224-233]
27 February	Leibniz's Rationalist World	"Discourse on Metaphysics," Sections 17-37 [A193-207; B233-247]
WEEK 7 3 March		*The Principles of Philosophy, or, The Monadology* [A235-243; B275-283]
5 March	Anne Conway's Incorporeal Substance	*The Principles of the Most Ancient and Modern Philosophy*, Chapters 7 to 8 (on UNM Learn)
WEEK 8 10 March		*The Principles of the Most Ancient and Modern Philosophy*, Chapter 9 (on UNM Learn)
12 March	A Recap of Rationalism	
Spring Break Week 17 & 19 March	**NO CLASS: Spring Break**	

WEEK 9 24 March	The Method of Modern Science: Bacon and Galileo	Bacon's *Novum Organon*, Part I, 1-3, 11-31, 36-46 [A4-7; B16-20]
26 March		Galileo's *The Assayer* [A4-11; B16-24]
WEEK 10 31 March	Locke's Theory of Ideas	*Essay*, On Ideas [A270-295; B316-342]
2 April		*Essay*, On the idea of Substance [A312-320; B359-367], On the extent of Knowledge [A345-363; B399-411]
WEEK 11 7 April		On Power and Freedom [A301-310; B348-357] and Review for Exam #2
9 April	**EXAM #2**	**You will have the full class period to take the exam.**
WEEK 12 14 April	Berkeley's Idealist Challenge to Locke	*Three Dialogues between Hylas and Philonous:* The First Dialogue [A413-433; B454-474]
16 April	Hume's Skeptical Empiricism	*Inquiry Concerning Human Knowledge:* Sec 1-4 (ideas, association of ideas, and skeptical doubts) [A491-506; B533-548]
WEEK 13 21 April		Sec. 5-7 (skeptical solution, probability, necessary connection) [A506-522; B548-564]
23 April	**ESSAY DUE**	Sec. 10 (miracles) [A512-522; B B577-586]
WEEK 14 28 April	Kant's Transcendental Turn	*Prolegomena,* Preface [A579-583; B661-665]
30 April		*Critique of Pure Reason:* A & B Preface [A634-641; B717-724]
WEEK 15 5 May	A Final Overview of the Early Modern Period & Review for the Final Exam	*Review Sheet*
7 May	Review for the Final Exam	*Review Sheet*
FINALS WEEK 11-15 May	**Final Exam: Thursday 14 May, 7:30-9:30am in our normal classroom**	

PHIL 2210: EARLY MODERN PHILOSOPHY
REPRESENTATIVE FINAL EXAM
PROFESSOR MARY DOMSKI, UNIVERSITY OF NEW MEXICO

**** READ THIS SECTION BEFORE YOU BEGIN ****

This is a closed-book, closed-notebook exam. You have two hours to complete the exam. Be sure to read the instructions for each section carefully. If you have a question or need extra paper, please raise your hand and I will address your concern as best I can. Also, please:

*** Make sure your cell phone is OFF and put away;**
*** Do not talk to anyone while you are taking the exam;**
*** Do not look at anyone's exam except your own; and**
*** Take a deep breath, and do the best you can. Good luck!**

I. True/False, Matching, Multiple Choice, Fill-in-the Blank Questions (40 points; 20 questions worth 2 points each) Please be direct and concise in your answers. In many cases, one term or phrase will suffice.

1. True or False: According to Leibniz, because God determined the actions of all human beings when He created the world, humans are not liable to any moral evaluation.

TRUE FALSE

2. True of False: According to Leibniz's account in his *Discourse on Metaphysics*, God chose to create this world, because his principal aim was to create a world that was intelligible to human minds.

TRUE FALSE

3. Fill in the Blank: In the Aristotelian model of the universe, there are two distinct regions: the super-lunary (or celestial) region and the sub-lunary (or terrestrial) region. What serves as the boundary between the two regions?

_____

4-5. For the following two questions, circle the region to which each statement applies.

a. This region is characterized by perfection.

SUB-LUNARY SUPER-LUNARY

b. This region is characterized by change, and change is the result of the interaction between the four elements (earth, air, fire, and water).

SUB-LUNARY SUPER-LUNARY

6. Fill in the Blank: In the *New Organon*, Bacon claims that a major problem with Aristotelian science is that it takes its starting point from philosophical principles. In contrast, what does Bacon believe we should use as the foundation of our scientific inquiry? (One term will suffice.)

_____

7. Circle your answer: According the primary-secondary distinction forwarded by Galileo, does heat count as a primary or secondary quality?

HEAT IS A PRIMARY QUALITY HEAT IS A SECONDARY QUALITY

For #8-11, match each of the following claims to Locke, Berkeley, or both of them using the following key:

LO = Locke BE = Berkeley BO = both

8. The ideas of primary qualities that we perceive resemble the primary qualities that belong to material bodies. _____

9. If secondary qualities do not resemble the qualities of material bodies, then neither do primary qualities. _____

10. Sensible things are perceived immediately and cannot exist otherwise than in a mind. _____

11. The ideas we have before the mind are a result of material bodies interacting with our sensory organs. _____

12. Fill in the Blank: Hume claims that our ideas (or thoughts) are copies of an original sensory experience. What term does he use to describe these original experiences? In other words, our ideas are copies of _____ .

13. Circle True or False: Hume's general maxim is that all our ideas derive from the original experiences you cited in #11.

TRUE FALSE

14. Circle your answer: Hume makes a distinction between our knowledge of matters of facts and our knowledge of relations of ideas. In which area of inquiry are propositions true because their opposite would imply a contradiction?

MATTERS OF FACT RELATIONS OF IDEAS

15. Circle your answer: According to Hume, we apply the relation of cause and effect in order to gain knowledge of

MATTERS OF FACT RELATIONS OF IDEAS

16. Fill in the Blank: According to Hume, in order to apply the relation of cause and effect to events in the natural world, we must make an assumption about the course of nature. What is it that we must we assume about the natural order to apply the relation of cause and effect?

_____

17. Circle your answer: Though Kant thinks that Hume's treatment of human knowledge is ultimately wrong, Kant does accept some claims that Hume forwards. Which of the following does Kant share with Hume?

A. Mathematics is an empirical science.
B. Physics can explain human freedom.
C. We require faith to accept the existence of God.
D. All of the above

18. Fill in the Blank: In proposing his model of human knowledge, Kant accepts the skeptical claim that we should not make a dogmatic leap over the "veil of perception" and make knowledge-claims about mind-independent objects. What then are the proper objects of knowledge for Kant?

_____

19. Fill in the Blank: According to Kant, God, soul, and freedom stand outside the domain of human knowledge. Why then do we act as if these "transcendental ideas" actually exist? In other words, what function do they play for us?

_____

20. Fill in the Blank: Kant's goal was to offer a critique of pure reason so that we could know the limits of human knowledge. According to Kant, what would the most significant outcome of this project be?

_____

II. Matching Quote to Author (15 points; 5 passages worth 3 points each)

Match each of the following passages to its author. Be mindful that the passages communicate an idea that is central to the philosophy of one of the philosophers listed below. You will not use any philosopher more than once.

A. Montaigne	**E. Locke**
B. Descartes	**F. Berkeley**
C. Spinoza	**G. Hume**
D. Leibniz	**H. Kant**

1. _____ Let us then suppose the mind to be, as we say, white paper, void of all characters, without any *ideas*. How does it come to be furnished? From where does it come by that vast store which the busy and boundless fancy of man has painted on it with an almost endless variety? From where does it have all the materials of reason and knowledge? To this I answer, in one word, from *experience*…

2. _____ I openly confess that remembering David Hume was the very thing that first interrupted my dogmatic slumber many years ago, and gave my investigations in the field of speculative philosophy a completely different direction….I tried to determine [the number of metaphysical concepts] and when I had attained adequate success in this by starting from a single principle, I proceeded to the deduction of these concepts that I was now certain one could not deduce from experience, as Hume had done, but arose from the pure understanding.

3. _____ Custom, then, is the great guide of human life. It is that principle alone which renders our experience useful to us and makes us expect, for the future, a similar train of events with those which have appeared in the past. Without the influence of custom we should be entirely ignorant of every matter of fact beyond what is immediately present to the memory and senses.

4. _____ …in general, one must say that, since God found it good that [Judas] should exist, despite the sin that God foresaw, it must be that this sin is paid back with interest in the universe, that God will derive a greater good from it, and that it will be found that, in sum, the sequence of things in which the existence of that sinner is included is the most perfect among all possible sequences. But we cannot always explain the admirable economy of this choice while we are travelers in this world; it is enough to know it without understanding it.

5. _____ *…there is a mind which affects me every moment with all the sensible impressions I perceive*. And from the variety, order, and manner of these, I conclude the author of them to be *wise, powerful, and good beyond comprehension*. Mark it well: I do not say I see things by perceiving that which represents them in the intelligible substance of God. This I do not understand; but I say the things perceived by me are known by the understanding and produced by the will of an infinite spirit.

III. Short-Answer Questions (15 points; 3 questions worth 5 points each)

Choose three (3) of the following five (5) questions to answer, and answer these questions in complete sentences. (Your answers should be roughly 4 to 5 sentences in length, and you must address all the parts of a question to get full credit.) If you answer more than three questions, I will only grade the first three that you've answered.

1. Leibniz claims that all human actions are determined but they are not necessary. **First** explain Leibniz's distinction between determined and necessary actions. **Then** explain the sense in which, for Leibniz, humans are responsible for the moral value of their actions, even though these actions are determined.

2. First explain Hume's distinction between **belief** and **faith**. Then explain why Hume claims that it takes a **miracle to accept that miracles have occurred**.

3. According to Hume, we *cannot* prove that two events are **causally connected** by means of an a priori proof or by direct appeal to experience. Where then do we get our idea of causality from? **First** explain Hume's answer to the previous question: according to Hume, what is the origin of our idea of causality, and specifically, the notion that two events are necessarily connected? **Next** offer an example that illustrates how we come to have the idea of a necessary connection that holds between a cause and its effect. (You must address both parts of the question to earn full credit for your answer.)

4. Kant thinks that Hume has inadequately explained **the necessity of causal relationships**, and modifies the domain of human knowledge to account for this necessity. Give a brief account (in a sentence or two) of Kant's model for the domain of human knowledge, and briefly explain (in a sentence or two) how this new account is supposed to provide the necessity that Hume's model does not.

IV. Essay (1 essay; 30 points)

Write an essay approximately 4-6 paragraphs in length responding to the topic below. The score you earn for your essay will be based on:

- **The accuracy and clarity of your presentation (remember, you must address all parts of the question to get full credit) [15 points];**
- **How well you organize your paper (i.e., whether it is focused and logically proceeds from one idea to the next) [5 points]; and**
- **How well you defend your position when addressing the final part of the topic [10 points].**

NB: You are not required to write a general introductory paragraph, though you can if you'd like. If you need more paper, please raise your hand and I will supply you with some.

1. Galileo and Locke on Scientific Knowledge

Galileo and Locke agree that there is an important difference between the primary (or real) qualities of bodies and the secondary qualities of bodies, although they disagree on the details of this distinction.

a. First, set out the distinction between primary and secondary qualities as presented by Galileo in his *Assayer*. Be sure to clarify what differentiates one from the other and how Galileo justifies the distinction. Also, provide an example of each quality that makes the difference between primary and secondary qualities clear. (Your example can come from Galileo or be of your own invention.)

b. Next, set out Locke's distinction between primary and secondary qualities and explain how he justifies his distinction. Once you've summarized Locke's view, clearly contrast his account with Galileo's. What are the major differences between their accounts **and** between their modes of justifying their accounts?

c. Locke's account of primary and secondary qualities is tied to his skeptical attitude about having scientific knowledge of material bodies. Briefly explain why Locke believes we're *unable* to attain "demonstrative knowledge" of bodies in the external world. (It may be helpful to appeal to Locke's distinction between real and nominal essences in your answer.)

d. Locke was very much interested in accounting for the success of modern science. However, since he claims that we cannot know the "real constitution" of objects, he leaves us with the conclusion that the best science can offer us is a highly probable account of natural bodies. Do you think that his account is adequate? That is, do you think he is correct to characterize scientific knowledge as probable rather than demonstratively certain? Be sure to offer justification for your answer.

General Education Course NMHED Recertification Form

This form has been designed to guide you through the recertification process for the UNM General Education course in question. Please fill out your contact information below, and then review the information about the course provided to us by the New Mexico Department of Higher Education *(*NMHED*). After this, you will be instructed to fill out three separate narratives concerning the course and its relevance to NMHED's area and skills associated with the course.*

UNM Course Information

Prefix	**PHYS**
Number	**1320L**
Name	**Calculus-based Physics II Lab**

Contact Information

Name	
Title	
Phone	
Email	

NMHED's Description and Outcomes for the Common Course

The description and student learning outcomes below come from NMHED's Common Course Catalog, *which can be found here, and is meant to designate standard descriptions and outcomes of courses registered as a NMHED* Common Course.

PHYS 1320L: Calculus-based Physics II Lab

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.

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

Institution-specific Student Learning Outcomes

Please add additional SLOs of the general education course to the ones provided by NMHED, or if no SLOs are provided by NMHED, input the SLOs used in assessment for the course.

Area and Essential Skills

Below gives information concerning the area and associated skills of the course to be re-certified. The area here matches the General Education Area of UNM; the "Essential Skills" and their respective Component Skills are characterizations of the area determined by NMHED. You will use this information to fill out the narratives below.

Area in which *PHYS 1320L* resides: Science

Essential Skills in the Area:

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.

Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.

Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.

Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well-reasoned evaluation.

Personal and Social Responsibility

Intercultural reasoning and intercultural competence

Sustainability and the natural and human worlds

Ethical Reasoning

Collaboration skills, teamwork and value systems

Civic discourse, civic knowledge and engagement -- local and global

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.

Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.

Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

Narrative Input

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Explain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking: *Problem Setting; Evidence Acquisition; Evidence Evaluation; Reasoning/Conclusion.*

Personal and Social Responsibility: *Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical Reasoning; Collaboration skills, teamwork and value systems; Civic discourse, civic knowledge and engagement -- local and global.*

Quantitative Reasoning: *Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; Application of Quantitative Models.*

Additional Information

Course Materials

NMHED requires that both a syllabus and a sample course assignment (project, paper, exam,etc.) from the course in question to be attached to the recertification form. Be sure and pick an assignment that correlates with the descriptions provided in the narratives above.

Assessment Plan

When it is submitted to NMHED, each general education course will also have attached the assessment plan that is used for General Education Assessment at UNM. For more information on this process, please visit this page from UNM's Office of Assessment.

Physics 1320L Syllabus – Fall 2019

TA:
email:

Welcome to Physics 1320L! I am here to help you do your labs and learn some physics that may help you in your lecture and future courses. Always feel free to ask questions or make suggestions. Also, feel free to talk to the Lab Director in room RH 113, phone 277-2751.

Description

Physics 1320L is a companion course to Physics 1320 covering topics in thermodynamics, electricity and magnetism 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. Communication and teamwork are emphasized.
(Pre- or co-requisite: Physics 1320)

Objectives

This course serves to reinforce concepts presented in lecture, to give you experience working as a member of a team and to familiarize you with various experimental techniques.
Lab students will:

- Communicate and cooperate as a team to accomplish technical goals
- Read and interpret procedural instructions
- Gather and analyze data using electronic devices
- Observe electrical, magnetic and thermodynamic phenomena
- Relate observed phenomena to mathematical and physical models
- Use basic laboratory equipment (e.g., timer, balance, multimeter, galvanometer, etc.)

List of Experiments – schedule is posted http://regenerlab.unm.edu/

- Uncertainty in Measurement
- Pressure and Temperature
- Thermal Energy
- Motive Power of Fire
- Electric Force
- Electric Field
- Electric Potential
- Electric Deflection
- Introduction to Capacitors
- DC Circuits
- Magnetic Field
- Magnetic Force
- Magnetic Induction
- In the Footsteps of J. J. Thomson

Materials

Lab workbooks are available at the UNM Copy Center in Dane Smith Hall. Every student is required to purchase one before the second week of lab. No copies will be provided.

Students with Disabilities

Qualified students with disabilities needing appropriate academic adjustments should contact me as soon as possible to ensure your needs are met. Handouts are available in alternative accessible formats upon request.

Attendance

Lab attendance is mandatory. You are responsible to perform all experiments.

- **Tardiness**
  You are expected to arrive on time to lab. If you are late, you will still be required to do the entire lab but your grade may be diminished at my discretion.
- **Excused absences**
  - If you cannot make it to lab and know in advance, contact me and we will arrange a time for you to do the lab.
  - If something comes up unexpectedly (sudden illness, accident, family emergency, etc.) contact me as soon as possible. Unscheduled absences WITH A VAILD EXCUSE must be made up. Contact me to arrange a mutually convenient time.
  - Missed labs must be made up promptly. If you do not make up a missed lab within one week, your grade may be diminished at my discretion.
- **Unexcused absences**
  One unexcused absence will reduce your final grade by one letter grade. Two unexcused absences will cause you to fail the class.

Conduct:

UNM has strict guidelines for both student and TA conduct, which are outlined in the University catalogue. Both the students and the instructor are expected to adhere to these policies. In particular:

- **Please do not answer cell phones, texts, or tweets in the lab room!! If urgent,** Calls may be taken in the hallway so long as classes are not disturbed.
- **Drinks must be in a container with twist cap or other sealed top and kept on the floor or at the front of the room.** Food in the lab is not allowed without special permission from the instructor.

Grading

Each week, you will receive a grade with two components: one for attendance/participation, and one for the physics and other details in the lab report. Attendance and participation will count for 1/3 of your semester grade. Lab report grades and quizzes which may be given at announced times will count for 2/3 of your semester grade.

Attendance/Participation Guidelines

A	Active Participation	Example behaviors: helps with set up, participates in data taking, asks questions, participates in discussions, etc.
B	Passive Participation	Example behaviors: is tardy to lab, merely records data, does not help with set up, does not participate in discussions, copies partners, etc.
C	Poor Participation	Example behaviors: Reads newspaper, does homework, antagonizes lab partners, etc.
0	No Participation	Not present in your section. Attendance in another section not verified by TA.

Lab Report Guidelines

A	Standard	The report is everything I would expect. All entries are complete, all questions meaningfully answered, data record including graphs is clear and correct, all calculations and units are correct. The report is organized and legible.
A-	Good	Report has minor error(s).
B	Acceptable	Report is OK, but there are errors and/or missing entries.
C	Unacceptable	Report has significant errors, unanswered questions, missing data, etc.
0	No Report	No report is turned in. Authorship not verified by TA.

UNM Academic Dishonesty Policy:

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Title IX

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see pg 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). If you want to retain anonymity, instead report the incident to other units on campus, namely Student Health and Counseling (SHAC), Counseling and Resource Center (CARS), a licensed medical practitioner on campus, or off campus to the Rape Crisis Center of Central New Mexico, or a sexual assault nurse examiner. If you report the incident to the LoboRESPECT advocacy center, Women's Resource Center, or the LGBTQ Resource Center, you retain anonymity but an anonymous record is made for statistical purposes. See more information at https://policy.unm.edu/university-policies/2000/2740.html#_Toc414642678.

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.
Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.
Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.
Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well reasoned evaluation.

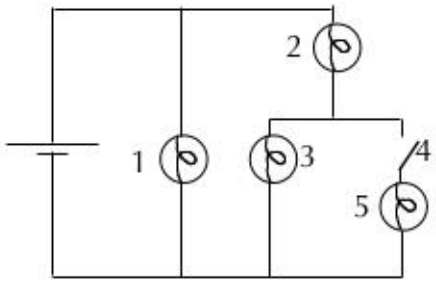
Sample Assessment Questions (These questions are all taken directly from the lab manual and could be used an embedded assessment on critical thinking. More traditional assessments such as the Conceptual Survey of Electricity and Magnetism could also be used here):

1. From the "Electric Potential" lab:

We have a large region of space that has a uniform electric field in the +x direction as indicated by the arrows in the diagram below. At the point (0,0) m, the electric field is 30 **î** N/C and the electric potential is 100 volts. Rank the electric potential from greatest to least at the following points within this region.
Please carefully explain your reasoning.
How sure were you of your ranking? (circle one)
Basically Guessed Sure Very Sure

2. From the "DC Circuits II" lab:

Predict what happens to the brightness of bulbs 1, 2, 3 and 5 when switch 4 is closed.



Personal and Social Responsibility - Address 2 of the 5 component skills

Intercultural reasoning and intercultural competence
Sustainability and the natural and human worlds
Ethical Reasoning
Collaboration skills, teamwork and value systems
Civic discourse, civic knowledge and engagement -- local and global

This activity from the "Magnetic Induction" lab and could be used to evaluate the Sustainability and the natural and human worlds component skill**.**

Generating Electricity

It seems fairly easy to cause current to flow in the coil. You have just demonstrated or seen several ways of doing this. A hand crank generator operates on the same basic principle you have been investigating. It is designed to optimize the interaction between magnet and coils and has gearing to increase the speed of the coil moving relative to the magnet.

1. Have each person in your lab team turn the crank of the generator a few times and note how much force is needed.

Question 20 It takes work to turn the hand crank generator. List what the work is accomplishing, or state why work is required to turn the crank.

2. Now connect the hand crank generator to the small light bulb in its holder.
a. Crank gently so that the light bulb does not "burn out."
b. Again have each person in your lab team crank it around a few times and note how much force is needed.

Question 21 Does it take work to drive the current in the light bulb? Describe your observation and explain.

The energy required to operate a 100W light bulb for one hour costs about a penny on your electric bill. This energy is easily calculated.
Energy = power x time = (100 W) x (3600 s) = 360,000 J

Question 22 Could you generate this much energy using your hand crank generator? How much mass would have to be lifted through a distance of 1 meter to generate this same energy?

I Googled "human power" and found this post on an alternative energy forum:
I keep looking but never seen anyone talk about how to convert the lifting and lowering of a weight into electricity. Maybe its too far out but humour me, If I move a weight of say 10lb over a vertical distance of 5 ft can we calculate the energy in watts. Do you have to go into newtons first? I will split the millions with you.lol! I thought about converting the force into rotary motion then into an alternator, not even sure if that is possible but thats why I thought I would write here. Those wave machines at the bottom

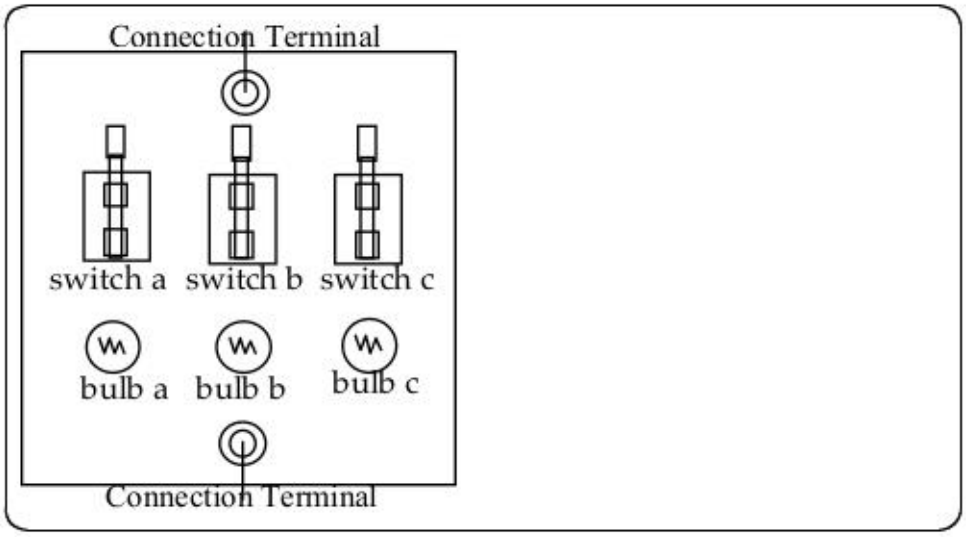
of the seabed are another possible design. You could move the magnet which is the weight, all ideas anyway- I hope its enough to get you thinking.
Question 23 The person who posted the note is suggesting an alternative way of generating electricity by converting “the lifting and lowering of a weight into electricity”. Based on your calculation in the previous question, what do you think of this idea? Is it practical or feasible? How would you respond the suggestion in the first paragraph? Write it out the way you would if you were responding to this post.

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.
Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.
Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

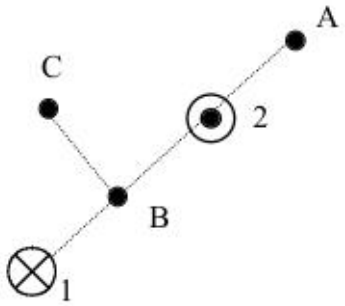
In Physics 1320L, there is a much wider variety in the type of graphical representations encountered by students. The “DC Circuit Basics” lab has the students perform the following activity.

Each light board used in this experiment has three bulbs and three switches. Compare your light board to the picture. Examine the back of the board to see the wiring. Then immediately to the right of the picture, sketch a circuit diagram using standard symbols. Draw circuit diagrams below assuming that one, two, and then three switches on the light board are closed. Label each resistor "R" to show that *we are assuming that each bulb has the same resistance R.*



Also encountered in Physics 1320L is the use of the “Right-Hand Rule” which is used in magnetism. This post-lab question from the “The magnetic Field” lab can be used to assess the students’ familiarity with the right-hand rule as well as the skill of vector addition.

Two long parallel wires carry a current of 3 A in opposite directions. Calculate the magnetic field for the points shown. Draw vectors (to scale) representing the two individual fields along with the net magnetic field. The wires are 2.0 cm apart. Point B is midway between them. Point A is 1.0 cm from wire 2. Point C is 1.0 cm from point B along a line perpendicular to BA.



ENGL 2310: Introduction to Creative Writing
Mr. Baker

Draft One: Creative Writing – Peer Review/Analysis

<u>Instructions:</u>

1. Read each student-written short story over the weekend & and prepare written notes (350 words or more) of constructive criticism addressing the creative text.

2. Pick one member of your peer-led group to read each story aloud and let the student-author listen to his/her own work without comment or interruption.

3. Discuss the story as it relates to:

<u>Narrative Structure/Plot:</u>

- Discuss whether the story follows classic narrative structure (exposition, rising action, climax, falling action, & denouement).
- Explain what the exposition reveals, how it functions in the story, and whether each expository element is either superfluous or essential.
- Identify the climax.
- Explain the source and nature of the conflict(s) for the protagonist.
- Is the conflict resolved in the denouement?

<u>Character/Narrative Perspective:</u>

- Who is the main character/protagonist?
- Who (or what force or entity) is the antagonist?
- Does the personhood (first-person, second-person, or third person) & narrative perspective (limited, objective, or omniscient) support or hinder the story?
- Does the main character feel dynamic?
- Are there any classic character archetypes in the story?
- Identify any flat characters or foils in the story.

<u>Setting:</u>

- Where and when does the story take place?
- What are the places in which the student author took the time to world-build?
- Did the era-markers, world-markers, or rules of the author's topography came about via glib exposition or as plot devices to push the action forward?

<u>Symbolism:</u>

- What are the motifs, symbolisms, and/or iconisms within the story?
- How do the symbolist elements function and what narrative purpose/s do they serve?
- What is the possible subtext of the story or elements of the story?

<u>Theme:</u>

- What is the *theme* of this story?
- What does the writer want us to feel?
- What does the writer want us to believe?
- How does the writer want us to act?
- Have we seen this theme or a similar theme in any of the other short stories we have read (by student writers or established authors)?

Evaluation:

Please offer each student writer in your group constructive feedback in both typed and verbal form. The typed feedback should be around 350 words. Please note the elements that worked to propel the story as well as those elements that did not.

Sample Assessment – An In-Class Examination

Test

Chapters 19 & 24

Name _____

SHOW ALL CALCULATIONS WHEN SOLVING A MATH PROBLEM FOR ANY CREDIT.

Use correct number of significant figures and units for your numeric answers.

1. (2 pts.) Beta particles are identical to

A) protons.

B) helium atoms.

C) hydrogen atoms.

D) helium nuclei.

E) electrons.

2. (3 pts.) List the number of protons, neutrons, and nucleons (protons + neutrons), in that order, for an isotope with the symbol: ^{137}Cs

A) 137, 55, 192

B) 55, 137, 192

C) 55, 82, 137

D) 82, 55, 137

E) 82, 137, 219

3. (3 pts.) What is the missing symbol in this plutonium fission reaction?

$$^{239}_{94}\text{Pu} + {}^{1}_{0}\text{n} \rightarrow \_\_\_\_\_ + {}^{97}_{38}\text{Sr} + 3\,{}^{1}_{0}\text{n}$$

4. (3 pts.) Predict the other product of the following nuclear transformation.

$$^{6}_{3}\text{Li} + {}^{1}_{0}\text{n} \rightarrow \_\_\_\_ + {}^{4}_{2}\text{He}$$

5. (6 pts.) Radium-226 decays by alpha emission. What is its decay product?

6. (2 pts.) A balanced nuclear equation representing the beta emission of iodine-131 is which of the following?

A) $^{131}_{53}\text{I} \longrightarrow {}^{131}_{54}\text{Xe} + {}^{0}_{-1}\beta$

B) $^{131}_{53}\text{I} \longrightarrow {}^{127}_{51}\text{Sb} + {}^{4}_{2}\text{He}$

C) $^{131}_{53}\text{I} + {}^{0}_{-1}\beta \longrightarrow {}^{131}_{52}\text{Te}$

D) $^{131}_{53}\text{I} \longrightarrow {}^{131}_{52}\text{Te} + {}^{0}_{+1}\beta$

E) $^{131}_{53}\text{I} + {}^{0}_{-1}\text{e} \longrightarrow {}^{131}_{52}\text{Te}$

7. (2 pts.) Which of the following nuclear processes does not change the mass number in the product element formed?

I. Alpha emission
II. Beta emission
III. Positron emission
IV. Electron capture

A) I and II
B) III and IV
C) I, II, and III
D) II, III, and IV
E) IV only

8. (2 pts.) What fraction of radioactive atoms remains in a sample after four half-lives?

A) zero B) 1/6 C) 1/16 D) 1/32 E) 1/64

9. (5 pts.) If 12% of a certain radioisotope decays in 5.2 years, what is the half-life of this isotope?

10. (5 pts.) Polonium-208 is an alpha emitter with a half-life of 2.90 years. How many milligrams of polonium from an original sample of 2.00 mg will remain after 8.00 years?

11. (2 pts.) Which type of nuclear process requires an extremely high temperature (millions of degrees)?

A) beta decay

B) fission reaction

C) fusion reaction

D) alpha decay

E) positron emission

12. (2 pts.) *Alkenes* have the general formula

A) C_nH_{2n-4} B) C_nH_{2n-2} C) C_nH_{2n} D) C_nH_{2n+2} E) C_nH_{2n+4}

13.(2 pts.) *Unsaturated* hydrocarbons

A) contain at least one double or triple carbon-carbon bond.
B) contain at least one element other than hydrogen and carbon.
C) contain the maximum number of hydrogens that can bond with the carbon atoms present.
D) cannot form structural isomers.
E) cannot undergo addition reactions.

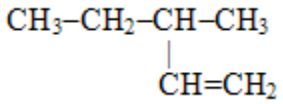
14. (2 pts.) Select the one molecule that is a *saturated hydrocarbon*.

A) C_2H_4 B) C_4H_8 C) C_4H_6 D) C_4H_{10} E) C_4H_2

15. ((4 pts.) Draw all possible isomers with the formula C_4H_{10}

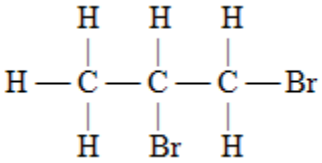
16. (2 pts.) What is the name of the molecule $CH_3CH_2CH_2CH_2CH_2CH_2CH_2CH_3$?

17. (2 pts.) Which of these is the systematic name for the compound represented below?



A) 2-ethylbutane
B) 3-methylpentene
C) 3-methyl-1-pentene
D) 3-methyl-1-hexene
E) 2-methylhexane

18. (2 pts.) Which of these is the systematic name for the compound represented below?



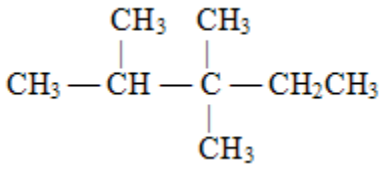
A) 2,3-dibromopentane
B) 1,2-dibromopentane
C) 2,3-dibromopropane
D) 1,2-propane dibromide
E) 1,2-dibromopropane

19. (2 pts.) Which option represents 1-butene?

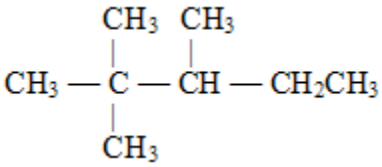
A) $CH_3CH_2CH_2CH_3$
B) $CH{\equiv}CCH_2CH_3$
C) $CH_2{=}CHCH_2CH_3$
D) $CH_2{=}CHCH_2CH_2CH_3$
E) $CH_3CH{=}CHCH_3$

20. (2 pts.) The correct structure for 2,3,3-trimethylpentane is

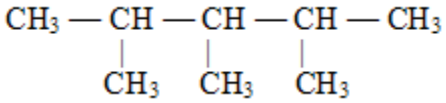
A)



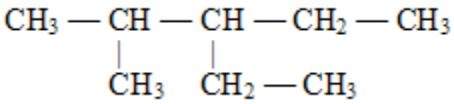
B)



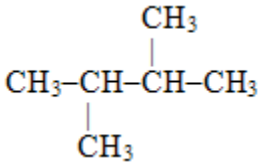
C)



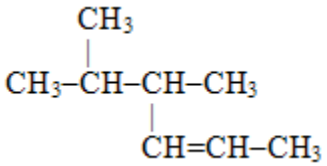
D)



21. (3 pts.) Name the following compound:

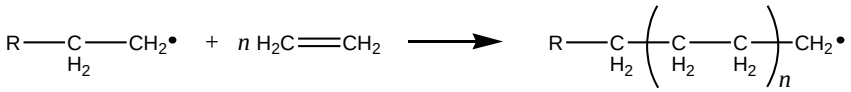


22. (2 pts.) The following molecule has how many chiral centers?

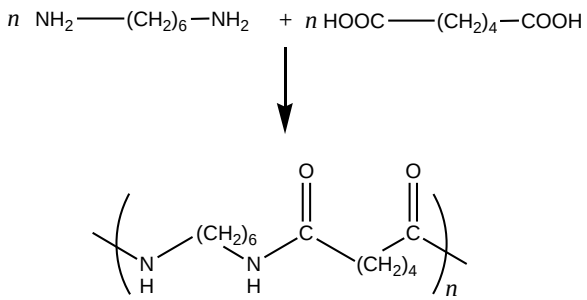


23. (2 pts.) Which polymerization shown takes place by a radical mechanism?

I.



II.



24. (2 pts.) A polymer made in a polymerization reaction that also produces small molecules (such as water) is classified as

A) an addition polymer .
B) a natural polymer. .
C) a condensation polymer.
D) an elimination polymer
E) a copolymer

ARTS 1410: Introduction to Photography

Assignment #6

10 points

Water: Reflections on the acequias of Rio Arriba

Overview:

The Spanish word acequia (and Catalan séquia) comes from Classical Arabic as-sāqiya, which has the double entendre of 'the water conduit' or 'one that bears water' and the 'barmaid' (from سَقَى saqā, 'to give water, drink'). The Arabs brought the technology to Iberia during their occupation of the Iberian peninsula. The technology was adopted later by the Spanish and Portuguese (levadas on Madeira Island), utilized throughout their conquered lands, except in e.g. Mendoza, Argentina where acequias today run along both sides of all city streets but originally were dug all around by the indigenous Huarpes long before the arrival of the Spanish.

In the United States, the oldest acequias were established more than 400 years ago; many continue to provide a primary source of water for farming and ranching ventures in areas of the United States once occupied by Spain or Mexico including the region of northern New Mexico and south central Colorado known as the Upper Rio Grande watershed or Rio Arriba (see Rivera 1998).

Acequias are gravity chutes, similar in concept to flumes. Some acequias are conveyed through pipes or aqueducts, of modern fabrication or decades or centuries old. The majority, however, are simple open ditches with dirt banks. In many communities, the ditchbanks are important routes for non-motorized travel.

Researchers affiliated with the Rio Grande Bioregions Project at Colorado College initiated a pioneering collaborative, farmer-led, and interdisciplinary study of Colorado and New Mexico acequias in 1995-1999. Among the most significant findings of this study was that the acequia farms provide vital ecosystem and economic base services to the regions in which they are located. One study, as reported in Peña (2003), found that acequia agroecosystems promote soil conservation and soil formation, provide terrestrial wildlife habitat and movement corridors; protect

water quality and fish habitat, promote the conservation of domesticated biodiversity of land race heirloom crops, and encourage the maintenance of a strong land and water ethic and sense of place, among other ecological and economic base values. This pioneering research on acequia ecosystem services, led by environmental anthropologist Devon G. Peña, has more recently been confirmed in other studies (Fernald et al., 2007, 2010, 2015; Raheem et al., 2015).

Known among water users simply as the Acequia, various legal entities embody the community associations, or acequia associations, that govern members' water usage, depending on local precedents and traditions. An acequia organization often must include commissioners and a majordomo who administers usage of water from a ditch, regulating which holders of water rights can release water to their fields on which days. In New Mexico, by state statute, acequias as registered bodies must have three commissioners and a mayordomo (see Rivera, 1998, pp. 59–60). Irrigation and conservation districts typically have their own version of mayordomos, usually referred to as "ditch riders" by members of the districts.

In recent years, acequias in New Mexico and Colorado have successfully developed and implemented changes in state water laws to accommodate the unique norms, customs, and practices of the acequia systems. The customary law of the acequia is older than and at variance with the Doctrine of Prior Appropriation, and the statutes promulgating acequia water law represent a rare instance of water pluralism in the context of Western water law in the United States (see Hicks and Peña 2003). For example, the Doctrine of Prior Appropriation is based on the principle of "first in use, first in right," while acequia norms incorporate not just priority but principles of equity and fairness. This is evident in the fact that Prior Appropriation considers water to be a commodity owned by private individuals while acequia systems treat water as a community resource that irrigators have a shared right to use, manage, and protect. While Prior doctrines allow for water to be sold away from the basin of origin, the acequia system prohibits the transference of water from the watershed in which it is situated and thus considers water as an "asset-in-place". The Prior regime is based on a governance regime in which the members of a mutual ditch company will vote based on their proportional ownership of shares so that larger farmers have more votes. In contrast, the acequia system follows a "one farmer, one vote" system that has led researchers to consider this a form of "water democracy" (see Rivera 1998; Peña 2003). Acequia water law also requires that all persons with irrigation rights participate in the annual main-

tenance of the community ditch including the annual spring time ditch cleanup known as the limpieza y saca de acequia. (*https://en.wikipedia.org/wiki/Acequia*)

Assignment:

For your photo assignment this week we will visit the Acequia de Ancon. You will each have 36 exposures to capture three final photos to be submitted by Wednesday of next week. This is both an aesthetic and documentary endeavor. Search for compositions that favorably capture; light, texture, balance, etc. Also seek to comment and document the unique cultural significance of the acequia systems of the Upper Rio Grande Region. Employ a critical and curious eye in your attempt to capture the tradition and timelessness when selecting shots. Consider both landscape and portraiture approaches, linear and non-linear. Consider the historical context we discussed. Consider the the timeless contrast with the modern world and how the acequia model of shared responsibility and sustainability has persisted for over 400 years.

Please consult with me regarding shot selection in preparation for printing and presentation next week. As always, submit your photo self-eval rubric, and a single paragraph artist statement regarding your chosen shots along with your final printed photos.

As always, adhere to the *NPPA Voice of Visual Journalist Code of Ethics* when interacting with human/non-human subjects you may encounter in your search.

- Be accurate and comprehensive in the representation of subjects.
- Resist being manipulated by staged photo opportunities.
- Be complete and provide context when photographing or recording subjects. Avoid stereotyping individuals and groups.
- Recognize and work to avoid presenting one's own biases in the work.
- Treat all subjects with respect and dignity. Give special consideration to vulnerable subjects and compassion to victims of crime or tragedy. Intrude on private moments of grief only when the public has an overriding and justifiable need to see.
- While photographing subjects do not intentionally contribute to, alter, or seek to alter or influence events.
- Editing should maintain the integrity of the photographic images' content and context. Do not manipulate images or add or alter sound in any way that can mislead viewers or misrepresent subjects.

- Do not pay sources or subjects or reward them materially for information or participation.

- Do not accept gifts, favors, or compensation from those who might seek to influence coverage.

- Do not intentionally sabotage the efforts of other journalists.

- Do not engage in harassing behavior of colleagues, subordinates or subjects and maintain the highest standards of behavior in all professional interactions.

Fernald, A. G., T. T. Baker, and S. J. Guldan, Hydrological, Riparian, and Agroecosystem Functions of Traditional Acequia Irrigation Systems. Journal of Sustainable Agriculture 30:2:147-71. 2007.

Fernald, A.G., S.Y. Cevik, C.G. Ochoa, V.C. Tidwell, J.P. King, and S.J. Guldan. River hydrograph retransmission functions of irrigated valley surface water–groundwater interactions. J. Irrigation Drainage and Eng. 136:823-835. 2010.

Fernald, A., S. Guldan, K. Boykin, A. Cibils, M. Gonzales, B. Hurd, S. Lopez, C. Ochoa, M. Ortiz, J. Rivera, S. Rodriguez, and C. Steele. Linked hydrologic and social systems that support resilience of traditional irrigation communities. Hydrol. Earth Syst. Sci. 19:293–307. 2015.

Glick, Thomas F.. Irrigation and Society in Medieval Valencia. Cambridge, Massachusetts: Harvard University Press, 1970. Spanish version: Regadío y sociedad en la Valencia medieval. Del Cenia al Segura. Valencia, 1988.

Glick, Thomas F. The Old World Background of the Irrigation System of San Antonio, Texas. El Paso, Texas: Western Press, 1972. Spanish version, in Los cuadernos de Cauce 2000, No.15 (Madrid, 1988); also in Instituto de la Ingeniería de España, Obras hidráulicas prehispánicas y coloniales en América, I (Madrid, 1992), pp. 225–264.
Hicks, Gregory A. and Devon G. Peña. Community Acequias in Colorado's Rio Culebra

Watershed: A Customary Commons in the Domain of Prior Appropriation. University of Colorado Law Review 74:387-486. 2003.

Peña, Devon G. The Watershed Commonwealth of the Upper Rio Grande. In: Natural Assets: Democratizing Environmental Ownership, eds. James K. Boyce and Barry G. Shelley. Washington, D.C.: Island Press, pp. 169–85. 2003.

Raheem, N., S. Archambault, E. Arellano, M. Gonzales, D. Kopp, J. Rivera, S. Guldan, K. Boykin, C. Oldham, A. Valdez, S. Colt, E. Lamadrid, J. Wang, J. Price, J. Goldstein, P. Arnold, S. Martin, and E. Dingwell. A framework for assessing ecosystem services in acequia irrigation communities of the Upper Río Grande watershed. WIREs Water doi:10.1002/wat2.1091. 2015.
Rivera, Jose A. Acequia Culture: Water, Land, and Community in the Southwest. Albuquerque: University of New Mexico Press. 1998.

Assignment for Paper 1
POLS 1120
Professor Jessica Feezell, PhD

This paper is due *no later* than 9:00 am on Friday September 14th in class.

Late papers will not be accepted without prior approval.

Prompt: The American system of federalism has changed over time since the Declaration of Independence. Several significant court cases have played major roles in defining the specific powers that the states and the federal government are entitled to. In this essay please describe how federalism has evolved over time in America since the Articles of Confederation in 1777 to today. In addition, please choose one court case, either from our text or an outside source, which you feel played a large or interesting part in shaping the relationship between the federal government and the states. Please provide a brief history of the court case and it's impact on federalism. You must include at least 2-3 outside, *academic* references in your paper.

Formatting: This paper should be 4-5 pages in length, double-spaced, 12 pt. standard font (such as Times New Roman). All sources used in this paper must be cited according to APA or MLA formatting guidelines.

Citations: Example of an in-text citation (Fiorina 2006). Or if you want to cite a direct quote, you should also "give the page number" (Fiorina, 2006, p. 4).

A full citation for every source used should be provided at the end of the paper in a separate "References" page.

What's an "academic" reference?: An academic reference for the purpose of this course is something written by a scholar with a PhD or an established authority in the field. Sources such as these are often, but not exclusively, published in an academic press (e.g. Oxford University Press, MIT Press, Duke Press) or peer-reviewed journals (e.g. Journal of Politics, Public Opinion Quarterly, PS). Academic sources usually provide citations for their information that might also lead you to other good academic sources. If you are unclear whether your source is "academic" or not, please come see me during my office hours or ask before/after class.

General Education Course NMHED Recertification Form

This form has been designed to guide you through the recertification process for the UNM General Education course in question. Please fill out your contact information below, and then review the information about the course provided to us by the New Mexico Department of Higher Education *(*NMHED*). After this, you will be instructed to fill out three separate narratives concerning the course and its relevance to NMHED's area and skills associated with the course.*

UNM Course Information

Prefix	**CHEM**
Number	**1215L**
Name	**General Chemistry I Lab for STEM Majors**

Contact Information

Name	Kuangchiu Ho
Title	Principal Lecturer III
Phone	505-277-1753
Email	khoj@unm.edu

NMHED's Description and Outcomes for the Common Course

The description and student learning outcomes below come from NMHED's Common Course Catalog*, which can be found here, and is meant to designate standard descriptions and outcomes of courses registered as a NMHED* Common Course.

CHEM 1215L: General Chemistry I Lab for STEM Majors

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.

Institution-specific Student Learning Outcomes

Please add additional SLOs of the general education course to the ones provided by NMHED, or if no SLOs are provided by NMHED, input the SLOs used in assessment for the course.

Area and Essential Skills

Below gives information concerning the area and associated skills of the course to be re-certified. The area here matches the General Education Area of UNM; the "Essential Skills" and their respective Component Skills are characterizations of the area determined by NMHED. You will use this information to fill out the narratives below.

Area in which *CHEM 1215L* resides: Science

Essential Skills in the Area:

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.

Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.

Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.

Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well-reasoned evaluation.

Personal and Social Responsibility

Intercultural reasoning and intercultural competence

Sustainability and the natural and human worlds

Ethical Reasoning

Collaboration skills, teamwork and value systems

Civic discourse, civic knowledge and engagement -- local and global

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.

Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.

Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

Narrative Input

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Explain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking: *Problem Setting; Evidence Acquisition; Evidence Evaluation; Reasoning/Conclusion.*

In this box, provide a narrative that explains how the proposed course addresses the outcomes of the first essential skill. 250-500 words.

This course provides learning opportunities for students to practice critical thinking by first asking students to study the lab scenario, learn about background information in a prelab reading assignment and submit questions for discussion to further develop an understanding of the problem to be investigated. This step is implemented before students meet in the physical lab. During physical labs, students are guided to identify, design and collect experimental data in order to support the conclusion for the lab questions. While doing these exercises, students are given enough time to develop experimental ideas through peer discussions and test the ideas out collaboratively in a group work. They are also provided with opportunities to make mistakes and learn from mistakes in the laboratory. Through the iterative cycles of design-reflect-refine, students learn about the process of evidence acquisition. After adequate data being collected, students will then learn about various ways of analyzing experimental data and apply inductive and deductive reasonings for making proper scientific argumentations. They will be focusing on preparing for convincing presentation of evidence and arguments in both the oral and written formats. They will also learn how best a conclusion can be made for the investigation using strong scientific arguments to the general audiences.

This skill is assessed by various course assignments students are submitted before and after each lab period such as, but not limited to, discussion questions, hypothesis, lab reports, scientific arguments, and presentations, and by various assessments for practical work such as lab quizzes, practical exam and skill assessments.

Personal and Social Responsibility: *Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical Reasoning; Collaboration skills, teamwork and value systems; Civic discourse, civic knowledge and engagement -- local and global.*

In this box, provide a narrative that explains how the proposed course addresses the outcomes of the second essential skill. 250-500 words.

This course teaches students ethical reasoning for laboratory safety by providing students a basic training in safety awareness for chemicals involved in the experiments. They will learn to identify chemical and health hazards, to properly handle chemical spills, and to correctly collect chemical waste for disposal. Students will conduct a search for Safety Data Sheets and extract safety information from SDS. We also ask students to discuss each of their finding about safety and make a note of safety for each experiment as a required element of the preparation of the lab.

This course also teaches students ethical reasoning for intellectual properties. They are required to keep a laboratory notebook as a legal record of their experimental work. They practice proper way of maintaining the lab notebook including not erasing any record, not falsifying data, and having a witness to sign off the record. We also enforce the rules for plagiarism and educate students about what to be avoided for committing plagiarism.

In this course, we also require students to learn how to work in a team to accomplish collaborative work of the experiments. We expect each group to work out an assignment where all team members will have an equal share of responsibilities. Through teamwork, each student is expected to gain an experience of how to collaborate with other people.

We provide students with the civic knowledge regarding working in a chemical laboratory and engaging them in “Good Lab Practices”. We adopt the “Good Lab Practices” as a model where students are expected to follow when working in our lab. During lab discussions and experiments, students learn how to conduct themselves and actively contribute to the collaborative work. They also learn the proper way of behavior when working in the lab. We enforce these protocols as explained in the course syllabus and lab manual.

Quantitative Reasoning: *Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; Application of Quantitative Models.*

In this box, provide a narrative that explains how the proposed course addresses the outcomes of the third essential skill. 250-500 words.

All measurements collected in this course are quantitative and therefore, students must learn the skills of how to handle, present and communicate quantitative information orally in the discussions and through the format of the presentations as well as in writing lab notebook and experimental reports. Students learn how to create a chart, table, or plots from quantitative data manually on paper or by using a computer program such as EXCEL. They are also required to follow the question-claim-evidence-justification protocol for making proper scientific arguments during the analysis section of each lab after data are collected from an experiment. They make the quantitative arguments from experimental data, calculated data, or by comparing quantitative data in the forms of charts and tables. They learn the basic elements of a scientific argument and practice to critique other student's argument critically. They also refine their quantitative arguments by peer review before they make the final arguments in the lab reports.

In some experiments, students learn to apply given models of calculations or analyses found in the literature to the experimental data as proposed by the hypothesis they wrote. This practice allows them to verify whether a proposed hypothesis is true or not or to derive a new model for the question being asking by the lab.

Additional Information

Course Materials

NMHED requires that both a syllabus and a sample course assignment (project, paper, exam,etc.) from the course in question to be attached to the recertification form. Be sure and pick an assignment that correlates with the descriptions provided in the narratives above.

Attachments:

- *Course syllabus for CHEM 1215L*
- *An Example ~~Prelab Report~~of student's presentation and Postlab report*

Assessment Plan

When it is submitted to NMHED, each general education course will also have attached the assessment plan that is used for General Education Assessment at UNM. For more information on this process, please visit this page from UNM's Office of Assessment. http://assessment.unm.edu/gened-assessment/index.html

General Chemistry 1215L Laboratory Syllabus

Instructor: xxxx
Office hours: xxxx
TA office hours are posted on LEARN website: http://learn.unm.edu.
e-mail: xxxx@unm.edu

Course Description

This course is the laboratory course of general chemistry for majors. Students must take this course with the general chemistry lecture course (CHEM 1215 or 131 for the first semester or CHEM 1225 or 132 for the second semester). This course is also a UNM core course. In order to obtain the credit for UNM core, you must register for letter grade and earn a C or better (C- will not be credited).

Course Objectives

This two–semester lab course sequence (CHEM 1215L and 1225L) provides basic training for chemistry laboratory work including lab safety, preparation of solutions, transfer of chemicals, volumetric measurements, use of statistics, experimental design, data recording and analysis, and report writing.

Student Learning Outcomes

1215L Students will be able to

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.

Required Materials:

1. **Lab Manual**: "*Laboratory Experience: Manual for General Chemistry I*", 18th edition. A copy of the manual will be given to you during the first week of semester. You can purchase a replacement manual with your breakage card if you have lost it.
2. **A lab notebook**: must be bound, carbon or carbonless duplicate pages, and page numbered. You need to purchase your own lab notebook.
3. **A pair of safety goggles**. You may purchase it from the lab stockroom. If you buy it from elsewhere, you need to bring the goggles to lab tech for certification.
4. **A USB drive** with minimal capacity of 8 Gb for data storage.
5. **A scientific calculator**

LEARN Access

1. The LEARN site (http://learn.unm.edu) can be accessed using your UNM NetID and password. You must register into a lab section before you can have access. If you have a problem with the login, contact the LEARN administrator at learn@unm.edu.
2. LEARN access is required for every student. You can access announcements, lab news, lab help, lab videos, and lab grades from LEARN.

Registration

1. You are required to register into a lab section through the UNM Loboweb. Without lab registration, you will not be able to access the Learn.unm.edu website where you are required to access and download or review important lab material.
2. If you need to switch sections, you must go through the UNM Loboweb. Attending a lab section without registration is prohibited. Warning: to switch a section, you need to drop from the old one and add to the new one at the same time. Otherwise, there is a possibility while you are dropped from the old section, someone has taken your seat in the new section. When it happens, we cannot help you get the seat back.
3. The capacity of each laboratory is limited by fire code. No student can add to a closed lab section.
4. If you decide to drop from this course, you will also be dropped from the co-requisite course, CHEM 1215(131) or 1225 (132). Similarly, if you drop from the CHEM 1215 (131) or 1225 (132), you will also be dropped from this course. An override can be granted by Dr. Ho to allow you to stay in the lab even if you drop from the co-requisite courses. However, the following criteria must be met: *you have completed at least 45% of the required lab work.* Note: if you drop from this course and want to stay in the co-requisite course, you will need to obtain an override from the faculty of your co-requisite course to stay in that course. Please do not contact Dr. Ho for an override in this case.

Lab Check-in & Check-out

1. You may be administratively dropped from this lab even after registration, if you don't complete all the requirements for lab check-in. Items 2-4 below describe the requirement for lab check-in.
2. The complete lab check-in process includes lab safety, good lab practices, and lab drawer check-in. You must attend these sessions which usually happen in the first two to three meetings. The schedule of these sessions can be found in the Lab Schedule posted on LEARN website. You must

attend these sessions in the lab section you enrolled. Any changes of the schedule will be posted on http://learn.unm.edu. You are responsible for checking the course website for any changes of the lab check-in process.

3. The requirements for completing lab check-in are **check-in survey**, **CLASS I survey**, and **100% on Check-in Test**. These required surveys and test must be taken on LEARN course site. We expect you to complete all three requirements before your drawer check-in meeting, or you will not be allowed to check into a drawer and proceed to any experiment.
4. The drawer check-in should be done in the section you registered. If you miss the scheduled check-in, you will have to make another arrangement with the teaching lab tech to complete lab check-in, or you will not be allowed to do any experiment and receive a zero for each assigned experiment you miss. Rescheduling of a lab check-in after the scheduled lab subject to the availability of the lab tech. If you will miss more than three scheduled labs because of not being checked in, you may be dropped.
5. All students who have checked into a section must complete the check-out at the scheduled lab time to avoid fines. You must come to the check-out section on time and complete the CLASS II survey. If you have official duties or medical emergency, you must contact the lab tech before the scheduled check-out section is ended to report your absence and to make an arrangement for check-out to avoid fines.

Required Lab Experiments

In this course, you have to complete four experiments. There are two scheduled labs for each experiment: *Design Lab* and *Data Collection Lab*. The schedule of these experiments can be found in the Lab Schedule.

The requirements for attending each lab are:

- *Design Lab*: (1) Background reading (2) Submit Discussion Questions
- *Data Collection Lab*: (1) Procedure (in the prelab report)

The goals of each labs are:

- *Design Lab*: Work out collaboratively a working procedure for the lab questions
- *Data Collection Lab*: Collect good experimental data

The following two sections are lab policy pertaining to the two labs.

Attending the Design Lab

1. Check the lab schedule for the day and time of each experiment. Check **Announcements**, **Lab Help** and **Lab News** from the LEARN site.
2. Before attending your scheduled lab, study the **Background Reading Assignment** of each experiment in the lab manual. This section describes the lab question to be answered and experimental goals. You need to understand the questions and read the basic information manual provides.
3. You must submit **discussion questions** to the LEARN website by midnight a night before the scheduled design lab for grade. The discussion questions should be relevant to the experiment to be designed (see manual for detail description).

4. On the lab day, you need to bring **(1) safety goggles (2) dressed according to Dress Code and (3) lab notebook and (4) lab manual.** Your TA will NOT allow you to stay in the design lab for the experiment if you do not have any of the four items listed above with you and will assign a zero for the pre-lab report of that experiment.
5. No student can work in our lab without supervision by an authorized person.
6. No student can work impaired (due to the use of a drug, alcohol, or any substance that could cause physical, mental, or emotional impairment). You will be removed from the lab immediately.
7. No student can do the experiment for grade if you come to the lab after your TA starts the lab discussion for safety and lab procedure. The lab door will be locked 15 minutes after the starting time.
8. Always keep your workspace and equipment clean.
9. You are required to **wear safety goggles at all times** in the lab. You will be asked to leave for violation of this rule and you will receive a zero for the pre-lab report.
10. All notebook entries must be **in ink** and clearly dated. No entry is ever erased or obliterated by pen or "white out". Changes are made by drawing a single line through an entry in such a way that it can still be read and placing the new entry nearby. If it is a primary datum that is changed, a brief explanation of the change should be entered (e.g. "balance drifted" or "reading error"). No explanation is necessary if a calculation or discussion is changed; the section to be deleted is simply removed by drawing a neat "x" through it.
11. All data must be recorded with proper significant figures and units according to the scale or calibration of the lab equipment.
12. If you are working in a team, always participate in the lab activities. **You and your partner should contribute roughly equally to the final product**, which may look very similar in the two lab notebooks. The name of your partner should appear in the notebook, in this case, making it clear that the work was done collaboratively.
13. Your TA can assign different members of your team each time. Being a good team player is part of the lab training. You must indicate each member's role in the lab reports. Your performance in the areas of **lab safety**, **cleanup** and **participation** can affect your grade of the lab reports.
14. Use your lab notebook as described in the "Good Lab practices" chapter of the lab manual. All data and observations must be written in the lab notebook. For experiments where two or more students work together and data have been recorded in one student's notebook, a copy of the data may be made in the other student's notebook with an appropriate citation to the location of the original data. Any other material in the notebook which has been copied from any source whatsoever must also be provided with a source citation. Copying data from previous work, even authored by you, constitutes academic dishonesty and will be reported to the Dean of Student's office.
15. You must obtain **a signature** on the lab notebook from your TA after finishing the experiment. Your TA will check your lab data and notebook writing. An experiment without the TA's signature will be considered as absent, and your pre-lab report will not be graded.
16. For some experiments, you can find pre-lab questions. You should answer all the prelab questions by yourself based on your understanding of the experiment. Copying of any portion of another student's laboratory report is plagiarism which is a violation of the academic honesty. Copying

any portion of the lab manual, textbook, or other reference without a proper citation is also not appropriate.

17. Evan though you and your partner(s) design the experiment together, you still need to write your own pre-lab report including your own final procedure. Remember, you should write your own notebook and reports. Copying procedure from another student is plagiarism. All students involved in plagiarized work will not receive a grade. Multiple violations will be dropped from the course and reported to the Dean of Students office.

Attending the Data Collection Lab

1. The requirement for attending the Data Collection Lab is the complete written procedure and prepared lab notebook as described below.
2. The written procedure should be printed out and be presented to your TA during the data collection lab.
3. Your lab notebook should be prepared by dividing the pages into two halves. The left side is for writing what you do. The right side is for recording observation and data. Draw data tables beforehand in your notebook is a good lab practice.
4. If you have missed the design lab and does not have a written procedure, but still want to do data collection lab, you must contact a group who has completed the design lab and have them agreed to join their group in the data collection lab. You must prepare the procedure in the lab notebook as described in 2, but hand write the procedure on the left half side of the notebook pages with your own word. You also need to prepare a chemical list and safety note for the procedure in your notebook before attending the Data Collection Lab.
5. All policies from the previous section, “Attending the Design Lab”, are also applied to this lab.

Data Processing and Analysis

1. All lab calculations and data processing need to be completed by yourself.
2. Use of another student's laboratory data is a violation of academic honesty. In a special situation such as your lab instructor allows you to use another student’s data due to an extraordinary situation, the source of the data must be indicated with a clear reference in the laboratory notebook.
3. Fabrication of data, alteration of your own data, or fabrication of observations to secure some desired result is a clear violation of the academic honesty.
4. When working with a lab partner, each person should independently perform all calculations. You may collaborate, to the extent of comparing results and helping each other with difficulties, however. You may also discuss your joint results and their significance with your partner, but each partner should write a result that contains individual conclusions written in her or his own words. Copying of any portion of another student's laboratory report is a clear violation of academic honesty.
5. Copying any portion of the lab manual, textbook, or other reference without a proper citation is a violation of academic honesty.

Asking for or Giving Help

1. Asking for and giving help with prelab problems, lab write-ups, or during the TA’s office hours and lab should follow the academic honesty guidelines listed in the previous sections and the commonsense guidelines listed below:

2. You should understand your question before asking. Try to narrow down your question to a specific point. If you are looking for general guidance, you need to consider the question thoroughly before asking.
3. Do not ask for or give just an answer to a question. You need to form your own thinking toward the question.
   Example of such question is "What is the answer to question number two", or “Please show me the answer of this question”. If the inappropriate question is answered, it constitutes a violation of lab conduct. To respond to these questions, you might say "Our prelab problems are to be done independently. Have you looked at this example problem in the manual? I could try to explain that to you."
4. Questions related to experimental procedures that can be found in the lab manual like “How many grams of NaCl are we going to add?” should be avoided because it is part of the prelab preparation and you should have known it before coming to the lab. If you want to know the principle and the reason for a particular step in the procedure, you should ask the question during your pre-lab time. A last-minute question shows your un-preparedness. However, it is appropriate to confirm information that is not clearly stated in the manual.

Grading

1. The final grades will be calculated from the scores of three categories: (1) **Report writing**: pre-lab reports (20%), post-lab report (20%), (2) **Scientific communications**: pre-lab discussion (5%), post-lab presentations (5%), **Scientific Arguments** (**SA**) (10%), and (3) **Assessments**: quizzes (20%), lab practical exam and skill assessments (20%).
2. Being absent from any part of an experiment you will receive a zero for the quiz and the report for the missed lab. Your grade for argumentation could also be lowered by your absence.
   a. If you miss the design lab but attend the data collection, you will be allowed to do the experiment in another group ONLY if you have the procedure prepared in your own word as described in the “Attending Data Collection Lab”. You will receive a zero from the pre-lab report.
   b. If you completed the design lab but missed the data collection lab, you will be allowed to turn in the pre-lab report but receive a zero for the post-lab report.
   c. You are required to complete at least 3 experiments, including both design and data collection labs, without missing either lab in order to have the lowest pre-lab report, post-lab report, and quiz grade dropped.
3. Dry labbing and plagiarism are cheating and the student may be dropped from the course.
4. Carrying out experiments in the section other than the one you are registered will be treated as absence and all grading policies for absence will be applied. You will be exempted from this rule if you have the permission from the lab tech or Dr. Ho to carry out an experiment in other sections due to legitimate reasons.
5. Check the correctness of grades recorded on LEARN website throughout the semester. Inform your TA immediately when a mistake is found. Do not wait until the end of semester to check your grades because it might be too late or have missed the chance for correction. To check your grades, login to http://learn.unm.edu and choose “Check My Grades”.

6. If you intend to withdraw from the course, it is your responsibility to drop from the course properly. You will not be entitled to receive a "W" for this course without properly and officially completing withdraw process. After the deadline for withdraw without Dean's approval is past, you will need to contact the Dean's office to withdraw. Please note the rules associated with co-requisite course when you drop (see item 4 under **Registration** on page 2 for more detail).
7. Your grades are subject to final adjustment to ensure consistent grades from all sections. Your final grade will be assigned according to the following scale: A: 90~100%, B:80~89%, C:70~79%, D:60~69%, F: <60%. The above scale is subject to change. Any change of the grading scale will be announced on http://learn.unm.edu.

Lab Reports

1. Both pre-lab and Post-lab reports must be submitted to LEARN course website before your next lab meeting.
2. NO late lab report will be accepted.
3. You must follow the format of writing a lab report as prescribed by experiment 0 and your TA.
4. Without submitting the notebook pages of experimental data and observation, the post-lab report will not be graded.

Lab Cleanliness and Safety

1. Poor housekeeping can contribute to accidents in the lab and it is your responsibility to keep the lab clean and safe.
2. You might be sharing glassware and equipment with other students in your group, so it is common courtesy to clean up your area when you are done. Your TA will check to make sure you have cleaned up your equipment and chemicals at the end of each lab before you can leave.
3. If your area is clean, including the lab bench and sink, and your glassware drawer is inventoried with missing items replaced and extra items removed, you will not lose any points from post-lab report. If any of the conditions mentioned above is not met, you will lose points.
4. If you are determined to be responsible for the contamination of stock solutions or reagents, you will lose points.
5. Dress-code (Failure to abide by the dress code will result in removal from the lab):
   - Full length pants, completely covering the lower limbs are required. Tops which expose shoulders, upper arms, and or upper torso are not allowed.
   - A flat, closed-toe shoe, with a full heel and socks are required. No shoes with cut-outs or vents that leave skin exposed and unprotected are allowed.
   - Loose clothing such as neckties, baggy pants and coats are not allowed in a laboratory. Such items can catch fire, be dipped in chemicals and get caught in equipment.
   - It is recommended that anyone working in undergraduate laboratories remove jewelry to prevent collecting chemicals, contacting electrical sources, catching on laboratory equipment, and/or damage to the jewelry itself.
6. Safety goggles must be worn at all times while in lab. Failure to abide by this rule will result in removal from the lab.
7. You will be removed from the lab for disruptive behaviors or dangerous practices that affect yourself or other students. Multiple behavior problems can lead to expulsion from the lab.

8. If you are removed from the lab, you will receive a zero for this week's post lab and quiz.

Rules for Absence

1. There will be **NO** make-up experiment, skill assessment, or practical exam arranged for this lab.
2. You are advised to follow the lab schedule throughout the semester. Do not schedule doctor's appointments, vacations, or any other event that you have control of during the scheduled lab sections.
3. You may not go to another section to perform a missed experiment or assessment. Any experiment or assessment done not in your registered section without approval will not be graded and be counted as "zero" (Grading item 4).
4. If you have missed more than two lab periods consecutively or have any concern about your grade due to absence, you are encouraged to talk to your course instructor (Dr. Ho) for options and to receive advice regarding course grade. You should contact the instructor as soon as possible because the longer you wait, the fewer the options left for you.

Student Misconducts

1. The following student misconducts during a lab will result in student being removed from the lab and all work related to the removed lab will be counted as zero: (1) not wearing safety goggles (2) not following the dress code (3) disruptive behaviors (4) physical or mentally impaired and (5) not working safely. Serious or repeated offenders can be expelled from the course.
2. The following behaviors constitute plagiarism and will result in all work involved be counted as zero and students involved be reported to the Dean of Students Office for misconduct (1) copying any writing from another student's without proper acknowledgement even it is not word for word or from your lab partners (2) copying and pasting any text from lab manual, internet sites or a book (3) copying your own writing from the same course you took previously. For collaborative work, after the work is done, you should write your own reports or own graded assignments.
3. The following misconducts will be reported to the Dean of Students Office and may result in student being expelled from the course: (1) falsifying or fake experimental data or TA's signature (2) vandalizing lab properties, lab equipment, or other student's properties (3) multiple offenses from items 1 and 2 (4) violating the prescribed lab safety rules multiple times (5) other cheating behaviors.

Accommodation Statement

Accessibility Services (Mesa Vista Hall 2021, 277-3506) provides academic support to students who have disabilities. If you think you need alternative accessible formats for undertaking and completing coursework, you should contact this service right away to assure your needs are met in a timely manner. If you need local assistance in contacting Accessibility Services, see the Bachelor and Graduate Programs office.

Academic Integrity

1. The University of New Mexico believes that academic honesty is a foundation principle for personal and academic development. <u>All University policies regarding academic honesty apply to this course.</u>

Academic dishonesty specifically applied to this course includes, but is not limited to, cheating or copying answers from others during the exams, exchange information with another student in any form (for example, talking, eye contact, or texting) during lab quizzes, skill assessments, or lab practical, plagiarism (claiming credit for the words or works of another from any type of source such as print, Internet or electronic database, or failing to cite the source), fabricating information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used, or tampering with the academic work of other students. The University's full statement on academic honesty and the consequences for failure to comply is available in the college catalog and in the *Pathfinder*.

2. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.
3. You need to handle experimental data carefully. Any data that are not collected by you or your assigned group must be acknowledged for the author(s). Using data collected from other semester by you or others to write a post-lab report for the current semester is considered cheating. You should not share any data for the purpose of writing lab reports or receiving grades. All data must be recorded on your lab notebook, dated and signed by a witness. Any violation of our policy for handling experiment data is considered serious misconduct, and can be reported to the University and or be expelled from the course and receive a failing grade.

Title IX policy

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see pg 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). Students who want to talk with an advocate who is not a mandatory reporter can do so at the Women's Resource Center (women.unm.edu), the Lobo Respect Advocacy Center (loborespect.unm.edu) and the LGBTQ Resource Center (lgbtqrc.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html

How a Two-Hour Delay Affects Chemistry Lab Classes

Chemistry Labs with start times before 10 a.m. that are normally scheduled to extend 45 minutes or more beyond the announced opening time will meet at 10 a.m. and dismiss at the normally scheduled ending time. So, when the university opens at 10 a.m., and a student had a lab that began at 9 a.m., the student should arrive for that class at 10 a.m.

Experiment 3 - QCEJ

xxxx

Lab Question

What is the enthalpy of the dissociation of hydrogen sulfate ($HSO_4^- \rightarrow H^+ + SO_4^{2-}$) and how can we solve for it?

Claim

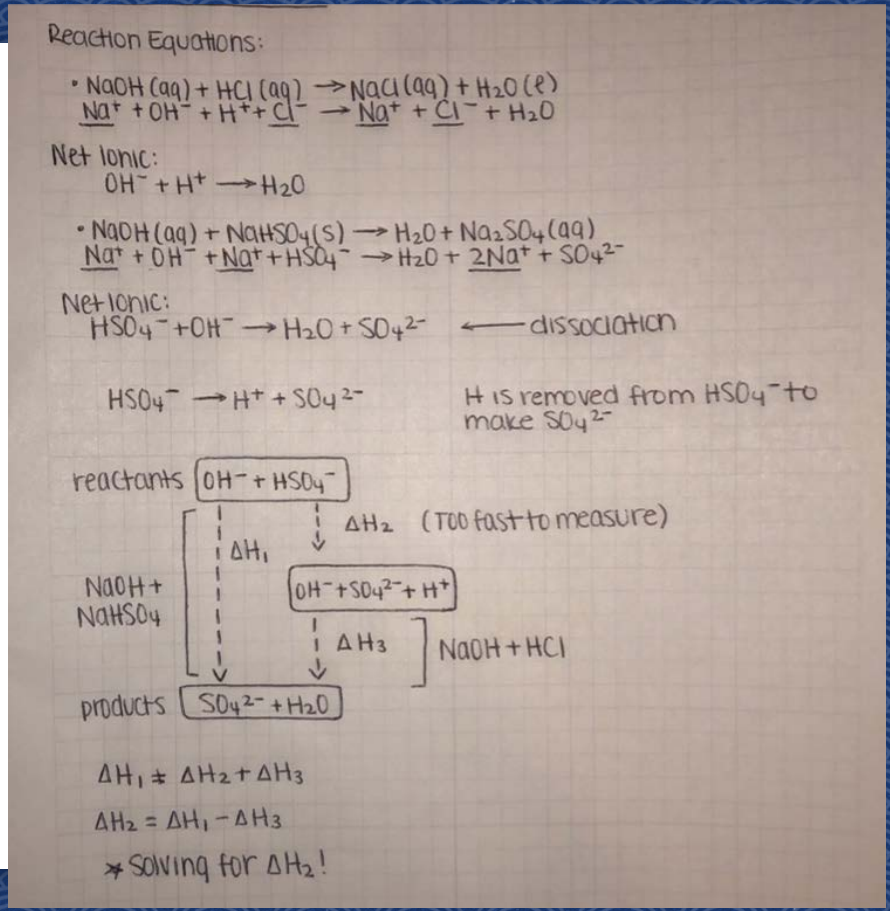
The enthalpy of the dissociation of hydrogen sulfate is -16.63 kJ/mol. It cannot be measured directly because the degree of dissociation is too small, requiring the use of Hess's Law and a constant pressure calorimeter in order to solve for its value.

Evidence

$NaOH + NaHSO_4$ and $NaOH + HCl$ act as intermediary steps to aid in finding ΔH of the dissociation.

Hess's Law:

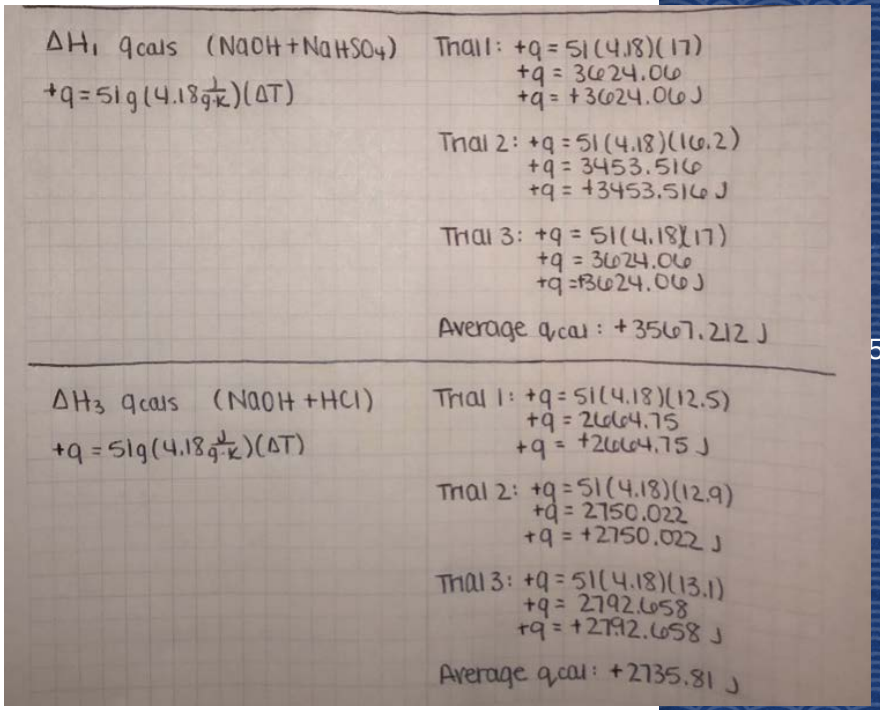
$$\Delta H_2 = \Delta H_1 - \Delta H_3$$



Evidence

Plug each ΔT into $q_{cal} = mc_s\Delta T$ for both rxns.

Find the overall average of each q_{cal}.



ΔH_1 q_{cals} (NaOH + $NaHSO_4$)

$+q = 51g(4.18\frac{J}{g \cdot K})(\Delta T)$

Trial 1: $+q = 51(4.18)(17)$
$+q = 3624.06$
$+q = +3624.06\ J$

Trial 2: $+q = 51(4.18)(16.2)$
$+q = 3453.516$
$+q = +3453.516\ J$

Trial 3: $+q = 51(4.18)(17)$
$+q = 3624.06$
$+q = +3624.06\ J$

Average q_{cal}: $+3567.212\ J$

ΔH_3 q_{cals} (NaOH + HCl)

$+q = 51g(4.18\frac{J}{g \cdot K})(\Delta T)$

Trial 1: $+q = 51(4.18)(12.5)$
$+q = 2664.75$
$+q = +2664.75\ J$

Trial 2: $+q = 51(4.18)(12.9)$
$+q = 2750.022$
$+q = +2750.022\ J$

Trial 3: $+q = 51(4.18)(13.1)$
$+q = 2792.658$
$+q = +2792.658\ J$

Average q_{cal}: $+2735.81\ J$

Evidence

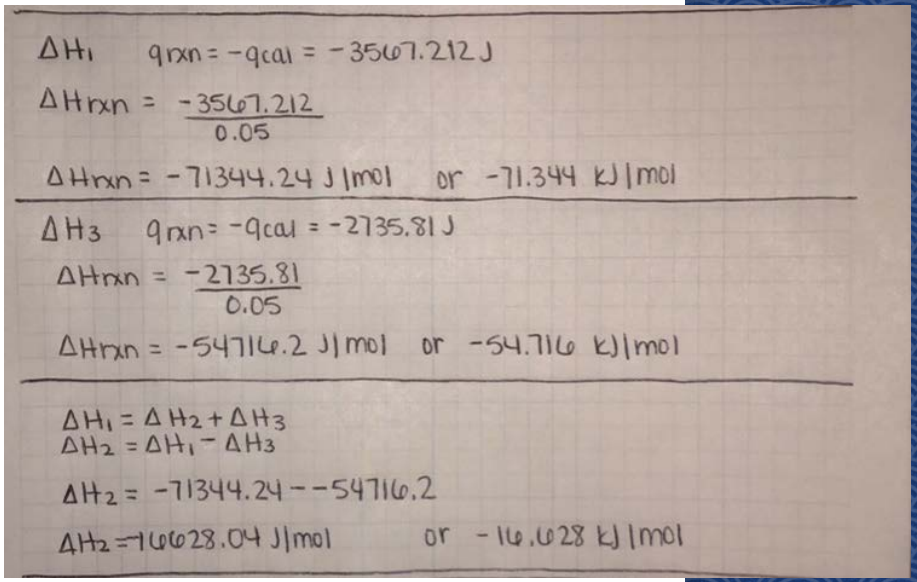
Solve for the enthalpy of each rxn (ΔH_{rxn}).

$\Delta H_{rxn} = q_{rxn}$/mole of LR

$q_{rxn} = -q_{cal}$

Hess's Law:

$\Delta H_2 = \Delta H_1 - \Delta H_3$



→ -16.63 kJ/mol

Justification

St. Dev : Precision

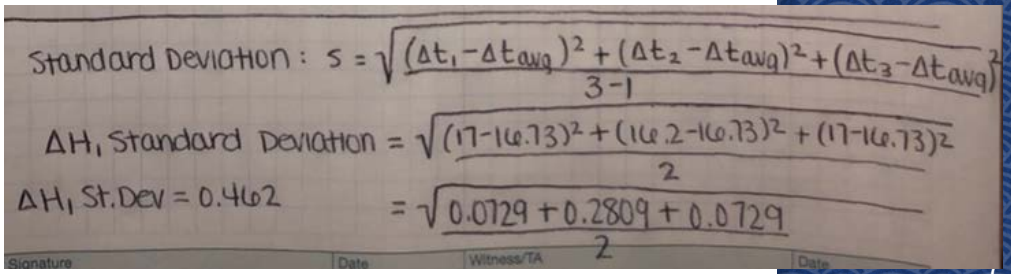
Using ΔT & ΔT_{avg}

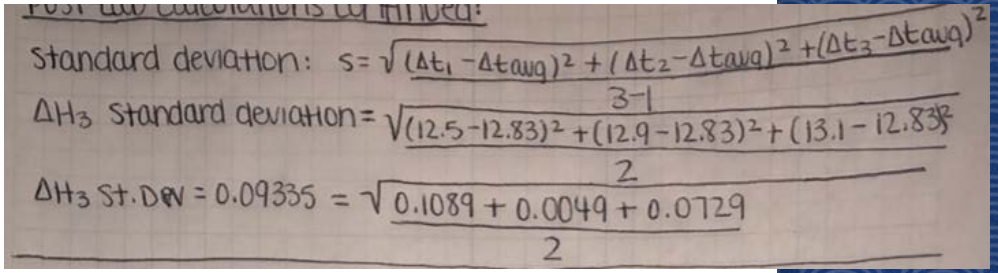
ΔH_1 St. Dev = 0.462

ΔH_3 St. Dev = 0.093

↓ St. Dev = Better

Human Error





Justification

% Error : Accuracy

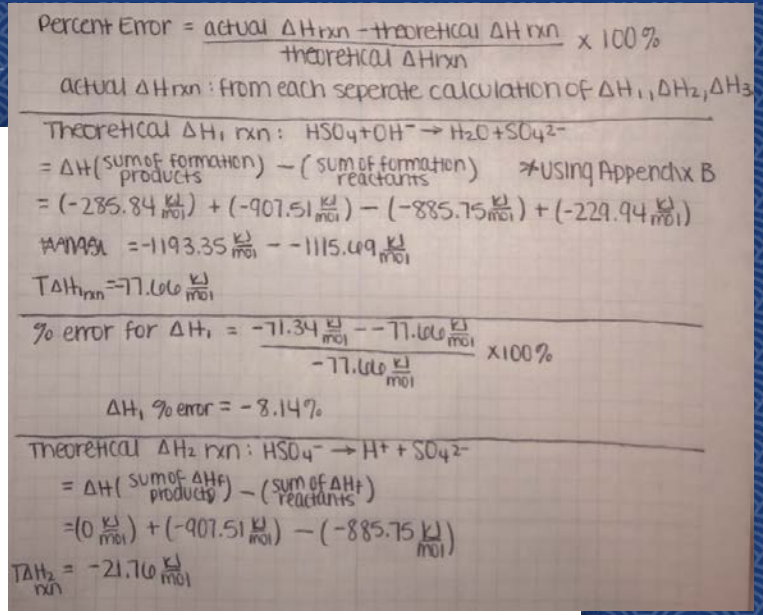
$$\frac{\text{actual } \Delta H_{rxn} - \text{theoretical } \Delta H_{rxn}}{\text{theoretical } \Delta H_{rxn}}$$

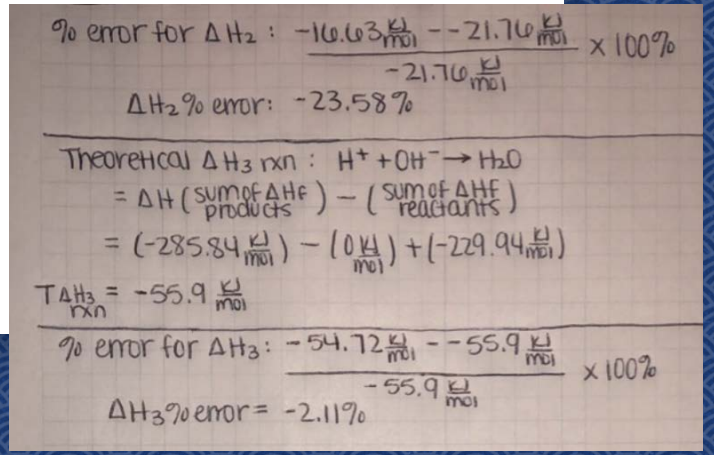
Multiply by 100%

$\Delta H_1 = 8.14\%$

$\Delta H_2 = 23.58\%$

$\Delta H_3 = 2.11\%$





Conclusion

The St. Dev and % Error were reasonable enough values, accounting for some error, to where the results of this experiment and the calculation of -16.63 kJ/mol for the enthalpy of ΔH_2 can be trusted as fairly reasonable.

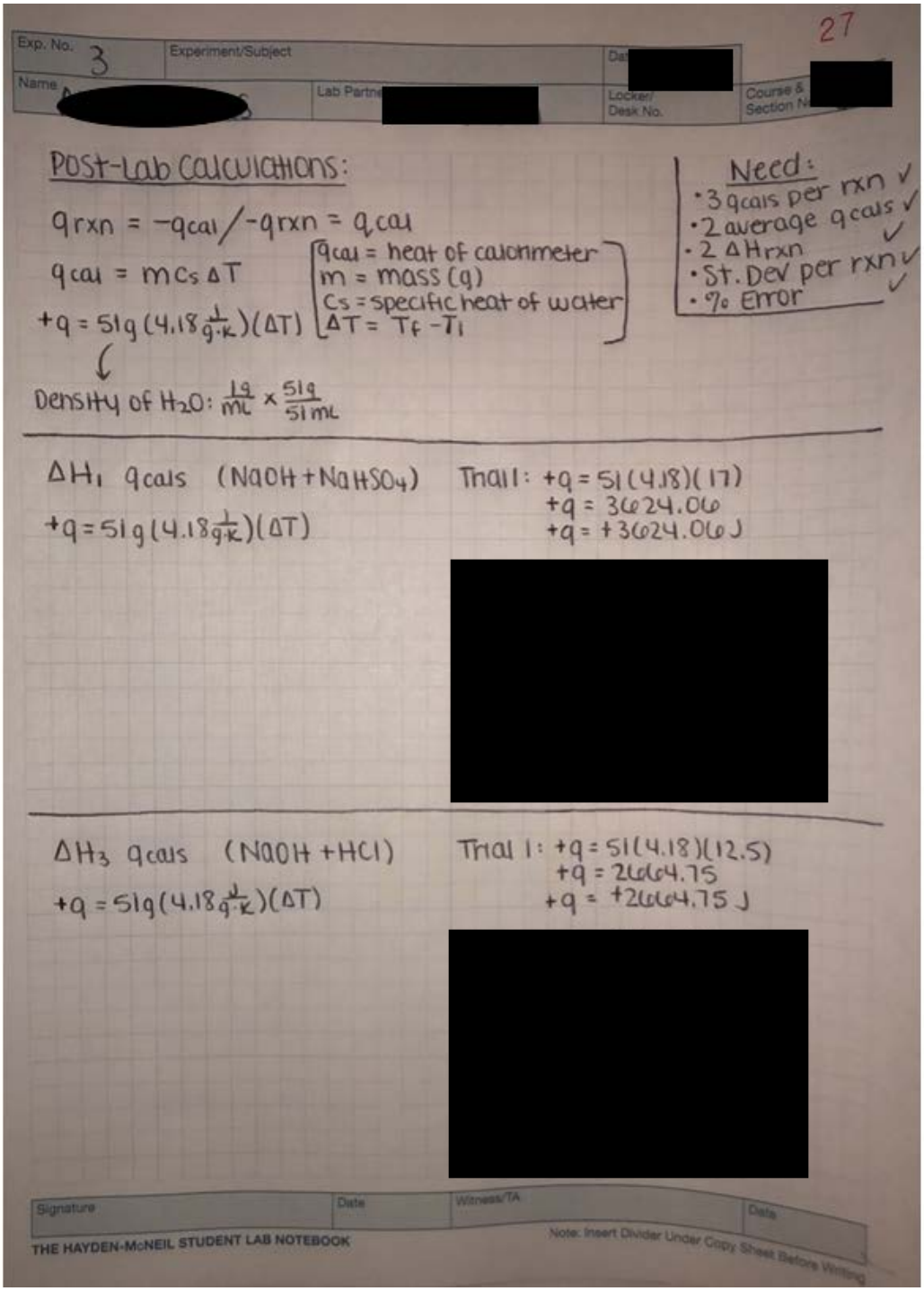
Experiment xx:
Determination of Enthalpy for a Reaction Using Calorimetry

xxxx, 20xx

xxxx
Partner: xxx

Chem 12xxL-xxx

Data Analysis:



Exp. No. 3 | Experiment/Subject | Date [redacted] | 27

Name [redacted] | Lab Partner [redacted] | Locker/Desk No. | Course & Section No. [redacted]

Post-Lab Calculations:

$q_{rxn} = -q_{cal} / -q_{rxn} = q_{cal}$

$q_{cal} = m c_s \Delta T$

$+q = 51g\,(4.18 \frac{J}{g \cdot K})(\Delta T)$

- q_{cal} = heat of calorimeter
- m = mass (g)
- c_s = specific heat of water
- $\Delta T = T_f - T_i$

Density of H_2O: $\frac{1g}{mL} \times \frac{51g}{51mL}$

Need:
- 3 qcals per rxn ✓
- 2 average qcals ✓
- 2 ΔH_{rxn}
- St. Dev per rxn ✓
- % Error

ΔH_1 qcals (NaOH + $NaHSO_4$)

$+q = 51g\,(4.18 \frac{J}{g \cdot K})(\Delta T)$

Trial 1: $+q = 51(4.18)(17)$

$+q = 3624.06$

$+q = +3624.06\,J$

[redacted]

ΔH_3 qcals (NaOH + HCl)

$+q = 51g\,(4.18 \frac{J}{g \cdot K})(\Delta T)$

Trial 1: $+q = 51(4.18)(12.5)$

$+q = 2664.75$

$+q = +2664.75\,J$

[redacted]

Signature | Date | Witness/TA | Date

THE HAYDEN-McNEIL STUDENT LAB NOTEBOOK

Note: Insert Divider Under Copy Sheet Before Writing

Exp. No. 3	Experiment/Subject Determination of Enthalpy	Date [redacted]
Name [redacted]	Lab Partner [redacted]	Locker/Desk No. / Course & Section No [redacted]

Post-Lab calculations continued:

$$\Delta H_{rxn} = \frac{q_{rxn}}{\text{mol of LR}} \quad [q_{rxn} + q_{cal} = 0, \; q_{rxn} = -q_{cal}]$$

LR = acid (25 mL)

$$\frac{2 \text{ mol}}{1 \text{ L}} \times \frac{1 \text{ L}}{1000 \text{ mL}} \times 25 \text{ mL} = 0.05 \text{ mol of acid}$$

[redacted]

ΔH_3 $q_{rxn} = -q_{cal} = -2735.81$ J

$$\Delta H_{rxn} = \frac{-2735.81}{0.05}$$

$\Delta H_{rxn} = -54716.2$ J/mol or -54.716 kJ/mol

[redacted]

2

or -16.628 kJ/mol

Standard Deviation: $s = \sqrt{\frac{(\Delta t_1 - \Delta t_{avg})^2 + (\Delta t_2 - \Delta t_{avg})^2 + (\Delta t_3 - \Delta t_{avg})^2}{3-1}}$

ΔH_1 Standard Deviation $= \sqrt{\frac{(17-16.73)^2 + (16.2-16.73)^2 + (17-16.73)^2}{2}}$

ΔH_1 St. Dev = 0.462

$= \sqrt{\frac{0.0729 + 0.2809 + 0.0729}{2}}$

Signature	Date	Witness/TA	Date

Exp. No. 3 | Experiment/Subject Determination of Enthalpy | D[redacted] | Course & Section N[redacted]

Name [redacted] | Lab Partne[redacted] | Locker/Desk No.

Post-Lab Calculations continued:

Standard deviation: $s = \sqrt{\frac{(\Delta t_1 - \Delta t_{avg})^2 + (\Delta t_2 - \Delta t_{avg})^2 + (\Delta t_3 - \Delta t_{avg})^2}{3-1}}$

ΔH_3 Standard deviation $= \sqrt{\frac{(12.5-12.83)^2 + (12.9-12.83)^2 + (13.1-12.83)^2}{2}}$

ΔH_3 St. Dev $= 0.09335 = \sqrt{\frac{0.1089 + 0.0049 + 0.0729}{2}}$

Percent Error $= \frac{\text{actual } \Delta H_{rxn} - \text{theoretical } \Delta H_{rxn}}{\text{theoretical } \Delta H_{rxn}} \times 100\%$

actual ΔH_{rxn}: from each seperate calculation of $\Delta H_1, \Delta H_2, \Delta H_3$

[redacted]

% error for $\Delta H_1 = \frac{-71.34 \frac{kJ}{mol} - -77.66 \frac{kJ}{mol}}{-77.66 \frac{kJ}{mol}} \times 100\%$

ΔH_1 % error $= -8.14\%$

[redacted]

Signature | Date | Witness/TA | Date

Exp. No. 3	Experiment/Subject Determining Enthalpy	Da[redacted]	
Name [redacted]	Lab Pa[redacted]	Locker/ Desk No.	Course & Section No [redacted]

POST Lab Calculations continued:

% error for ΔH_2 : $\frac{-16.63\frac{kJ}{mol} - -21.76\frac{kJ}{mol}}{-21.76\frac{kJ}{mol}} \times 100\%$

ΔH_2 % error: -23.58%

[redacted]

% error for ΔH_3 : $\frac{-54.72\frac{kJ}{mol} - -55.9\frac{kJ}{mol}}{-55.9\frac{kJ}{mol}} \times 100\%$

ΔH_3 % error = -2.11%

Signature	Date	Witness/TA	Date

Summary of Experimental Results:

Experiment 3 Scientific Argument (QCEJ):

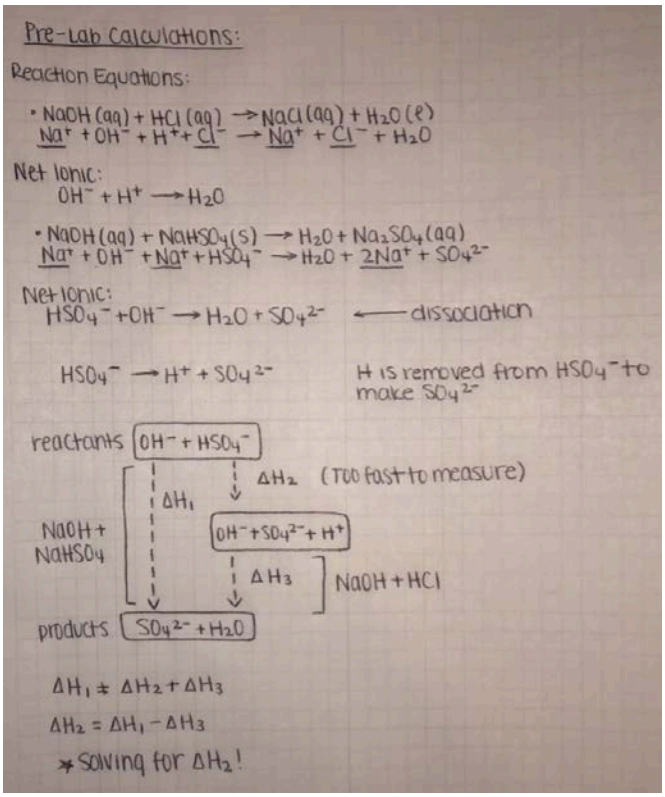
Lab Question:

What is the enthalpy of the dissociation of hydrogen sulfate and how can we solve for it?

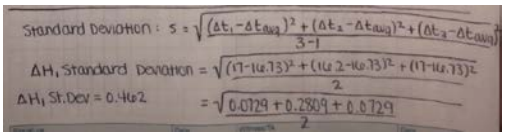
Claims:

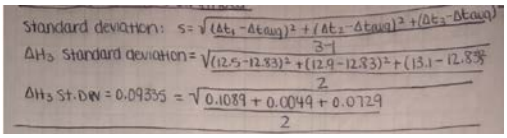
The enthalpy of the dissociation of hydrogen sulfate is -16.63 kJ/mol. It cannot be measured directly because the degree of dissociation is too small, requiring the use of Hess's Law and a constant pressure calorimeter in order to solve for its value.

Evidence:

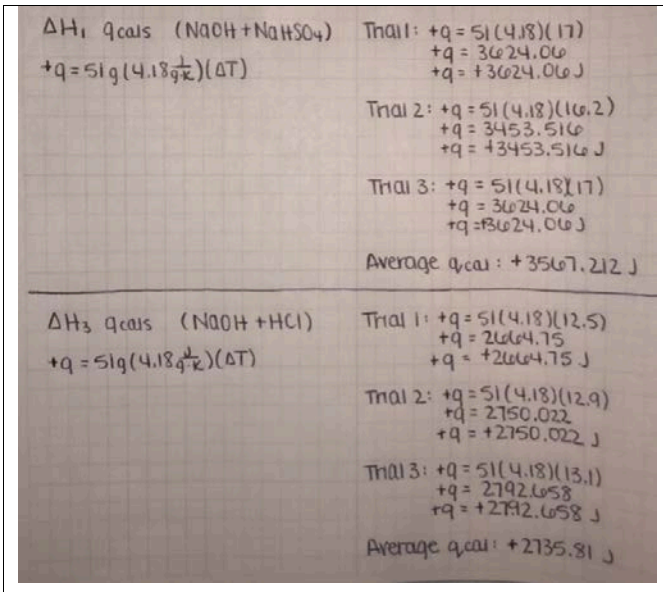


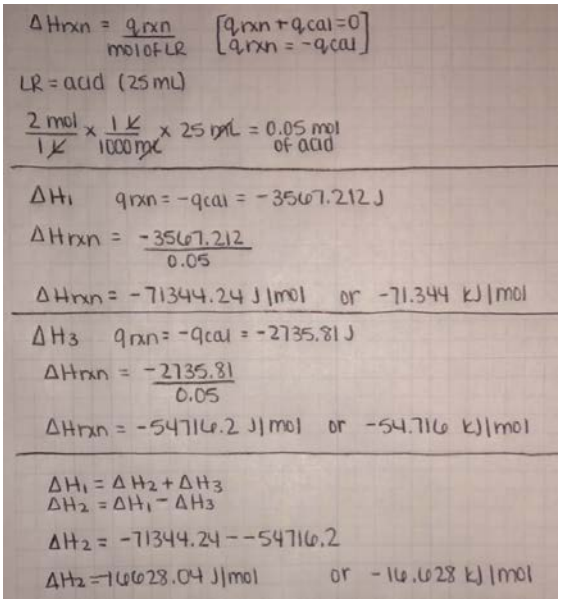
Justification:



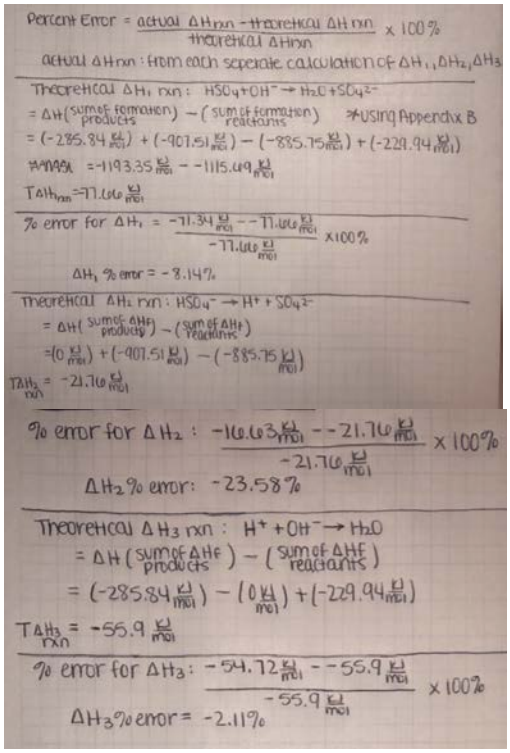


I calculated the standard deviation for each of the two reactions we conducted in the experiment, ΔH_1 and ΔH_2, using the individual ΔT values and then the average ΔT value for each reaction. For ΔH_1 I got a standard deviation of 0.462 and for ΔH_2 I got a standard deviation of 0.093. The lower the standard deviation, the better because it means that the data measurements were taken





with high precision and they were very close together.



Additionally, I calculated the percent error for all three reactions using the equation $\frac{actual\ \Delta H_{rxn} - theoretical\ \Delta H_{rxn}}{theoretical\ \Delta H_{rxn}} * 100\%$.

The actual ΔH_{rxn} is what I calculated from my experiment and the theoretical ΔH_{rxn} can be calculated by subtracting the sum of the ΔH_f reactants from the sum of the ΔH_f products. These values were obtained from the chart in Appendix B from the Lab Manual. I got a % error of 8.14% for ΔH_1, 23.58% for ΔH_2, and 2.11% for ΔH_3. The percent error for ΔH_3 is very

	low which means that there was higher accuracy associated with ΔH_3 calculations and measurements. The % error for ΔH_1 is 8.14% which is not awful, but I think it is what skewed the % error for ΔH_2 to be so much higher. Overall, the standard deviations and percent error are at reasonable enough values to where I think that the results of this experiment and the calculation of -16.63 kJ/mol for the enthalpy of ΔH_2 can be trusted as fairly reasonable.

Conclusion to the Lab Question:

The enthalpy of the dissociation of hydrogen sulfate is -16.63 kJ/mol. It cannot be measured directly because the degree of dissociation is too small, requiring the use of Hess's Law and a constant pressure calorimeter in order to solve for its value.

Hypothesis Analysis:

At the beginning of this experiment, I hypothesized that the enthalpy, change in energy, of the dissociation of hydrogen sulfate could be calculated using the principle of Hess's Law to determine the enthalpy of ionization for two other reactions and then used to solve for the third. Using a constant pressure calorimeter made of Styrofoam cups and a temperature probe, we can measure the change in heat of each reaction, solve for the overall temperature change (ΔT), and then use the equation $q = mc\Delta T$ to find the heat of the reactions (q). Finally, we would solve for

each ΔH_{rxn} and then using Hess's Law of $\Delta H_2 = \Delta H_1 - \Delta H_3$ to give us the enthalpy of the dissociation of hydrogen sulfate. The reason for doing this is because the dissociation of hydrogen sulfate cannot be measured directly since the degree of dissociation is too small, and the reaction occurs too fast.

Post-Lab Discussion Questions:

a.) Use Appendix B to calculate the enthalpy of dissociation of hydrogen sulfate from the enthalpies of formation.

Calculation is removed.

b.) Comment on the enthalpy you obtained from the experiment to the calculated one. Do they match? Evaluate on the success of this experiment.

The actual ΔH_{rxn} that I obtained from the experiment is xxx kJ/mol and the theoretical ΔH_{rxn} that is calculated by subtracting the sum of the ΔH_f reactants from the sum of the ΔH_f products, was xxx kJ/mol. The standard deviation that I calculated for ΔH_1 was not outrageously high, but it was significantly higher when compared to the standard deviation I got for ΔH_3. Although our results are only about 5.0 kJ/mol away from each other, possible human error leading to the higher standard deviation from our first trials could have contributed to this difference in values. Perhaps the thermometer touched the cup when we were mixing up the reactants. Maybe the lid of the Styrofoam cup was not on fully, allowing for some outside air to change the "closed" system nature of the calorimeter. Or maybe an error was made when timing the graph and recording the data measurement since we were choosing data points where we thought the graph had leveled out. Overall, the standard deviations and percent error (calculated in the Justification of the QCEJ) are at reasonable enough values to where I think that the results of this experiment and the calculation of -16.63 kJ/mol for the enthalpy of ΔH_2 can be trusted as fairly reasonable despite it not being incredibly close to the theoretical value.

Experimental Procedure/Observations & Data:

The images of lab note on data and observation is attached.

J. Breneiser, SFCC, PSYC 2120

Application Papers, PSYC 2120
Worth 80 points each

Applying Psychology to Real Life: You are to find ads, newspaper articles, advice and medical columns, cartoons, web sites, songs, TV shows, or video games that incorporate ideas, concepts, and topics that relate to developmental psychological principles.

Your job is to find 1 example for Application Paper #1, and one example for Application Paper #2.

The goal of this assignment is to look for psychology concepts in your day-to-day life, not to pick a concept and go searching for an example of it. You may not use any examples that are covered in the textbook; copying a textbook example will result in no credit on the paper.

The first step is to find an eligible example; if you are working ahead of time, as you should, you are welcome to ask for my feedback as to whether an "example" you have found is appropriate. Your example may be any number of things, but you cannot use a cartoon, image, video, etc. from your psychology books or from an educational website/source that identifies the concept for you; the point of this assignment is to find an example in a cite-able source that where YOU recognized the concept independently. Thus, finding an article on classical conditioning can't be used as an example of classical conditioning, because you didn't have to make the connection between the concept and the example on your own.

The example must be cite-able and verifiable. Because of this, you may not use 'personal experiences' as your examples for this assignment; while personal examples are great at helping you understand and remember the information, for this assignment, the example you choose for each assignment has to be something I can see and compare to your explanation for accurate grading.

You are simply to choose one good example of a concept for each application paper. An example may technically display more than 1 concept, but you must choose which concept to discuss.

Please keep in mind that I have used application assignments many times over the years, and I've never had 2 students turn in the same example unless academic dishonesty was occurring. Do not discuss your example choices with your classmates; doing this can result in intentional or accidental plagiarism. Discuss your choices with ME; I'm more than happy to help you!

For Assignment #1, you will need one example, and to address steps 1, 2, and 3 (detailed below) to earn full credit. Your example can come from any chapter in the textbook (whether it is a chapter we cover in the class or not).

For Assignment #2, you will need one example, and to address steps 1, 2, and 3 (detailed below) to earn full credit. Your example can come from any chapter in the textbook (whether it is a chapter we cover in the class or not). You may not use a concept from the same chapter as you used in Assignment #1, which means you can't use the same concept (or same example!) for Assignment #2. Any student who does will earn a "0" for Assignment #2.

Please note that one-sentence answers are VERY unlikely to earn students full credit. Students should take their time and formulate thoughtful responses for each assignment. **As with any content turned in for a grade, any academic dishonesty will result in a failing grade in the course.**

Grading will be based on the following rubric. Each assignment will be worth 80 points (160 points total for both Assignments #1 and #2).

1. What is the example? Copy and paste the example if it is an image, include a web link if the example is from the internet, or describe the example , and include an APA-format reference citation on where you retrieved the example. You must clearly indicate where you found this material since you cannot use material that has been selected by someone else. (**20 points for example, APA reference citation, and originality/creativity of the example itself**).
2. What is the concept that this relates to? Define, describe, and explain the psychological concept that relates to your example, in your own words. Indicate where in the book you found the definition for this concept, but put the concept into your own words - you must use the book, not Wikipedia or other unreliable sources. Direct quotes are not permitted and will earn no credit. This part of the assignment shows that you can put a concept into your own words. (**20 points for correctness and completeness of the concept**).
3. Apply the concept to your example. Explain, IN DETAIL, how this item/example you found relates to the particular psychological concept, theory, or research finding. Are there any errors in the example (with respect to the psychology concept)? Identify them and explain how they are wrong. You will be graded based on relevance of the clippings to topic, accuracy of description, depth of coverage, and writing (spelling and grammar). Assume that the course instructor doesn't know the topic. Keep in mind that your example doesn't have to be "perfect." As long as you explain any shortcomings of your example, you can still earn full credit. The goal is to show that you can see examples of course concepts in the real world, and you can assess how accurate/inaccurate they may be. (**40 points for correctness and completeness**)

On the following page, I provide an example paper, to give you guidance on the paper format, and the level of depth expected for this assignment. I deliberately selected a concept that is NOT covered in the textbook, so I wouldn't "take" a concept and example that a student would want to use. Let's imagine that this concept is in Chapter 6, even though it really isn't.

Student Name
PSYC 2120: Application Paper #2
Instructor: Dr. Jen Breneiser
(*Please note: this is meant to be a sample of what one application paper would look like.)

1. For this example, I selected the Food Critic scene from the Pixar movie Ratatouille (Bird & Pinkava, 2007). In this scene, Anton Ego, the famous food critic, goes to Gusteau's restaurant (where a rat named Remy is preparing the meal, unbeknownst to Ego and the general public). Ego arrives at the restaurant to review the meal, and he initially scoffs at the simple meal that is placed before him, because ratatouille is usually considered a meal made by farmers or peasants. In the moment before Ego places his first bite of ratatouille into his mouth, he appears to sniff it. In that moment when he smells and tastes the first bite, the scene transitions to Anton Ego as a young boy, who has apparently just wrecked his bicycle. A woman (probably Ego's mother) brings him inside and comforts him with a bowl of homemade ratatouille, which brings a smile to young Anton Ego's face. The force of the memory seems to shock adult Ego, and he sits in the restaurant smiling and enthusiastically eating the ratatouille prepared for his restaurant review of Gusteau's Restaurant.

   Bird, B., & Pinkava, J. (Directors) (2007). Ratatouille [Motion Picture]. United States, Pixar Films.

2. The concept I will tie to this example to comes from Chapter 6, pages xx -xx (Students note: this concept isn't in the text, but if it were, I'd list the page numbers); the Proust effect. This effect is when an individual has an experience when taste and/or smell triggers the retrieval of a memory that hasn't been thought of for a long time (typically years). This effect is named for the author Marcel Proust, who wrote about his experience

eating a madeleine cookie. When he took a bite of the cookie, that very specific taste reminded the author of the aunt who used to give him madeleine cookies, her home, and the entire area surrounding his aunt's home. Even though he wasn't specifically thinking of his aunt or her home (and conceivably hadn't thought about either in quite some time), the taste of the cookie reminded him of those long-ago places and experiences.

3. This example is a good illustration of the notion of the Proust effect, because when Anton Ego takes in the smell and taste of the restaurant's ratatouille dish, the scent and taste immediately trigger a memory of that time when he was comforted by his mother's ratatouille after he fell off of his bicycle. It is clear from the shock on Ego's face when he tastes the ratatouille that he had not thought of that long-ago day in his childhood for a very long time. One possible limitation of this example is that Anton Ego both smells and tastes the ratatouille dish, while the textbook emphasizes the link between scent (smell) and memory specifically; however, because the Proust effect is named for Proust's description of how eating a cookie reflexively triggered a memory, the Proust effect likely involves situations where taste, scent, or both can spontaneously elicit a memory, so this example is still an accurate application of the concept.

NOTE TO EVALUATOR: THIS ASSIGNMENT IS USED TO ASSESS SKILLS RELATED TO PERSONAL & SOCIAL RESPONSIBILITY.

ARTS 1120-201

Week 12 Discussion Forum – Environmental and Social Issues in Contemporary Native American Art

Before you begin your Week 12 Discussion, please view the 23 images and read the accompanying captions by artist Camille Seaman located here: https://www.globalonenessproject.org/library/photo-essays/we-are-still-here#photo=1

Key Idea

As many of you who are students in this class know from first hand experience, Native America exists beyond stereotypes and history books. Today, Native Americans are voicing concerns about a wide range of environmental and human rights issues, shaping their own tribal communities and the future of the country. Some examples from our local communities includes recent protests over water rights and the drilling of deep wells in Taos County; the formation of the Greater Chaco Coalition to halt the BLM's plans for drilling in the sacred Chaco Canyon area; and organizations such as Tewa Woman United that are devoted to ending violence against Native women and girls, and against Mother Earth. These are just a few of many examples locally and nationally.

Background

"We Are Still Here," is a photo essay by Native American documentary and environmental photographer Camille Seaman that presents portraits of contemporary Native Americans. These photographs depict Native Peoples from a variety of tribes, both in traditional regalia and ordinary street clothes. Many of the photographs were taken at the Oceti Sakowin camp in Cannonball, North Dakota, near the Missouri River, one of the places of protest against the construction of the Dakota Access oil pipeline (DAPL). At the Oceti Sakowin camp, as well as other camps on and around the Standing Rock Sioux reservation, indigenous peoples from all over the world came together as "water protectors" in an effort to halt construction of the pipeline.

According to The New York Times, the pipeline travels under hundreds of waterways on its 1,172-mile route through North Dakota, South Dakota, Iowa, and Illinois. Ultimately, the protests failed to stop the pipeline and in June 2017 oil began to flow.* Protesters advocated for a shift in values and behaviors, from consumerism to reverence for the Earth; signs were raised with the phrase "Water is life." While the protests failed to stop the pipeline, tribal and non-tribal individuals united and brought international attention specifically to Native American culture and a deep care and connection to the Earth, including the preservation of natural resources.

Seaman's photo essay is a part of a long-term project, "**We Are Still Here—All My Relations: A Native America Portrait Project**." The project aims to document Native American tribes throughout the United States. There are approximately 573 federally recognized tribes in the U.S.. Camille Seaman was raised within the Shinnecock Montaukett tribe of her father near the eastern end of Long Island, New York.

**Gregor Aisch and K.K. Rebecca Lai, "The Conflicts Along 1,172 Miles of the Dakota Access Pipeline." The New York Times, March 20, 2017.*

Artist's Statement

Camille Seaman describes her perspective for this photo essay in her photographer's statement: "As a child, I knew I was different from the other children at school, but I could not articulate what that difference was. I was troubled when the textbooks we read spoke about Natives in the past tense —always implying that we no longer existed. We are still here. That's why now, in the 21st century, I am setting out to make a new record. It's time to for us to tell our own stories of who we are and what is important to us. Why portraiture? I am interested in one powerful aspect of the process. I make a portrait as a message to the future—as a statement about who my subjects are in this moment. I ask, just before I press the shutter: 'What, through this image, would you like your descendants to know about you, your life—your experience?' With this question, something happens: a gravitas, a moment worthy of recording."

Assignment:

For your main discussion post, write a paragraph of at least five or six (5 or 6) sentences to address all parts of EACH of the following two (2) questions (a total of two paragraphs). Remember to use entirely your own ideas and your own words to complete your assignment.

Then post at least two (2) meaningful replies to classmates of at least two or three (2 or 3) sentences each. Your replies should add something new to the conversation. Don't simply say, "I agree," or "Great work," but instead you should add some new ideas and thoughtful comments to the dialogue.

1. Some of the individuals in the photo essay are seen protesting against the Dakota Access Pipeline (DAPL). A main reason for the protests is that an oil spill could impact the drinking water of the Standing Rock Sioux tribe whose reservation is downstream from where the pipeline crosses the Missouri river. Members of the Standing Rock Sioux Tribe said, "In honor of our future generations, we fight this pipeline to protect our water, our sacred places, and all living beings."

Do you think this perspective might challenge people to shift their behavior from consumerism to reverence and respect for the Earth? What are some possible solutions to balancing the need for fuels with the imperative to preserve our environment? Who has the right to decide? Do Camille Seaman's images alter your own views and potentially your own behavior on this subject? Explain why or why

not.

2. In an interview with Forbes Magazine, Seaman explains that many of the Native tribes who gathered at Standing Rock hadn't come together in over 100 years. This, Seaman said, was a strong message that gets to the heart of "understanding interconnectivity and heritage" as a "strong antidote to fear." How might coming together with others help to address fear and to solve some of the world's problems such as the climate crisis? Describe an experience in your own life, either large or small, in which solidarity with others played an important role.

Remember to use entirely your own words and ideas. Please proofread your work for spelling, grammar and writing style. Please review the rubric attached to the forum to see how your grade will be determined, and let me know if you have questions.

History of Christianity

Summer 2019

Midterm exam

Answer questions as completely as you can. Please write legibly. I need to be able to read your answers.

Answer <u>one</u> of the following questions (33 points).

Of the people you know today, who could be called a Good Samaritan? Give examples.

Why do you think hardships put on Christians by the Romans could not stop the spread of Christianity? Give a detailed explanation.

Answer <u>one</u> of the following questions (33 points).

Why did early Christians form churches?

What general statement could one make about the main purpose of Monistic life?

Answer <u>one</u> of the following questions (33 points).

Describe and compare in detail, the lives of hermits with the lives of monks and nuns.

Give a detailed explanation of how monks contributed to western civilization.

Extra Credit

Do you think citizens should have religious freedom or be required to follow one official religion? Explain. (12 points)

Cultures of the World
Anthropology 1141
Michael Withnall
Fall Session, 2020
Test 1

Multiple Choice.....40 pts.

1. **Anthropology is**
   a. **The study of western culture primarily through the analysis of folklore.**
   b. **The study of human kind everywhere, throughout time.**
   c. **The study of non human primates through an analysis of their myth and folklore.**
   d. **the analysis of humankind from the subjective perspective of one group.**

2. **A physical anthropologist is likely to study**
   a. **The customs and rituals of athletes**
   b. **Human skeletal remains**
   c. **The social environment of a particular group**
   d. **historical relationships between the past and the present**

3. **Which of the following is not one of the four branches of Anthropology**
   a. **Archaeology**
   b. **Linguistics**
   c. **Biology**
   d. **Physical Anthropology**

4. **What is the name of the data gathering techniques employed by Cultural Anthropologists**
   a.. **Ethnoarchaeology**
   b. **Ethanol**
   c. **Biography**
   d. **Ethnography**

5. **An Archaeologist , for all intents and purposes , could be considered to be a**
   a. **Crackpot**
   b. **Glorified garbologist**
   c. **Bone Collector**
   d. **Unemployed**

6. A unique perspective used by Anthropology which enables researchers to achieve a complete picture of their subject area, is referred to as

- **a. Naturalistic**
- **b. Organic**
- **c. Synthetic**
- **d. Holistic**

7 Anthropological enquiry examines the human quest to fulfill basic needs. These needs are referred to as

- **a. Universals**
- **b. Monolithic**
- **c. Sympathetic**
- **d. Unattainable**

8. When groups function within a society with their own distinctive standards of behavior we speak of

- **a. Subcultures**
- **b. Social structure**
- **c. Gender differences**
- **d. Cultural Materialism**

9. The process by which culture is transmitted from one generation to the next is

- **a. Adaption**
- **b. Enculturation**
- **c. Pluralism**
- **d. Subcultural Variation**

10. The process by which organism adjust beneficially to their environment, or the characteristics by which they overcome hazards and gain access to the resources they need to survive, is called

- **a. Culture**
- **b. Biology**
- **c. integration**
- **d. Adaptation**

11 Which of the following is <u>not</u> evidence of a cultural behavior among non-human animals

- **a. Chimpanzees fashion a tool from a twig to hunt for termites**
- **b. Macaques wash sweet potatoes before eating them**
- **c. A lion pack passes a characteristic behavior pattern on to the next generation**
- **d. A deer freezes in the headlights of a car**

12 The rule-governed relationship that holds a society together, with all their rights duties and obligations, are know as its

- **a. Constitution**
- **b. Social structure**
- **c. Bill of Rights**
- **d. Laws**

13. If an anthropologists is studying a culture of the recent past using oral histories, accounts of explorers, missionaries, and traders and also through the analysis of such records as land titles, birth and death records and other archival materials; that anthropologist is doing

- **a. Ethnology**
- **b. Biography**
- **c. Autobiography**
- **d. Ethnohistory**

14. The earliest known tool tradition

- **a. Is Called Oldowan**
- **b. Begins about 2.5 million years ago**
- **c. Marks the beginning of the Paleolithic**
- **d. All of the Above**

15. The primates most closely related to humans are the

- **a. Baboons and Macaques**

b. Chimpanzees and Bonobos
c. Lorises and Lemurs
d. Orang-utan and Tarsiers

16. The AOut of Africa@ hypothesis refers to
a. The molecular evidence that all modern humans derive from a common African ancestry
b. The belief that humans did not evolve, but where created by god
c. The fossil evidence that Neanderthal was wiped out by modern humans
d. The primate evidence suggesting that humans are descended from modern chimpanzees

17. Traveling through trees demands judgements concerning depth, direction, distance, and the relationships of objects hanging in space/ in monkeys, apes, and humans this is achieved through
a. Cybernetics
b. Stereoscopic color vision
c. Radar sensing abilities
d. Sonar like skills

18. Humans are unique in their <u>biological</u> capacity to make adjustment to their environments, this is called
a. Environmental accommodations
b. Physiological adaptation
c. Cultural adaptations
d. Developmental attitudes

19. The technical process by which physical anthropologist measure brain capacity is called
a. ectoplasm
b. enclavism

c. endocasts
d. ecograms

20. The Nacirema are most likely to be found in the
a. U.S.S.R.
b. E.U.
c. C.S.A.
D. U.S.A.

True and False.....40 Pts

21. Humans are mammals, specifically primates. However, they do not share a common ancestry with other primates, like apes

22. **Unlike other scholars who study people, anthropologists are not concerned with the description and explanation of reality**

23. **Your text book and your professor have pointed out that the human races are nothing more than socially constructed categories, and the sooner this is recognized, the better off we will all be**

24. **Ethnocentricism is the folk festival which is held at the center of town**

25. **Culture is acquired through learning rather than DNA**

26. **The process by which people acquire their culture is the same all over**

27. **Judging the beliefs and behaviors of people in terms of their own cultural context is considered to be cultural relative**

28. **To say that a culture is shared means that all members of a society behave in the same way**

29. **There can be no society without culture**

30. **Anthropologists seldom look at the archaeological or historical record to test hypotheses about cultural change**

31. **Anthropology studies the comparisons between cultural similarities, but not their differences**

32. **Ants and bees instinctively cooperate in a manner that clearly indicates a degree of social organization, therefore they have culture**

34. **Generally speaking, Hyper-stimulated North Americans have created a culture in which change has become a positive ideal and expected norm**

35. **A particular feature of primate evolution has been in the increase in the sense of smell**

36. **The earliest stone tools are found in association with Homo Habilis**

37. **The biological concept of race is a wholly discredited system by which an individual can understand human variation**

38. Humans do not merely adapt to the environment through biological change, but rather shape the environment to suite their own needs and desires

39. Dark pigment ed skin color is likely an ancient development

40. Studies in genetics, biochemistry, and anatomy confirm that chimpanzees and bonobos are the most closely related to humans

Map Skills.....20 pts.

Las Vegas N.M. **Guatemala Africa Arctic circle**
The Middle East

The Pacific Ocean **Canada**
Mexico
the Nacirema
Iraq

General Education Course NMHED Recertification Form

This form has been designed to guide you through the recertification process for the UNM General Education course in question. Please fill out your contact information below, and then review the information about the course provided to us by the New Mexico Department of Higher Education *(*NMHED*). After this, you will be instructed to fill out three separate narratives concerning the course and its relevance to NMHED's area and skills associated with the course.*

UNM Course Information

Prefix	**CHEM**
Number	**1215**
Name	**General Chemistry I for STEM Majors**

Contact Information

Name	Ezra Depperman
Title	Lecturer III
Phone	505-400-1336
Email	ezrad@unm.edu

NMHED's Description and Outcomes for the Common Course

The description and student learning outcomes below come from NMHED's Common Course Catalog, *which can be found here, and is meant to designate standard descriptions and outcomes of courses registered as a NMHED* Common Course.

CHEM 1215: General Chemistry I for STEM Majors

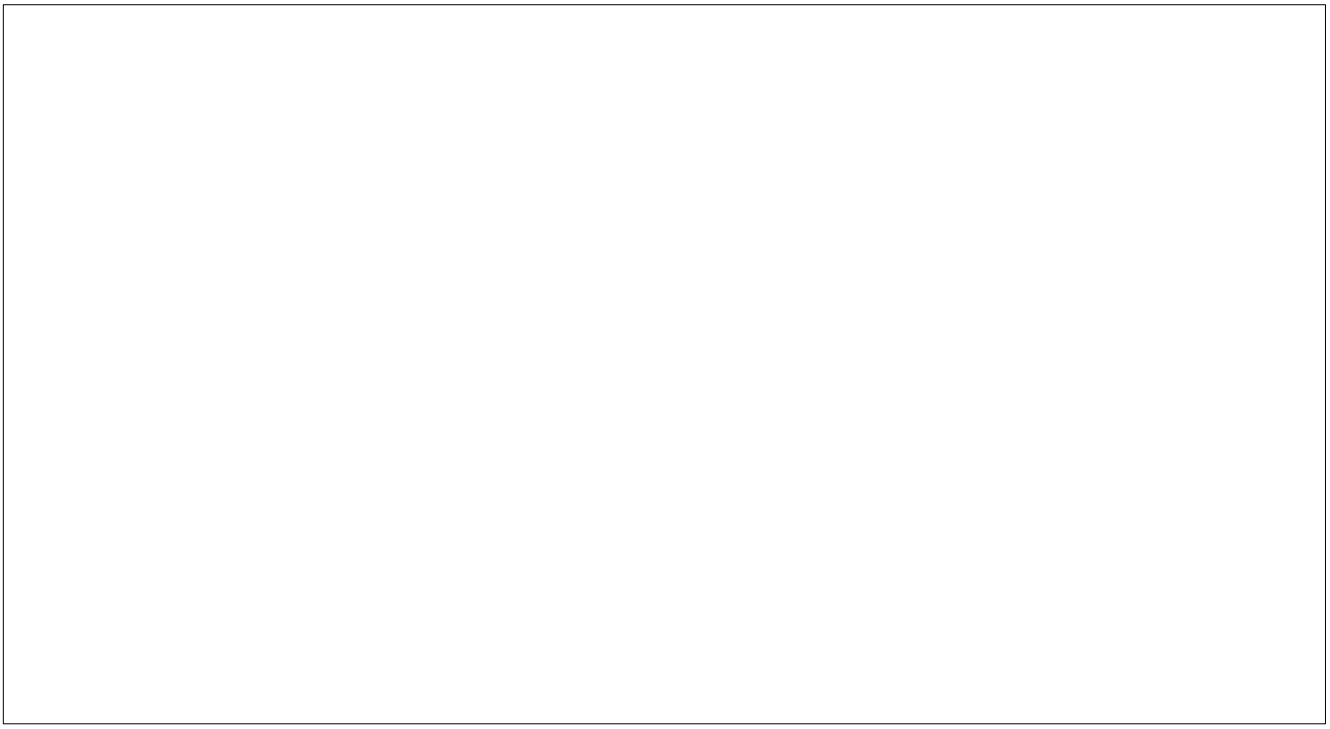
This course is intended to serve as an introduction to General Chemistry for students enrolled in science, engineering, and certain preprofessional programs. Students will be introduced to several fundamental concepts, including mole, concentration, heat, atomic and molecular structure, periodicity, 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.

Institution-specific Student Learning Outcomes

Please add additional SLOs of the general education course to the ones provided by NMHED, or if no SLOs are provided by NMHED, input the SLOs used in assessment for the course.



Area and Essential Skills

Below gives information concerning the area and associated skills of the course to be re-certified. The area here matches the General Education Area of UNM; the "Essential Skills" and their respective Component Skills are characterizations of the area determined by NMHED. You will use this information to fill out the narratives below.

Area in which *CHEM 1215L* resides: Science

Essential Skills in the Area:

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.

Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.

Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.

Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well-reasoned evaluation.

Personal and Social Responsibility

Intercultural reasoning and intercultural competence

Sustainability and the natural and human worlds

Ethical Reasoning

Collaboration skills, teamwork and value systems

Civic discourse, civic knowledge and engagement -- local and global

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.

Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.

Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

Narrative Input

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Explain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking: *Problem Setting; Evidence Acquisition; Evidence Evaluation; Reasoning/Conclusion.*

In this box, provide a narrative that explains how the proposed course addresses the outcomes of the first essential skill. 250-500 words.

Critical thinking is a major area of development for students in General Chemistry. In a variety of different contexts, students are given quantitative and qualitative information describing a problem, and must identify the problem type given the question and information provided in order to solve the problem (**problem setting**). The student learns to characterize the problem by listing all the available information, sorting through relevant and irrelevant information, identifying any additional information needed (**evidence acquisition and evaluation**) and applying it to their existing and expanding conceptual framework. Once solved, they are trained to evaluate whether their solution makes sense, or to compare and contrast different approaches of solving the problem to recommend the optimum path (**reasoning and conclusion**).

The course explicitly introduces problem solving strategies, and students practice these for most of the content related learning outcomes. This course is a particularly good one to learn this skill because very similar prompts and information can lead to very different problem types and solutions, and without learning to pay attention to detail and having the discipline of the problem framing approach, students do not correctly solve the problem.

To achieve this outcome, students are introduced to a problem-solving framework in pre-class textbook reading for one of the early classes in the semester. The content area of unit conversions and dimensional analysis provides their first practice in application. In-class worksheets require students to not only solve the problem but first to set up a plan, and so students practise and instructors get feedback on how students are framing the problem. The foundation is prepared for the content area of stoichiometry which challenges students to do multi-step problems, in which problem setting and planning is essential. Again, in-class worksheets prompt students to first write down the plan as an explicit and graded step before solving the problem. In all content areas, this multi-step problem solving is practiced, usually in in-class worksheets and after-class homework, and then assessed in mid-term and final exams. A student's ability to perform a multistep problem in any one of the content areas is excellent evidence that they have developed significant critical thinking skills. This is assessed in scaffolded worksheets completed in class and on summative mid term and final exams.

Personal and Social Responsibility: *Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical Reasoning; Collaboration skills, teamwork and value systems; Civic discourse, civic knowledge and engagement -- local and global.*

In this box, provide a narrative that explains how the proposed course addresses the outcomes of the second essential skill. 250-500 words.

The course introduces the foundation of an understanding of the natural and human worlds at a molecular level. A critical issue facing humanity is how to provide energy for our growing needs in a way that is sustainable, as well as not exacerbating global warming due to rising levels of carbon dioxide. The first semester of General Chemistry provides an introduction to the concepts of energy that form the fundamental basis for understanding how energy is obtained from chemical reactions. Students will explain how energy is produced from or absorbed into chemical reactions by the balance of bond-breaking and bond-forming processes. *Students will describe traditional sources of energy such as coal and oil and renewable sources of energy such as biofuels.* They will relate energy produced from a certain amount of fuel to carbon dioxide created using reaction stoichiometry. In addition, the concepts of oxidation and reduction are introduced, which provide the basis for understanding the alternative energy source - fuel cells, as well as the scientific foundation of how batteries work to store energy – an essential combination with solar power as an alternative energy solution. To develop these skills, students complete pre-class reading assignments to acquire the basic knowledge and then solve problems on worksheets in class to test their understanding in a formative environment where they are interacting with peers and their instructor. Homework problems further reinforce the learning, and the concepts are tested on mid term and final exams.

In the interests of facilitating collaborative learning, students spend a significant portion of class time daily working together in small groups to solve challenging problems given in the scaffolded worksheets. Though it is acknowledged that each team member will contribute differently to the success of the team, equity of effort is the model students are given to aspire to so that each team member has a role to play and shared responsibility for the outcome.

Clicker questions may also be asked, with peer instruction invoked when the correct response rate is below a threshold value. Typically, peer instruction improves the correct response rate by 15 to 25%.

Quantitative Reasoning: *Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; Application of Quantitative Models.*

In this box, provide a narrative that explains how the proposed course addresses the outcomes of the third essential skill. 250-500 words.

The course focuses strongly on the **application of quantitative models** to the physical world we experience every day. Students begin with a review of some mathematical concepts and terminology and then consider physical and chemical properties of everyday objects, like density, mass, and volume and performing simple calculations involving these types of concepts. Having been introduced to atomic theory, the idea that every physical object we are likely to encounter is made of atoms, students learn chemical formulas and the mole concept. Knowing the chemical formula of a substance, we can count the number of each type of atom present in a sample of that substance simply by weighing it. This idea is important for stoichiometry, a methodology that uses principles of dimensional analysis to determine how much of each reactant must be used to produce a desired amount of product without waste. We can also quantitate the efficiency of our chemical reaction when we determine percent yield, based on the ratio of what we actually obtain (actual yield) to what we calculate that we should obtain (theoretical yield). For solutions, we can use volume and molar concentration to count moles rather than mass and molar mass. Using similar methodology, students practice determination of the amount of energy produced or consumed by a chemical reaction (thermochemistry). Students also learn the quantitative interdependence of the volume, temperature pressure, and amount of a gas (gas laws). For each of these skills, students begin by reading the relevant section in the textbook before we go over it in class. Students then take a brief reading quiz that forces them to perform some of the simple skills covered in the reading and to reflect on their understanding. In class, the material is presented in interactive lecture format, where students are encouraged to ask questions. Clicker questions requiring students to perform calculations using topics from lecture are frequently employed to assess the effectiveness of the lectures. Students may also work together in small groups to complete worksheets that contain questions for which the students must synthesize the various skills and concepts learned in class that day. Homework problems provide further opportunity to hone these skills and midterm and final exams assess students' degree of mastery.

Additional Information

Course Materials

NMHED requires that both a syllabus and a sample course assignment (project, paper, exam,etc.) from the course in question to be attached to the recertification form. Be sure and pick an assignment that correlates with the descriptions provided in the narratives above.

Attachments:

- *Course syllabus for CHEM 1215*
- *A typical course assignment requiring quantitative reasoning and critical thinking which is completed in teams (personal and social responsibility)*

Assessment Plan

When it is submitted to NMHED, each general education course will also have attached the assessment plan that is used for General Education Assessment at UNM. For more information on this process, please visit this page from UNM's Office of Assessment. http://assessment.unm.edu/gened-assessment/index.html

Course Title*: General Chemistry I*
Course Number: 1215
Course Credits: 3

Course Description:
CHEM 1215 provides the foundation for all your future science and engineering classes as well as the keys to beginning to unlock the secrets of the universe! A good background in Chemistry provides the toolkit and training needed to understand and solve some of the significant challenges we face in the fields of energy, environment and medicine. This section employs collaborative learning – in class, you will work in teams on hard problems designed to help you apply the concepts you are learning to real world problems. To succeed in this environment, you must shift your classroom persona from listener, observer and note-taker to active problem solver, contributor and discussant.

Course Goals:
To provide a broad foundation in chemistry that stresses scientific reasoning and analytical problem solving with a molecular perspective.

Student Learning Outcomes (aka Objectives):

List achievable, measurable skills, knowledge and attitudes that students should be able to do/know upon course completion. Written for learner using action verbs. Provide clear expectations of what needs to be mastered for successful course completion. May be broken down further in lesson or module units. See Appendix

At the end of this course you should be able to:
1. Relate the development of essential chemical theories to the application of the scientific method.
2. *Use dimensional analysis, the SI system of units and appropriate significant figures to solve quantitative calculations in science.*
3. *Explain the structure of the atoms, isotopes and ions in terms of its subatomic particles.*
4. *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.*
5. *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.*
6. *Apply the gas laws and kinetic molecular theory to relate atomic level behavior to macroscopic properties.*
7. 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.
8. Use different bonding models to describe formation of compounds (ionic and covalent). Apply knowledge of electronic structure to determine molecular spatial arrangement and polarity.
9. *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.*
10. Apply principles of general chemistry to specific real world problems in environment, engineering and health-related fields.
11. Work as part of a well-functioning team to solve problems of chemical and real world relevance

*Learning outcomes in italics are standard for all institutions in New Mexico that teach CHEM 1215, but ALL learning outcomes listed here will be taught and assessed in this course.

Materials and Resources

1. Access to the textbook: *Chemistry, The Science in Context* 5th edition by Gilbert, Kirss, Foster, Davies

2. Access to SmartWork5 - the companion website to the textbook
Follow the instructions and enroll in student set **167997.** Note: the access code is available via redshelf (see the link under course information on LEARN)

If you have trouble with Smartwork, Please submit a support ticket:
http://helpdesk.wwnorton.com/external/helpdeskrequest.aspx?tid=11118

3. Internet access: Pre-class assignments are delivered in **SMARTWORK. I will communicate with you via your UNM email address, please check daily** .

4. ALEKS access code and ALEKS class code -

5. An i-clicker (Register it on LEARN, **not on the i>clicker website**) to bring to each class (i-clicker or iclicker+, **NOTE** that i-clicker2 is not required but should also work).

6. A scientific calculator to bring to each class (non-programmable for exams)

Recommended resources:

1. Notebook and pen for note-taking before and during lecture.
2. ALeKS notebook: Work all problems on paper before entering the answers. record what you have learned in ALeKS and make a note of any problems you need to get help with.
3. Periodic Table: from Chapter 2 onwards, you will find it useful to have a periodic table in each class session

Class Structure and Expectations

During class time, you will be engaged in problem-solving activities in small groups. You will have the chance to work on harder (exam type and real world application) problems with the resources of your teammates.

- **BEFORE CLASS:** Detailed pre-class reading assignments and video tutorials followed up by a brief reading quiz and 'muddy point question' in Smartwork. The muddy point question is a chance for you to tell me what was most difficult or most interesting in your assigned reading, and this determines what I lecture on.

- **IN CLASS:** I will follow up with the majority muddy points and issues from the reading quiz at the beginning of class to give further explanation and clarification. You will then work in small groups on assignments applying the material from the pre-class reading.

- **AFTER CLASS:** To deepen and fix your learning, you have an after-class homework assignment on ALEKS. Expect weekly deadlines on Fridays at 11:59 pm. You should expect to **spend 4-6 hours per week** on your ALEKS homework.
  ALEKS syllabus

Group work:

- In Class Exercises will be done in small groups of 2 or three that are self-selecting. Though they don't count for a grade, this step is crucial in the learning process, and these types of questions will show up on exams

Sample schedule of assignments: The Schedule of assignments is subject to change. Minor changes will be announced in class, major ones provided in writing.

Date	Day	Smartwork Assignment	In class	After Class (ALEKS)
8/19/2019	Mon		intro	
8/20/2019	Tue	Ch 1 L1		
8/21/2019	Wed		Ch 1 L 1	
8/22/2019	Thu	Ch 1 L2		Math Primer
8/23/2019	Fri		Ch 1 L 2	
8/24/2019	Sat			Objective 1
8/25/2019	Sun	Ch 2 L1		open pie
8/26/2019	Mon		CH 2 L1	
8/27/2019	Tue	CH 2 L2		
8/28/2019	Wed		CH 2 L2	
8/29/2019	Thu	Ch 2 L3		
8/30/2019	Fri		CH 2 L3	

8/31/2019	Sat			Objective 2
9/1/2019	Sun	Ex 1 Review MP		open pie
9/2/2019	Mon	LABOR DAY	LABOR DAY	
9/3/2019	Tue			
9/4/2019	Wed		Ex1 Review	
9/5/2019	Thu			
9/6/2019	Fri		**Exam 1**	
9/7/2019	Sat			Objective 3
9/8/2019	Sun	CH 3 L1		open pie
9/9/2019	Mon		CH 3 L1	
9/10/2019	Tue	CH 3 L2		
9/11/2019	Wed		CH 3 L2	
9/12/2019	Thu	CH 3 L3		
9/13/2019	Fri		CH 3 L3	
9/14/2019	Sat			Objective 4
9/15/2019	Sun	CH 3 L4		open pie
9/16/2019	Mon		CH 3 L4	
9/17/2019	Tue	CH 4 L1		
9/18/2019	Wed		CH 4 L1	
9/19/2019	Thu	CH 4 L2		
9/20/2019	Fri		CH 4 L2	
9/21/2019	Sat			Objective 5
9/22/2019	Sun	CH 4 L3		open pie
9/23/2019	Mon		CH3 L3	
9/24/2019	Tue	CH 4 L4		
9/25/2019	Wed		CH4 L4	
9/26/2019	Thu	Ex 2 Review MP		
9/27/2019	Fri		Exam 2 Review	
9/28/2019	Sat			Objective 6
9/29/2019	Sun			open pie
9/30/2019	Mon		**Exam2**	
10/1/2019	Tue	CH 5 L1		
10/2/2019	Wed		CH5 L1	
10/3/2019	Thu	CH5 L2		
10/4/2019	Fri		CH 5 L2	
10/5/2019	Sat			Objective 7
10/6/2019	Sun	CH 5 L3		open pie
10/7/2019	Mon		CH 5 L3	
10/8/2019	Tue	CH 5 L4		
10/9/2019	Wed		CH 5 L4	
10/10/2019	Thu	Fall Break	Fall Break	
10/11/2019	Fri	Fall Break	Fall Break	
10/12/2019	Sat			
10/13/2019	Sun	CH 6 L1		
10/14/2019	Mon		CH 6 L1	
10/15/2019	Tue	Ch 6 L2		
10/16/2019	Wed		Ch 6 L2	
10/17/2019	Thu	Ch 6 L3		

10/18/2019	Fri		Ch 6 L3	
10/19/2019	Sat			Objective 8
10/20/2019	Sun	CH 6 L4		open pie
10/21/2019	Mon		CH 6 L4	
10/22/2019	Tue	CH 7 L1		
10/23/2019	Wed		CH 7 L1	
10/24/2019	Thu	CH 7 L2		
10/25/2019	Fri		CH 7 L2	
10/26/2019	Sat			Objective 9
10/27/2019	Sun	CH 7 L3		Assessment 1 Due
10/28/2019	Mon		CH 7 L3	
10/29/2019	Tue	Ex 3 Review MP		
10/30/2019	Wed		Ex 3 Review	
10/31/2019	Thu			
11/1/2019	Fri		**Exam 3**	
11/2/2019	Sat			Objective 10
11/3/2019	Sun	CH 7 L4		open pie
11/4/2019	Mon		CH 7 L4	
11/5/2019	Tue	CH 7 L5		
11/6/2019	Wed		CH 7 L5	
11/7/2019	Thu	CH 8 L1		
11/8/2019	Fri		CH 8 L1	
11/9/2019	Sat			Objective 11
11/10/2019	Sun	CH 8 L2		open pie
11/11/2019	Mon		CH 8 L2	
11/12/2019	Tue	CH 8 L3		
11/13/2019	Wed		CH 8 L3	
11/14/2019	Thu	CH 9 L1		
11/15/2019	Fri		CH 9 L1	
11/16/2019	Sat			Objective 12
11/17/2019	Sun	CH 9 L2		open pie
11/18/2019	Mon		CH 9 L2	
11/19/2019	Tue	Muddy point		
11/20/2019	Wed		Flex Day	
11/21/2019	Thu	CH 9 L3		
11/22/2019	Fri		CH 9L3	
11/23/2019	Sat			Objective 13
11/24/2019	Sun	CH 9 L4		Assessment 2 Due
11/25/2019	Mon		CH 9 L4	
11/26/2019	Tue	Muddy point		
11/27/2019	Wed		Ch. 9 Review	
11/28/2019	Thu	THANKSGIVING BREAK	THANKSGIVING BREAK	
11/29/2019	Fri	THANKSGIVING BREAK	THANKSGIVING BREAK	
11/30/2019	Sat			
12/1/2019	Sun	Ex4 Review MP		
12/2/2019	Mon		Ex 4 Review	

12/3/2019	Tue			
12/4/2019	Wed		**Exam 4**	
12/5/2019	Thu	Final Exam MP		
12/6/2019	Fri		Final Exam Review	Objective 14
12/7/2019	Sat	FINALS WEEK	FINALS WEEK	
12/8/2019	Sun	FINALS WEEK	FINALS WEEK	
12/9/2019	Mon	FINALS WEEK	FINALS WEEK	
12/10/2019	Tue	FINALS WEEK	FINALS WEEK	
12/11/2019	Wed	FINALS WEEK	FINALS WEEK	
12/12/2019	Thu	FINALS WEEK	FINALS WEEK	
12/13/2019	Fri		Final Exam 10 am	Assessment 3 Due

List and describe all assessments which contribute to course score. May include exams, portfolios, participation, attendance, papers, oral reports, group projects, assignments, etc. Include possible point (percentage) value of each. NOTE: for dual listed courses (undergrad and graduate) list requirements for each separately. See Appendix 2.

Grading:

Your final grade will be calculated as follows:
Smartwork 10%
(SW = End of semester average reading quiz and muddy point grade * 0.10)
ALeKS homework 20%
(**AL= End of semester average *0.20**)
Mid-term exam average 60%
(MTE = Mid term exam average *0.60) best 3 out of 4
In class worksheets and clicker questions 10%
(**IC = average *0.10)**
Final Exam 15%
(**FE = exam score * 0.15**)

o estimate your grade at any point, use the following formula:
SW + AL + MTE + IC + FE= Course grade.
Download the Grade Calculator

Smartwork grading policies:

- *There is a smartwork assignment the day before EACH class.*
- **No makeups or extensions** are given for missed smartwork assignments. However you may submit clicker answers on paper for up to three days if you forget your clicker.
- To allow for absences, illness, computer issues, malfunctioning or forgotten clickers etc, I will drop your lowest smartwork score and 3 i>clicker scores.
- Muddy points are graded out of 5 points according to the following rubric:

Everything was difficult/nothing was interesting/no detail in answer = 1/5.
General topic only, no examples = 3/5
General topic + specific example/explanation = 5/5

ALeKS grading policies

- For tutorial 'learning mode' questions, 6 attempts per question, no deductions made for incorrect answers until all 6 attempts are used up. No penalty for using 'hints'.
- Objectives are due at 11:59 pm on Saturdays. Late submissions give a small amount of partial credit, but each objective must be completed in order to unlock the next. It is CRUCIAL that you not fall behind.
- Open pie - a chance to catch up on topics or get ahead!
- The ALeKS gradebook will be downloaded at 9pm on the last day of class, so no further credit can be obtained after this.

- 50% of ALEKS grade is objective completion by due date, 50% is overall pie progress.

In-class work grading policies:

- Group assignments will be completed as a crucial part of learning, but will be assessed via clicker questions.
- Clicker questions: Each clicker question is worth a maximum of 2 points. A correct answer earns 2 points and any incorrect answer earns 1 point (for participation). You will only score zero on a question if you are not present or don't attempt to answer.

Where to get help:

- **Ask questions** in class at any time, of your team-mates, table-mates, me or the learning support team.
- **Attend office hours** and help sessions held by me and the learning support team: a link to a help session calendar will be available on Blackboard LEARN with times and locations.
- **Get to know your learning support team**: Our class will have some peer-learning facilitators and an SI leader who will work with you during class time and will hold office hours weekly. You may attend the SI sessions for my section 5 or section 3 classes.
- **Consider forming a study group**
- **Email me at sknotten@unm.edu. Use this in preference to the Blackboard mail. If I have not responded within 48 hours, or sooner if urgent, feel free to email me again to remind me. In busy times, emails sometimes get buried.**
- **Accommodations for Disabilities.**In accordance with University Policy 2310 and the Americans with Disabilities Act (ADA), academic accommodations may be made for any student who notifies the instructor of the need for an accommodation. It is imperative that you take the initiative to bring such needs to the instructor's attention, as I am not legally permitted to inquire. Students who may require assistance in emergency evacuations should contact the instructor as to the most appropriate procedures to follow. Contact Accessibility Resource Center at 277-3506 for additional information. If you need an accommodation based on how course requirements interact with the impact of a disability, you should contact me to arrange an appointment as soon as possible. At the appointment we can discuss the course format and requirements, anticipate the need for adjustments and explore potential accommodations. I rely on the Disability Services Office for assistance in developing strategies and verifying accommodation needs. If you have not previously contacted them I encourage you to do so.
- **CAPS:**provides a Math/Science Tutoring Program, Online Tutoring Program, Supplemental Instruction (SI) Program, Writing and Language Center, Learning Strategies Program, and multi-disciplinary tutoring. CAPS meets the diverse needs of a large student population with individual tutoring, workshops, study groups, drop-in labs, language conversation groups, SI sessions, and online assistance. Go to caps.unm.edu for more information.
- **Textbook**: the end of chapter problems in blue have answers at the back of the book. This is a great free resource.
- **Smartwork**: The digital landing page for your textbook and Smartwork homework have MANY useful guided learning resources by chapter in the ANIMATIONS section. https://digital.wwnorton.com/chem5. I highly recommend these resources, whether or not they are already specifically assigned to you.

How to succeed in 1215:

1. Use the learning outcomes as a study guide: you can find these with your pre-class reading assignments and in the front of each textbook chapter. These tell you what you need to be able to do to show mastery of the

material and hence **what will be on the exam.**

2. Keep up with the reading assignments and quizzes: As well as being the easiest points available, if you spend a bit of quality time on these, you will be able to learn more in class, and hence your studying will be more efficient.

3. Attendance is vital to success - be prepared to contribute to discussions in class and don't be afraid to ask questions: There are no concepts in General Chemistry that you can't understand, and don't let us get away with it if you don't have a complete understanding.

4. Get into the habit of doing at least 30 minutes of ALEKS MOST DAYS of the week, and preferably practice topics within 24 hours of the class on that topic while it is still fresh in your mind. This will save you time and contribute to better understanding and higher grades. Use the resources available (office hours, study groups) when you get stuck with a problem after you have given it your best effort.

5. If you start to feel overwhelmed, get help immediately! Make an appointment with me or with one of the learning team – the earlier the better to help get you back on track.

Course Policy and other relevant information

1. Cell-phones and pagers, etc - must be turned off.Text-messaging and other phone use is distracting to the instructor, to your fellow students and yourself. Respect the learning environment and make sure your conversations are related to the course material. If you need an exception to this policy, please come and talk to me.

2. Attendance expectations: Attendance is one of the most important things for your success in this class. **I will exercise my discretion to drop you from the class after 4 unexcused absences. If you miss more than 3 consecutive reading quizzes you will also be dropped unless you have communicated with me and I deem the reason valid.** Classes will begin promptly on the hour and habitual late arrival to class or leaving early is disrespectful of your teammates. If special circumstances exist, please meet with me to discuss them.

3. Final grades:If you take the cumulative final exam, you will no longer be able to drop the class and you will be assigned a letter grade A-F. Grade boundaries will be decided at the end of the semester. Final grades will not be changed unless there has been a legitimate error in my grading or grade calculation.

4. Exam policy: You will need your UNM id, a non-programmable calculator and a #2 pencil – ALL exams will be SCANTRON. You will be provided with a periodic table and as much scratch paper as you need. To each test, you may bring a 3" x 5" notecard with whatever information you chose written on it (hand-written only). You may bring a hand-written letter size reference sheet (8.5" x 11") to the final exam.

5.Academic dishonesty is taken very seriously: Academic dishonesty is used as defined in the UNM Pathfinder and includes plagiarism, using inappropriate resources in exams and quizzes and copying among others. https://pathfinder.unm.edu/campus-policies/academic-dishonesty.html
Please let me know if you need guidance about what constitutes plagiarism or a lack of academic integrity. Each instance will be reported to the Dean of Students and may become a part of your permanent record. In addition, it may result in consequences from a zero on the exam or assignment up to failure of the course, and potentially more serious consequences.

6. Withdrawals:If you intend to withdraw from the course, it is your responsibility to drop from the course

properly. You will not be entitled to receive a "W" for this course without properly and officially completing withdraw process. After the deadline for withdraw without Dean's approval is past, you will need to contact the Dean's office to withdraw. Please note the rules associated with co-requisite course when you drop.

7. Co-requisite course requirements: If you decide to drop this course, you will also be dropped from the co-requisite course, CHEM 123L. Similarly, if you drop from CHEM 123L, you will also be dropped from this course. An override can be granted by Dr Knottenbelt to allow you to stay in the lecture even if you drop from the co-requisite lab so long as the following criteria are met: you have completed both exam 1 and exam 2 and you have a passing grade at the mid-semester point. Note: if you drop from this course and want to stay in the co-requisite lab, you will need to obtain an override from the instructor of record for the lab, Dr Ho, in order to stay in that course. Please do not contact me for an override in this case.

8. Federal Credit Hour Definition: A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than:
(1) one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester. **This means that you should expect a MINIMUM of 6 hours of out-of-class work a week for this class, and quite possibly more depending on the difficulty of topics and your own previous experience**.

9. Title IX prohibitions on sex discrimination include various forms of sexual misconduct, such as sexual assault, rape, sexual harassment, domestic and dating violence, and stalking. Current UNM policy designates instructors as required reporters, which means that if I am notified (outside of classroom activities) about any Title IX violations, I must report this information to the Title IX coordinator. If you or someone you know has been harassed or assaulted and would like to receive support and academic advocacy, there are numerous confidential routes available to you. For example, you can contact the Women's Resource Center, the LGBTQ Resource Center, Student Health and Counseling (SHAC), or LoboRESPECT. LoboRESPECT can be contacted on their 24-hour crisis line, (505) 277-2911 and online at loborespect@unm.edu. You can receive non-confidential support and learn more about Title IX through the Title IX Coordinator at (505) 277-5251 and http://oeo.unm.edu/title-ix/. Reports to law enforcement can be made to UNM Police Department at (505) 277-2241.

10. Citizenship and/or Immigration Status: All students are welcome in this class regardless of citizenship, residency, or immigration status. I will respect your privacy if you choose to disclose your status. As for all students in the class, family emergency-related absences are normally excused with reasonable notice to the professor, as noted in the attendance guidelines above. UNM as an institution has made a core commitment to the success of all our students, including members of our undocumented community. The Administration's welcome is found on our website: http://undocumented.unm.edu/.

11.Safety:UNM offers several resources to help keep Lobos safe.
LoboGuardian, https://loboguardian.unm.edu is a mobile app that increases user safety by creating a virtual safety network of friends and family.
The entire UNM campus has blue light emergency phones. UNM Police Department, tel.: (505) 277-2241, offers a free escort service for safety. Lobo Alerts https://loboalerts.unm.edu is UNM's emergency text messaging system that can inform you of any occurrences that impact safety. Get Help Now at https://loborespect.unm.edu/Get%20Help%20now/index.html LoboRespect Advocacy Center, for concerns such as sexual misconduct, hate/bias, bullying, hazing. Student Health Services https://shac.unm.edu provides counseling and health services to all students.

Worksheet 5.4 Hess's Law and Heats of Formation applied to evaluating LPG

Recorder: _____ Monitor: _____ Skeptic: _____

You are working in the Department of Energy, and you are presented with a proposal that suggests that liquefied petroleum gas (LPG) is an excellent and climate-friendly alternative transportation fuel to gasoline. You are asked to assess the feasibility of replacing gasoline as a fuel for cars with LPG. LPG is a mixture of gases that may contain primarily butane, primarily propane or a more even mixture. The questions that follow will guide your thought processes, using your chemical and thermochemical knowledge.
For this exercise, you can assume that the LPG consists of pure propane, C_3H_8.

1a. You wish to determine the amount of heat produced by the reaction of propane with oxygen. You are given the enthalpy changes of some known reactions:

1. $3C(s)\ (graphite) + 4H_2\ (g) \rightarrow C_3H_8\ (g)$ ΔH_1

2. $C(s)\ (graphite) + O_2\ (g) \rightarrow CO_2\ (g)$ ΔH_2

3. $H_2\ (g) + \frac{1}{2} O_2\ (g) \rightarrow H_2O\ (l)$ ΔH_3

Combine reactions 1,2 and 3 to form a series of steps that sum to the combustion of propane: $C_3H_8\ (g) + 5\ O_2\ (g) \rightarrow 3CO_2\ (g) + 4\ H_2O\ (l)$

Then, **using Hess's Law**, write ΔH_{rxn} for the combustion **in terms of ΔH_1, ΔH_2 and ΔH_3**

ΔH_{rxn} = _____

b. Given the following values for the enthalpy changes, calculate ΔH_{rxn} for the combustion of propane. ΔH_1 = -103.85 kJ/mol ΔH_2 = -393.5 kJ/mol ΔH_3 = -285.8 kJ/mol

ΔH_{rxn} = _____

2. Heats of formation: Use **the definition of heat of formation** to determine for which of the reactions below is $\Delta H°_{rxn} = \Delta H°_f$. *Where possible, write the relationship of the heat of reaction to a heat of formation for any that are not equal.*

A) $2\ H_2(g) + O_2(g) \rightarrow 2\ H_2O(l)$

B) $C(s,graphite) + 2H_2(g) \rightarrow CH_4(g)$

C) $2\ H_2O(l) \rightarrow 2\ H_2(g) + O_2(g)$

D) $NO(g) + \frac{1}{2}\ O_2(g) \rightarrow NO_2(g)$

3.In question 1, you calculated the enthalpy change for the combustion of propane from combining 3 reactions with known enthalpy changes using **Hess's Law**. **Standard heats of formation** are a general method to find the enthalpy change in **ANY** reaction from information that can be looked up in a table. $C_3H_8\ (g) + 5\ O_2\ (g) \rightarrow 3CO_2\ (g) + 4\ H_2O\ (l)$

a. Use the equation connecting standard enthalpy change of reaction to standard enthalpy change of formation of reactants and products to write ΔH_{rxn} for the combustion of propane in terms of the heats of formation of the reactants and products.

b. Use the tabulated heats of formation below and your answer to 3a. to calculate ΔH_{rxn} for the combustion of propane in kJ/mol.

	$\Delta H°_f$ kJ/mol
C_3H_8 (g)	-103.85
CO_2 (g)	-393.5
H_2O (l)	-285.8
H_2O (g)	-241.8

ΔH_{rxn} = _____

c. Why did you not need the value of $\Delta H°_f$ for O_2 (g) to solve this problem?

d. Extension: extra credit: Compare your answers to 1a and 3a, and also 1b and 3b. Comment on what you observe.

General Education Course NMHED Recertification Form

This form has been designed to guide you through the recertification process for the UNM General Education course in question. Please fill out your contact information below, and then review the information about the course provided to us by the New Mexico Department of Higher Education *(*NMHED*). After this, you will be instructed to fill out three separate narratives concerning the course and its relevance to NMHED's area and skills associated with the course.*

UNM Course Information

Prefix	**CHEM**
Number	**1225**
Name	**General Chemistry II for STEM Majors**

Contact Information

Name	Diana Habel-Rodriguez
Title	Lecturer III
Phone	505-277-6655
Email	dianah@unm.edu

NMHED's Description and Outcomes for the Common Course

The description and student learning outcomes below come from NMHED's Common Course Catalog, *which can be found here, and is meant to designate standard descriptions and outcomes of courses registered as a NMHED* Common Course.

CHEM 1225: General Chemistry II for STEM Majors

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 spontaneityÍ¾ 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 cellÍ¾ or describe organic reactions.
9. Describe bonding theories, such as valence and molecular orbital theory.

Institution-specific Student Learning Outcomes

Please add additional SLOs of the general education course to the ones provided by NMHED, or if no SLOs are provided by NMHED, input the SLOs used in assessment for the course.

Area and Essential Skills

Below gives information concerning the area and associated skills of the course to be re-certified. The area here matches the General Education Area of UNM; the "Essential Skills" and their respective Component Skills are characterizations of the area determined by NMHED. You will use this information to fill out the narratives below.

Area in which *CHEM 1225* resides: Science

Essential Skills in the Area:

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.

Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.

Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.

Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well-reasoned evaluation.

Personal and Social Responsibility

Intercultural reasoning and intercultural competence

Sustainability and the natural and human worlds

Ethical Reasoning

Collaboration skills, teamwork and value systems

Civic discourse, civic knowledge and engagement -- local and global

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.

Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.

Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

Narrative Input

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Explain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking: *Problem Setting; Evidence Acquisition; Evidence Evaluation; Reasoning/Conclusion.*

In Chem1225 students develop an understanding of the mechanisms that govern chemical behavior and chemical interactions, which grows in complexity throughout the course. The course starts with intermolecular interactions between molecules, which manifest on the macroscopic, human-scale level in a number of physical properties such as boiling points, melting points, surface tension, vapor pressures, viscosities, solubility and more. The boiling point of a substance, for example, depends on many variables: the strength of the intermolecular interactions between the individual molecules, but also the atmospheric, and also the nature of the substance (is this a pure liquid or a solution that contains a solute?) (problem setting, evidence evaluation)

Understanding and correctly predicting expected trends in the context of this complexity requires students to careful delineate the problem. If I compare several chemical samples, what factors are changing and what factors are the same? Depending on which factors are changing, what physical phenomenon (and hence which equation) is involved? (problem setting) Students practice this on in-class worksheet and in-class clicker questions. The included 'intermolecular interactions worksheet' gives students a data set of physical properties across a series of molecular compounds and requires the students to infer what the appropriate trends for intermolecular forces are. (evidence evaluation) This is both practiced and assessed on worksheets and assessed on midterm exams. Specifically, midterm exam questions do not usually name the chemical phenomenon for the student in the question - rather the students need to classify the problem and the variables systematically to realize what appropriate equation or phenomenon each question involves. A more nuanced skill is learning to evaluate what is or is not extraneous information. (evidence gathering, evidence evaluation) On in-class worksheets, on after-class ALEKS homework and on mid-term exams students are occasionally presented with extraneous information and must decide which piece of data contains the information that they are after. This is an aspect of critical thinking that students are often uncomfortable/insecure in and is assessed through carefully designed clicker questions and mid-term exam questions, where 'carefully designed' refers to the use of the incorrect answer choices to address specific student errors and misconceptions.

Personal and Social Responsibility: *Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical Reasoning; Collaboration skills, teamwork and value systems; Civic discourse, civic knowledge and engagement -- local and global.*

Sustainability and the ethical use of finite natural resources are crucial issues in the modern world. We review and expand the concepts of oxidation and reduction, which provide the basis for understanding alternative energy sources such as fuel cells and the scientific foundation of how batteries work to store energy – an essential combination with solar power as an alternative energy solution. Students get a very detailed and modern introduction to these topics in their pre-class reading assignments, which we assess with short online pre-class reading quizzes. These concepts may then be discussed further in lecture and explored as worksheet or clicker problems. Each instructor may have their own individual amount of emphasis on the connection between the lecture material and the natural environment. I believe that rather than telling students what to think and what is good or bad, giving students the skills and knowledge in key areas such as electrochemistry or catalysis enables them to (ultimately) realize for themselves how physical or natural systems will respond. This is in this course a more subtle connection than other, more specialized courses may develop, but we are training students to acquire skills to join the conversation, not to accept or repeat our own opinions.

In the interests of facilitating collaborative learning, students spend a significant portion of each class working together in small groups to solve challenging problems given as clicker questions or in scaffolded worksheets. Though it is acknowledged that each team member will contribute differently to the success of the team, equity of effort is the model students are given to aspire to so that each team member has a role to play and shared responsibility for the outcome.

Quantitative Reasoning: *Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; Application of Quantitative Models.*

Students use data throughout the course both to qualitatively evaluate data (for example: standard molar entropies increase as molar masses of compounds increases) and quantitatively in calculations (for example: calculate the value of the reaction rate at a specific temperature). Students practice interpreting and applying symbolic equations with various layers of depth. We expect students to know what the symbol in the equation stand for, to plug given values into the given equation to correctly calculated a numerical value for the variable of interest, and also to evaluate the unit consistency between the symbolic parts of an equation.

Throughout the semester, these skills are assessed as clicker questions, worksheet material and mid-term exam questions. For the Chem1225 course, exams include both multiple choice questions and short-answer questions. Short-answer questions require the students to show their work (including unit analysis) for complete credit or partial credit to allow us to assess and reward each part of the calculation process somewhat independently (Did the student recognize which equation is appropriate? Did the student consider the correct units? Did the student carry out the calculation correctly? Can the student interpret the final number they calculated in the context of the problem premise?) The equations utilized in this course are all quantitative models of the real world. Students learn how to calculate properties of interest such as boiling points, melting points, and vapor pressures of solutions, rates of various reactions as a function of temperature, the expected amounts of reactants and products in the equilibrium mixture for a given reaction, how cell voltage in an electrochemical cell (or across a membrane) is affected by concentration and more.

The collaborative set-up of class allows for the analysis and critique of lines of reasoning presented by others. Students engage in the analysis of quantitative arguments in group work sessions by reviewing each other's work and conclusions through discussion and group worksheets. When students get different answers, for example, they work together to reconcile what mistakes might have occurred.

Additional Information

Course Materials

NMHED requires that both a syllabus and a sample course assignment (project, paper, exam,etc.) from the course in question to be attached to the recertification form. Be sure and pick an assignment that correlates with the descriptions provided in the narratives above.

Assessment Plan

When it is submitted to NMHED, each general education course will also have attached the assessment plan that is used for General Education Assessment at UNM. For more information on this process, please visit this page from UNM's Office of Assessment.

CHEMISTRY 1225 SYLLABUS

Course Title*: General Chemistry II*
Course Number: *CHEM 1225*
Course Credits: *3*
Co-requisite: Chem 1225L (Lab) Dr. Ho, khoj@unm.edu

Instructor:
Email:
Office Location:
Office
Phone: **Office Hours:**

Class Meeting Day(s):
Class Time:
Class Location / Room:
Term / Semester:

Course Description:

Chem 1225 continues the General Chemistry sequence building on the foundation of concepts established in Chem 1215 to explore connections between the microscopic and macroscopic world.

Student Learning Outcomes (aka Objectives):

At the end of this course you should be able to:

1. Explain the intermolecular attractive forces that determine physical properties and phase transitions; 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, 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 to 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 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; calculate pH and species concentrations in buffered and unbuffered solutions.

6. 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.

7. Explain and calculate the thermodynamic functions enthalpy, entropy and Gibbs free energy for a chemical system; relate these 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 cell; determine the standard (and non-standard) cell-potential of the cell.

Textbooks/Supplies/Materials/Equipment/ Technology or Technical Requirements:

1. Access to the textbook, Chemistry: The Science in Context, T. R. Gilbert et al, Fifth Edition, W. W. Norton & Company Inc., 2017 including Smartwork5 access.

2. Internet access: Pre-class assignments (reading quizzes) are completed online, and homework is delivered in **ALEKS**. I will communicate with you via **your UNM email address.**

3. ALEKS access code for at least one semester

4. A registered iclicker to bring to each class

5. A scientific calculator to bring to each class (non-programmable for exams)

If you decide to drop this course, you may also be dropped from the co-requisite course, CHEM 1225L. Similarly, if you drop from CHEM 1225L, you may also be dropped from this course. An override can be granted by Dr. Habel-Rodriguez to allow you to stay in the lecture even if you drop from the co-requisite lab so long as the following criteria are met: you have completed both exam 1 and exam 2, and you have a passing grade at the mid-semester point. Note: if you drop from this course and want to stay in the co-requisite lab, you will need to obtain an override from the instructor of record for the lab, Dr. Ho, in order to stay in the lab course. Please do not contact me for an override in this case.

If you intend to withdraw from the course, it is your responsibility to drop from the course properly. You will not be entitled to receive a "W" for this course without properly and officially completing the withdrawal process. After the deadline for withdraw without Dean's approval is past, you will need to contact the Dean's office to withdraw.

Course Requirements:

Reading quiz grading policies:

Reading quizzes are administered online and are due the night before class on the designated due dates.

 No makeups or extensions are given for missed reading quizzes

In-class work grading polices:

 Clicker questions will be asked periodically in class during lecture.

Your end of semester clicker score will have 5% of your score added back to it to allow for malfunctioning or forgotten clickers.

ALEKS grading policies:

 There will be weekly homework objective deadlines (Saturdays at midnight) for the assigned homework. Topics of the current chapters are specifically assigned to each objective.

 Interspersed between the objectives will be open pie periods, during which you can access and

catch up on any ALEKS topics that you are ready to learn.

The 15% that ALEKS homework contributes toward the total grade are broken down as:

7.5% = completing objectives by the weekly due date ("on-time homework")
7.5% = completing the required total expected number of pie topics by Dec. 7th (incentive for catching up on late homework)

Exam information:
No makeup tests are given, however you may drop your lowest midterm test grade.

You will need your UNM id, a non-programmable calculator and a #2 pencil. Exams will include multiple-choice SCANTRON questions and short-answer/calculation questions that will be hand-graded. You will be provided with a periodic table and as much scratch paper as you need. To each test, you may bring a 3x5 inch note card with whatever information you choose hand-written on it. All exams may be cumulative (with up to 2 questions adapted from previous tests).

Cheating is taken very seriously and will result in automatic and immediate failure of the exam, and potentially more serious consequences.

Grading:

Your final grade will be calculated as follows:

Pre-class work (reading quiz)	10%
In-class work (clickers and worksheets)	15%
ALEKS homework	15%
Mid-term exam average	45% (best 3 of 4)
Final exam	15%

Final Letter Grades will be assigned based on the following scale based on the percentage of points earned out of the total points possible for the course:

Final Score	Grade	88-89 %	B+	78-79 %	C+	68-69 %	D+
93-100 %	A	83-87 %	B	73-77 %	C	63-67 %	D
90-92 %	A-	80-82 %	B-	70-72 %	C-	60-62 %	D-

< 60 % F

Note that this is an initial guideline for assigning final grades. At the end of the semester, the instructor will take into account the final distribution of grades and may re-assign grade cut-offs accordingly.

Course Schedule:

Varies based on semester schedule.

Accommodation Statement:

"In accordance with University Policy 2310 and the Americans with Disabilities Act (ADA), academic accommodations may be made for any student who notifies the instructor of the need for an accommodation. It is imperative that you take the initiative to bring such needs to the instructor's attention, as he/she are not legally permitted to inquire. Students who may require assistance in emergency evacuations should contact the instructor as to the most appropriate procedures to follow. Contact Accessibility Resource Center at 277-3506 for additional information."

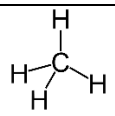
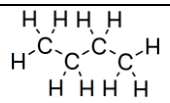
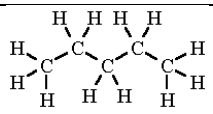
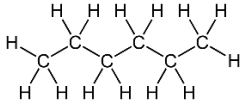
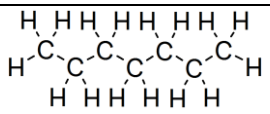
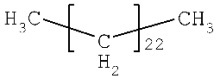
Title IX Statement:
In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see pg 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html

Academic Integrity Statement

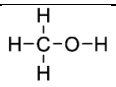
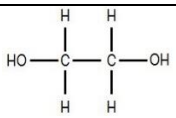
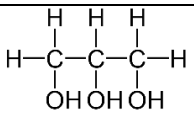
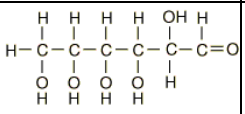
Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Series of Compounds Containing C and H

Substance	Alternate Name(s)	Chemical Formula	Structural Formula	Physical State at Room Temperature	Viscosity @ 20˚C (mPa·s)
methane	Natural gas	CH_4		gas	n/a
butane	n-butane	C_4H_{10}		gas	n/a
pentane	n-pentane	C_5H_{12}		liquid	0.240
hexane	n-hexane	C_6H_{14}		liquid	0.3
heptane	n-heptane	C_7H_{16}		liquid	0.386
Mineral oil	n-octadecane*	$C_{18}H_{38}$	$CH_3(CH_2)_{16}CH_3$	liquid	~287
Paraffin Wax	n-tetracosane*	$C_{24}H_{50}$		solid	n/a

*These substances are mixtures of multiple hydrocarbons. The chemical formula shown in the table is that of the compound that makes up the majority of the sample.

Systematic IUPAC Name	**Common Name**	**Chemical Formula**	**Structural Formula**	**Physical State @ RT**	**Viscosity @ RT (mPa·s)**
Methanol, Methyl alcohol	Wood alcohol	CH_4O		liquid	0.575
Ethane-1,2-diol, ethylene glycol	Anti-freeze	$C_2H_6O_2$		liquid	16.1
Propane-1,2,3-triol, glycerol	Glycerin	$C_3H_8O_3$		liquid	1412
(2R,3S,4R,5R)-2,3,4,5,6-Pentahydroxyhexanal, glucose	Blood sugar	$C_6H_{12}O_6$		solid	n/a

Name 1: _____ Name 2: _____ Score:

Name 3: _____ Name 4: _____

Chapter 10 Worksheet, Chemistry 122

1. On a separate handout, you will find information on two series of organic compounds: a series of compounds containing C and H; and a series of compounds containing C, H, and O. Read through the information provided on the handout and use your knowledge of IMFs to answer the following questions.

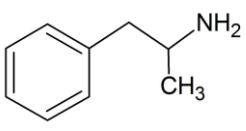
a) List all the IMFs present for each series of compounds (note that for each series the list of IMFs for all the compounds is the same, you do not need to list the IMFs for each chemical formula separately):

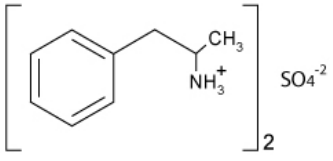
Series Containing C and H only	Series Containing C, H and O

b) Identifying the trends for each series: First, examine the physical properties listed on the handout for each series of compounds and consider what this information tells you about the relative boiling points of the substances. Describe the trend in boiling point. Explain the observed trend for each series as it relates to the IMFs present.

c) Compare the two series to each other: Explain how the observed trend differs between the two series (Hint: start by comparing the compounds of similar molar mass from each series). Explain the differences in observed trends between the two series in terms of the IMFs present.

2. The two figures below show the chemical structures of amphetamine (left) and amphetamine sulfate (right) - a drug more commonly known by the name Adderall. Explain why amphetamine sulfate will be more soluble in water than amphetamine. Be sure to explain your answer in terms of the IMFs present.





List of IMFs: List of IMFs:

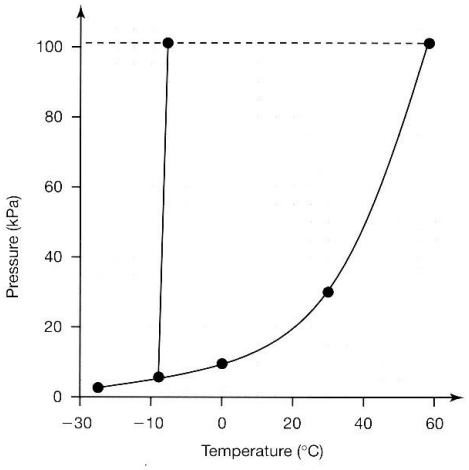
3. a) Based on comparing strength of IM forces, would you expect acetone (CH_3COCH_3) to have a higher or lower heat of vaporization per mole than water? Why?

b) Given the natural logarithm form of the Clausius-Clapeyron equation, where R and β are constants: $\ln P_{vap} = (-\Delta H_{vap}/R)(1/T) + \ln\beta$ What would the slope of the linear graph be equal to, if you plotted ln Pvap on the y-axis versus 1/T on the x-axis? (HINT compare the equation above with y = mx + b).

c) The slope of your linear graph was determined to be -3765 K, hence determine the heat of vaporization of acetone. (R = 8.3145 J/mol.K)
ΔHvap=_____.

d) If the normal boiling point of acetone is 56 °C, use the value of the heat of vaporization you calculated and the 2-point Clausius-Clapeyron equation to determine the vapor pressure (in atm) at 25 °C.

4. The image below shows the phase diagram of bromine, which exists as a red liquid at room temperature and pressure. Use this phase diagram to answer the questions (letters a through e).



a) Label the different regions of this phase diagram as solid, liquid and gas.

b) What is the normal boiling point of this substance?

c) Indicate the conditions of the triple point of this substance.

d) What is the phase of this substance at a pressure of 20 kPa and 10˚C?

e) If a sample of bromine is at an initial pressure of 95 kPa and an initial temperature of -20˚C, what phase change(s) will occur as the sample is warmed to 60˚C while maintaining the pressure? Indicate the temperature value for any phase changes.

Understanding the Stanislavsky System

Purpose:

The System has a set of vocabulary terms that an acting student must understand to help develop their acting skills.

Objectives:

- You will understand the goal of your character in your performance
- You will convince your audience what the character would like to see happen at the end of each acting session.
- You will analyze and describe in a complete sentence of "I want..."
- You will analyze and define the action the character will do to achieve "the want."

Directions

You are in a play that takes place at a bank. As your character is finishing up with the teller, a bank robber enters and shoots a gun into the air.

If you were in a similar situation, what would you do? Would you be a coward or a hero? Would you yell? Would you hide behind someone? Would you run out? How would this information help in your character development?

You will create a 5 minute scene to perform in front of your classmates.

The Case of Water Melon Mountain

Week #1

The Mayor: Congratulations, you got the job, don't pay much but you'll love it here. Nice friendly town. We're growing and that's why we need you. See me Monday after breakfast, say about 11'ish.

You, thinking to yourself: Oh man what have I walked into? I grew up in a small town, escaped by going away to college, I want the big city life. I got my degree in Geo-Environmental Engineering, it's time to make my mark on the world. Why did my old truck have to blow two tires coming into this hick town?

Monday meeting with the Mayor at 1:38 in the afternoon.

The Mayor: Well good morning, good to see. Talked to my cousin at the service station yesterday, said he'll find you some good used tires cheap. If you want new ones you have to prepay and have them sent here on the Greyhound bus.

Self: Pay, now I owe for the motel room and tires? I got no money!

The Mayor: We can talk about your truck later. We need to get this job started. With you being an Enviro and all you must know about the jet fuel exhaust in the air. We breathe it. It's on the crops. It's in the water. It's everywhere. Some of them folks from Socorro came out here with the State Engineer from Santa Fe and tested our city water supply. No jet fuel residue they said. Don't know how but the waters clean. Now we don't need them nice folks down here getting in the way and we told them so.

Self: Could he be talking about chemtrails?

The Mayor: Well the Gov sends me a notice that some State funds were available if we could find someone reliable to figure this out. He said the Fed's would give us matching funds even. Now, we don't know how much yet so we can't make any promises on your salary, but we'll take care of you. This is a good little friendly town, we take care of our own. Need you to get started today. Go see Paul at the service station, he does all our water well drilling around here. Now look, water is the life blood of this town. It dries up we dry up. I need to know how long our supply is going to last and I got the government to pay for the work. Stop by any time and keep me up to date. Got to go, got a meeting, bye.

Self: What did I get myself into? Where to start? He did mention Socorro and the State Engineer. Where else could I find information about this area, the town, the water, property ownership, and maybe a better place to stay than that ratty motel Paul will know, the auto mechanic, water well driller, cousin to the mayor. Guess I'll go visit my truck.

Back to the real world. Post a list of sources of information and data that (if you found) would help you solve the problem and get your truck fixed. Lay out a detailed plan in your Post. You may not do everything in your plan but you have to start somewhere. Remember that you have lots of contacts out there, current classmates, ask for help, work in teams, just give credit in your citation list. Also, be sure to read the pamphlet the Mayor's Secretary handed you as you walked out of the city offices.

History of the Town of Broken Wheel, New Mexico (the pamphlet)

Pioneers moved westward across America starting around 1790 in covered wagons. Many wagon trains passed through this area because Rainbow Creek flowed year round. The pioneers could water their livestock and refill their water barrels. As was inevitable covered wagons broke down while passing through our valley. Recognizing the good soils for farming and the flowing creek some of these travelers decided to take up roots here rather than move on. As best as we can tell the first two families were named Smith and Wheeler, our Founding Fathers.

At first life was hard, the two wagons became one small cabin that the two families shared. Mrs. Smith liked to look at the hills to the east of their cabin and named them The Water Melon Mountains. Due to their nice rounded shape and grass cover they do look like a large inviting watermelons. Now, as the story goes the Wheeler's daughter, we think her name was Corina, liked to pick spring flowers and named this area Rainbow Valley. People even today come from far and wide to photograph the spring flowers in the middle of the desert. When the Federal Government surveyed this area the local place names were used so today we have these magical names, The Water Melon Mountains and Rainbow Valley.

Over time the settlement grew to around 20 families. About 1860 returning gold miners from California stopped here on their trek east and some decided to settle here. Gold was discovered at Sutter's Mill in 1848 triggering a massive movement of miners westward. Very few miner's got rich, some stayed in California as farmers, others headed home and some stopped and took up residence here. The town grew to about 1,500 folks by then. The town and outlying farmers had to dig or drill water wells as Rainbow Creek could not supply the growing population.

Wells were deepen as the water table was lowered and finally dried up. The town voted in 1910 to fund a much deeper well in an effort to save Broken Wheel. The driller encountered a strange white and very hard thin layer of rock but when he cut through it water burst out of the drill hole and flowed down the only bricked street in town. This turned out to be very good drinking water and it saved the town. We call this the Miracle Well today and we built a fountain around it.

The second Miracle happened years later when the school in Socorro sent some scientists to study our water supply and try to understand why the water was so pure. They tested everything and even went up into the Water Melon Hills to map and take samples. They discovered a new and rare species of Targ, (Yonderesis melonitis). This miracle created a second revival of the town by attracting tourists and scientists to

photograph and study our very own resident Targs. We even voted to rename the town in honor of the Second Miracle, so welcome to the Town of Yonderville, New Mexico. We hope you enjoy your stay and stay as long as you like.

Funded by the Visitors Bureau of Yonderville, New Mexico. T-shirts are available at the Wheeler Grocery on First Street.

Week #2

I take it your visit with Paul the Mechanic, Water Well Driller, and Town Council Member went well. In the Module you'll find the Topo-Map, Well Location Map, and Driller's Log Data Sheet. There is also a cross-section of the subsurface data started for you and blank sheets for the other three cross-sections.

1. The first step for any research project is to make a Plan.

2. Step two is to collect background and data.

3. Step three would be to get the data into some form; maps, charts, graphs, cross-sections that gives us a nice visual to work with. A picture is always worth a thousand words.

So, for this week, we will build the four cross-sections suggested on the Well Location Map and share them with your team (classmates) as a Post worth 20 points. Comments are expected.

Week #3

So the 4 cross-sections are complete. You're continuing to research for background information on the general geology of the area. Now we need to start putting things together, a structure map on the top of the sandstone and a thickness map (isopach) of this layer. Something you found in your research is the name of the water reservoir sandstone, it's officially called the Wagon Wheel Sandstone.

You'll need to draw your own map of the Rainbow Valley water well field. Basically you could trace off the Water Well Location Map and just leave out the Cross-Section lines. You'll need two of these.

One gets titled 'Structure Map, Top of the Wagon Wheel Sandstone. A structure map is just like a topographic map but of the surface of a rock layer underground. The Driller's Well Log Data sheet has all the information you'll need. What Paul indicated as the 'sandstone' is the top of the Wagon Wheel as he was drilling down. So that value of 100 feet for the City Center #1 (CC1) well is the top of the Wagon Well. Match all the other sandstone values from the list and write them on your map next to the well ID. Now all

you have to do is contour. Use whatever CI you wish; 5 foot, 10 foot, 20 foot, its up to you.

You may want to consider accuracy of the log data (or even typos). Remember that drill cuttings are pulled (or captured) ever 10 feet while drilling so the rock layer changes we would see likely should be recorded as 100 feet +/- 5 feet. Oh, that reminds me about Well S, top of the White Clay. Could that be a superimposed value that should read 45 feet?

Your second map is titled 'Isopach, Thickness of the Wagon Wheel Sandstone'. Some math here but less than keeping a check book. In the CC1 well the bottom of the Wagon Wheel is the top of the Gray Clay. So you take 330 feet minus 100 feet (top of the sandstone) and that gives you the thickness, 230 feet. Write that on your map next to the well ID, CC1. Repeat this process for all the water wells and then contour the values. Again, the CI is up to you.

While this is a discussion worth 20 points, it’s the maps that are important here. Add a write-up if you wish. Comments as ideas from other students are still required, but here can be an interpretation of the maps. They will be used when you make your presentation to the City Council.

Week #4

So the mapping seems to have gone well. Cross-sections that give us a good idea of what the rock layers are doing underground. A structure map to guesstimate the surface between the cross-sections underground. Then an isopach from which we could (and will) calculate the volume of the reservoir sandstone. A mental picture is forming, an encased sandstone aquifer, White clay above, gray clay below, both aquicludes. It’s like an upside down Hotpocket.

If we calculate volume in cubic feet and were to know the percent porosity of the Wagon Wheel Sandstone we could figure out how many cubic feet are water. Then all we have to do is convert cubic feet to gallons, easy done.

We could also build a Fence Diagram of the valley by using the following water wells; S, 23, BB, 3, 2, 7F, CC1, D, 5, JD, 6C, and GS2. Take a look at the Water Well Location Map. This would be very similar to the Geoblocks you've already constructed. While you are Team Leader and can decide, my recommendation is that a fence diagram would not really be useful. This is a rather small project and the structure map gives us the information we need. Many of the original ideas listed in the Planning stage were not used, but that is the purpose of brainstorming as a team.

What we really need to think about is how to calculate gallons or 'acre-feet' of water in the Wagon Wheel Sandstone. That's the real question the town wants to know, how long will the water (life blood of the town) last? Easy question to answer if you know average daily consumption and previous water production.

Oh, almost forgot, the Major left a message at the motel for you this afternoon. Think you were visiting Paul the mechanic or just your truck.

The Mayor's Note

How's your project coming? See you've been using the Wi-Fi at the library in the basement, good. The records clerk from the second floor told me all about your visit, good. Paul said they put new spark plug wires on your truck, good.

There's a City Council Town Hall Meeting at 7 tonight, you've got 10 minutes to tell the folks here what progress you made. Could also tell them what your plans are. Bring some pictures and maps, they like pictures and maps.

Still don't know what we can pay you. Don't know what the Grant Money will look like.

See you at the meeting, apple pie served after.

self; what am I going to tell them? I've got some maps and cross-sections, not pretty but still all I got.

The Discussion for your 20 points then is to draft out a 10 minute (500 word) presentation to the good people of Yonderville. Ethics dictates that you tell the truth, right. An encased reservoir has a limited supply of water. There's no recharge from anywhere. Rainbow Creek dried up years ago. Your dilemma here is what are you going to tell them. Are you going to tell them what they want to hear, are you going to tell them the truth, or are you going to stall and in 500 words?

You could be tarred and feathered and run out of town without your truck (no rear tires yet). Remember that even the women carry guns in this town.

Week #5

So how did the presentation go last week? I see you're still here.

Now for the final step of massaging the data, the volume calculations. Now I know that math majors and engineers can come up with integral calculus methods and curved surface iterations, but Joe likes to keep it simple. I've used this for work in underground coal mines and sulphur deposits as well as oil/gas fields. While it's tedious it can be adjusted easily as addition wells are drilled.

The topo map area for Rainbow Valley is 6.5 miles from north to south and 7 miles from east to west. Since your Isopach shows that the sandstone continues to the north and south of the mapped area I would extend the map a half mile to the south. That makes a 7 mile by 7 mile grid of 49 square mile boxes. I would number the grids 1 through 49 and set up a worksheet. Place the grid over the isopach map and estimate the average thickness of the sandstone within each grid and record in your worksheet.

Each grid is a mile on a side or 5280 feet. So the volume of sandstone within a grid is 5280 feet X 5280 feet X the average isopach thickness in feet for that grid. The answer is then recorded in your worksheet in cubic feet. You'll have to repeat this now for each of the 49 grids within your study area.

The average porosity of a reservoir sandstone can range from 10 to 40 percent. The Wagon Wheel Sandstone turns out to be 14%. Therefore, of the volume of rock you calculated for each grid, 86% is quartz sand and 14% is drinking water. So now you need to convert that volume of water in each grid to gallons or acre-feet.

1 cubic foot of water = 7.48 US gallons of water.

There are 640 acres in one square mile, so an acre is about 208 feet by 208 feet. An acre foot of water is 208 feet X 208 feet X 1 foot thick. So we're looking at somewhere around 43,500 cubic feet of water or 326,000 gallons per acre-foot.

The reason I use acre-foot here:

When you drill a private water well in New Mexico the State Engineer permits you to drill the well. He allocates you 3 acre-feet of water per year for your consumption. An average family of 4 with a few pets, house plants, and a small garden consumes on average one acre-foot of water per year.

The town of Yonderville has a current population of 2,000 souls or about or about 500 families. That's 500 acre-feet of water per year. So you do the math, how many years does the town have left?

This may be your shortest Post ever so I'll place no limits on it. You may want to research my statements and go over my calculations. We all make mistakes and team members should always verify, and then verify again.

Next week your last presentation at the Town Hall meeting, maybe you'll get the keys to your truck back. I hear it’s got 4 good tires and new windshield wipers.

Week #6

Second presentation to the City Council is tonight. What are you going to say?

As a professional, ethics dictates that you tell the truth. In your estimation, how many years does the town have left before the water is gone? That is if the current pumping rate remains the same, 500 acre-feet per year.

Oh, did we consider the area farming and ranching uses of groundwater? Sounds like a proposal for more work to me.

Post a 500 word presentation to the City Council at this Town Hall meeting, with comments, worth 20 points.

POLITICAL SCIENCE 110
PORTFOLIO ASSIGNMENTS

The weekly Portfolio assignment referenced in the syllabus is intended to expand your reading about politics, and give you a chance to discuss the lecture material in the context of one of the states about which you will be writing a State Evaluation Report. Your Portfolio work will also be helpful to you when you write those reports. Below are the requirements for these assignments. If you have any questions about them, speak with your discussion section leader.

Requirements: The Portfolio assignment is to read and summarize an article about one or both of your three states. You are then to write some observations, comments or questions about the article. The purpose of the summary paragraph is to demonstrate that you have read the article with care and understanding. The purpose of the second part of the assignment is for you to critically evaluate the article, connecting it to the material in class, or to make a comment, raise a question, or ask for clarification.

- The articles must be news reports, not editorials or other kinds of opinion pieces, and must come from one of the following (paper or e-version):
    - The New York Times
    - The Wall Street Journal
    - The Washington Post
    - The Financial Times
    - The Economist
    - The International Herald Tribune
- Your discussion section leader may approve other sources.
- The full article should be attached to the summary
- The summary section should be at least 200 words, the comment or question section at least 300 words
- "Summarizing" an article does not mean copying it. It means putting its important points and facts in your own words, showing that you have read the article carefully.
- Your comment section should demonstrate that you read the article thoughtfully. It is all right to disagree with the article, or say you do not understand it, so long as your statements show an honest effort to comprehend it.
- You must not plagiarize, which means to submit other people's work as your own. Part of the point of this assignment is to learn how to use other people's work in making an argument, and to give them proper credit when doing so. If you are unsure about how to do that, your section leader will assist you. But remember, plagiarism is dishonest and strictly prohibited by University policy.
- You will not be graded on grammar and spelling, but problems in those areas will be noted and you will be directed to resources on campus that can help you improve your writing. But your grade will in part depend on whether your meaning can be determined from what you write

Due Date: The first Portfolio assignment is due Wednesday, January 24 in your Discussion Section leader's office. (You will learn at the first section meeting where that is, and how to turn the assignment in). Thereafter, Portfolio assignments will be due each Friday not later than 4:00 pm in the same place until and including Wednesday, March 28. *Late or emailed assignments will not be accepted in the absence of compelling circumstances beyond your control*.

General Education Course NMHED Recertification Form

This form has been designed to guide you through the recertification process for the UNM General Education course in question. Please fill out your contact information below, and then review the information about the course provided to us by the New Mexico Department of Higher Education *(*NMHED*). After this, you will be instructed to fill out three separate narratives concerning the course and its relevance to NMHED's area and skills associated with the course.*

UNM Course Information

Prefix	**CHEM**
Number	**1225L**
Name	**General Chemistry II Lab for STEM Majors**

Contact Information

Name	Kuangchiu Ho
Title	Principal Lecturer III
Phone	505-277-1753
Email	khoj@unm.edu

NMHED's Description and Outcomes for the Common Course

The description and student learning outcomes below come from NMHED's Common Course Catalog*, which can be found here, and is meant to designate standard descriptions and outcomes of courses registered as a NMHED* Common Course.

CHEM 1225L: General Chemistry II Lab for STEM Majors

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

Institution-specific Student Learning Outcomes

Please add additional SLOs of the general education course to the ones provided by NMHED, or if no SLOs are provided by NMHED, input the SLOs used in assessment for the course.

Area and Essential Skills

Below gives information concerning the area and associated skills of the course to be re-certified. The area here matches the General Education Area of UNM; the "Essential Skills" and their respective Component Skills are characterizations of the area determined by NMHED. You will use this information to fill out the narratives below.

Area in which *CHEM 1215L* resides: Science

Essential Skills in the Area:

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.

Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.

Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.

Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well-reasoned evaluation.

Personal and Social Responsibility

Intercultural reasoning and intercultural competence

Sustainability and the natural and human worlds

Ethical Reasoning

Collaboration skills, teamwork and value systems

Civic discourse, civic knowledge and engagement -- local and global

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.

Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.

Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

Narrative Input

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Explain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking: *Problem Setting; Evidence Acquisition; Evidence Evaluation; Reasoning/Conclusion.*

In this box, provide a narrative that explains how the proposed course addresses the outcomes of the first essential skill. 250-500 words.

This course provides learning opportunities for students to practice critical thinking by first asking students to study the lab scenario, learn about background information in a prelab reading assignment and submit questions for discussion to further develop an understanding of the problem to be investigated. This step is implemented before students meet in the physical lab. During physical labs, students are guided to identify, design and collect experimental data in order to support the conclusion for the lab questions. While doing these exercises, students are given enough time to develop experimental ideas through peer discussions and test the ideas out collaboratively in a group work. They are also provided with opportunities to make mistakes and learn from mistakes in the laboratory. Through the iterative cycles of design-reflect-refine, students learn about the process of evidence acquisition. After adequate data being collected, students will then learn about various ways of analyzing experimental data and apply inductive and deductive reasonings for making proper scientific argumentations. They will be focusing on preparing for convincing presentation of evidence and arguments in both the oral and written formats. They will also learn how best a conclusion can be made for the investigation using strong scientific arguments to the general audiences.

This skill is assessed by various course assignments students are submitted before and after each lab period such as, but not limited to, discussion questions, hypothesis, lab reports, scientific arguments, and presentations, and by various assessments for practical work such as lab quizzes, practical exam and skill assessments.

Personal and Social Responsibility: *Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical Reasoning; Collaboration skills, teamwork and value systems; Civic discourse, civic knowledge and engagement -- local and global.*

In this box, provide a narrative that explains how the proposed course addresses the outcomes of the second essential skill. 250-500 words.

This course teaches students ethical reasoning for laboratory safety by providing students a basic training in safety awareness for chemicals involved in the experiments. They will learn to identify chemical and health hazards, to properly handle chemical spills, and to correctly collect chemical waste for disposal. Students will conduct a search for Safety Data Sheets and extract safety information from SDS. We also ask students to discuss each of their finding about safety and make a note of safety for each experiment as a required element of the preparation of the lab.

This course also teaches students ethical reasoning for intellectual properties. They are required to keep a laboratory notebook as a legal record of their experimental work. They practice proper way of maintaining the lab notebook including not erasing any record, not falsifying data, and having a witness to sign off the record. We also enforce the rules for plagiarism and educate students about what to be avoided for committing plagiarism.

In this course, we also require students to learn how to work in a team to accomplish collaborative work of the experiments. We expect each group to work out an assignment where all team members will have an equal share of responsibilities. Through teamwork, each student is expected to gain an experience of how to collaborate with other people.

We provide students with the civic knowledge regarding working in a chemical laboratory and engaging them in "Good Lab Practices". We adopt the "Good Lab Practices" as a model where students are expected to follow when working in our lab. During lab discussions and experiments, students learn how to conduct themselves and actively contribute to the collaborative work. They also learn the proper way of behavior working in the lab. We enforce these protocols as explained in the course syllabus and lab manual.

Quantitative Reasoning: *Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; Application of Quantitative Models.*

In this box, provide a narrative that explains how the proposed course addresses the outcomes of the third essential skill. 250-500 words.

All measurements collected in this course are quantitative and therefore, students must learn the skills of how to present and communicate quantitative information orally in the discussions and in the presentations as well as in writing lab notebook and reports. They are also required to follow the question-claim-evidence-justification protocol for making proper scientific arguments during the analysis section of each lab during the post-lab time. They make the quantitative arguments from experimental data, calculated data, or by comparing quantitative data in the forms of charts and tables. They also refine their quantitative arguments by peer review before they make the final arguments in the lab reports.

In some experiments, students learn to use given models of calculations or analyses found in the literature on the experimental data as proposed by the hypothesis they wrote. This practice allows them to verify a proposed hypothesis to be true or not or to derive a new answer for the question being asking by the lab.

Additional Information

Course Materials

NMHED requires that both a syllabus and a sample course assignment (project, paper, exam,etc.) from the course in question to be attached to the recertification form. Be sure and pick an assignment that correlates with the descriptions provided in the narratives above.

Attachments:

- *Course syllabus for CHEM 1225L*
- *An Example Prelab Report and Postlab report*

Assessment Plan

When it is submitted to NMHED, each general education course will also have attached the assessment plan that is used for General Education Assessment at UNM. For more information on this process, please visit this page from UNM's Office of Assessment. http://assessment.unm.edu/gened-assessment/index.html

General Chemistry 1225L Laboratory Syllabus

Instructor: xxxx
Office hours: xxxx
TA office hours are posted on LEARN website: http://learn.unm.edu.
e-mail: xxxx@unm.edu

Course Description

This course is the laboratory course of general chemistry for majors. Students must take this course with the general chemistry lecture course (CHEM 1215 or 131 for the first semester or CHEM 1225 or 132 for the second semester). This course is also a UNM core course. In order to obtain the credit for UNM core, you must register for letter grade and earn a C or better (C- will not be credited).

Course Objectives

This is the second semester of a two–semester lab course sequence (CHEM 1215L and 1225L), which provides basic training for chemistry laboratory work including lab safety, preparation of solutions, transfer of chemicals, volumetric measurements, use of statistics, experimental design, data recording and analysis, and report writing.

Student Learning Outcomes

1225L Students will be able to

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.

Required Materials:

1. **Lab Manual**: "*Laboratory Experience: Manual for General Chemistry II*", 18th edition. A copy of the manual will be given to you during the first week of semester. You can purchase a replacement manual with your breakage card if you have lost it.
2. **A lab notebook**: must be bound, carbon or carbonless duplicate pages, and page numbered. You need to purchase your own lab notebook.
3. **A pair of safety goggles**. You may purchase it from the lab stockroom. If you buy it from elsewhere, you need to bring the goggles to lab tech for certification.
4. **A USB drive** with minimal capacity of 8 Gb for data storage.
5. **A scientific calculator**

LEARN Access

1. The LEARN site (http://learn.unm.edu) can be accessed using your UNM NetID and password. You must register into a lab section before you can have access. If you have a problem with the login, contact the LEARN administrator at learn@unm.edu.
2. LEARN access is required for every student. You can access announcements, lab news, lab help, lab videos, and lab grades from LEARN.

Registration

1. You are required to register into a lab section through the UNM Loboweb. Without lab registration, you will not be able to access the Learn.unm.edu website where you are required to access and download or review important lab material.
2. If you need to switch sections, you must go through the UNM Loboweb. Attending a lab section without registration is prohibited. Warning: to switch a section, you need to drop from the old one and add to the new one at the same time. Otherwise, there is a possibility while you are dropped from the old section, someone has taken your seat in the new section. When it happens, we cannot help you get the seat back.
3. The capacity of each laboratory is limited by fire code. ***No student can add to a closed lab section***.
4. If you decide to drop from this course, you will also be dropped from the co-requisite course, CHEM 1215(131) or 1225 (132). Similarly, if you drop from the CHEM 1215 (131) or 1225 (132), you will also be dropped from this course. An override can be granted by Dr. Ho to allow you to stay in the lab even if you drop from the co-requisite courses; the following criteria must be met: *you have completed at least 45% of the required lab work and have a passing grade*. Note: if you drop from this course and want to stay in the co-requisite course, you will need to obtain an override from the faculty of your co-requisite course to stay in that course. Please do not contact Dr. Ho for an override in this case.

Lab Check-in & Check-out

1. You may be administratively dropped from this lab even after registration, if you don't complete all the requirements for lab check-in. Items 2-4 describe the requirement for lab check-in.
2. The complete lab check-in process includes lab safety, good lab practices, and lab drawer check-in. You must attend these sessions which usually happen in the first three meetings. The schedule of these sessions can be found in the Lab Schedule posted on LEARN website. You must attend

these sessions in the lab section you enrolled. Any changes of the schedule will be posted on http://learn.unm.edu. You are responsible for checking the course website for any changes of the lab check-in process.

3. The requirements for completing lab check-in are **check-in survey**, **CLASS I survey**, and **100% on Check-in Test**. These required surveys and test must be taken on LEARN course site. We expect you to complete all three requirements before your drawer check-in meeting, or you will not be allowed to check into a drawer and proceed to any experiment.
4. The drawer check-in should be done in the section you registered. If you miss the scheduled check-in, you will have to make another arrangement with the teaching lab tech to complete lab check-in, or you will not be allowed to do any experiment and receive a zero for each assigned experiment you miss. There is no guarantee the lab techs will be available for you after the scheduled drawer check-in. If you will miss more than three scheduled labs because of not being checked in, you may be dropped.
5. All students who have checked into a section must complete the check-out at the scheduled lab time to avoid fines. You must come to the check-out section on time and complete the CLASS II survey. If you have official duties or medical emergency, you must contact the lab tech before the scheduled check-out section is ended to report your absence and to make an arrangement for check-out to avoid fines.

Required Experiments

There are 5 required experiments in this course. In the first three experiments, students are allowed to spend two weeks for each experiment of which the first week is for designing experiment and the second week collecting data. In the last two experiments, students can only spend one week for each experiment so that experimental design and data collection are expected to be completed in the same lab period.

Experiment 1, 2, 4, and 6 are scheduled for two weeks. The first week of these experiments is for designing experiment and is called "Design Lab". Experiment 8 and 9 will not have a separate design lab.

Attending the Design Lab

1. Check the lab schedule for the day and time of each experiment. Check **Announcements**, **Lab Help** and **Lab News** from the LEARN site.
2. Before attending your scheduled lab, study the **Background Reading Assignment** of each experiment in the lab manual. This section describes the lab question to be answered and experimental goals. You need to understand the questions and read the basic information manual provides.
3. You must submit **discussion questions** to the LEARN website by midnight a night before the scheduled design lab for grade. The discussion questions should be relevant to the experiment to be designed (see manual for detail description).
4. On the lab day, you need to bring **(1) safety goggles (2) dressed according to Dress Code and (3) lab notebook and (4) lab manual.** Your TA will NOT allow you to stay in the design lab for the experiment if you do not have any of the four items listed above with you and will assign a zero for the pre-lab report of that experiment.

5. No student can work in our lab without supervision by an authorized person.
6. No student can work impaired (due to the use of a drug, alcohol, or any substance that could cause physical, mental, or emotional impairment). You will be removed from the lab immediately.
7. No student can do the experiment for grade if you come to the lab after your TA starts the lab discussion for safety and lab procedure. The lab door will be locked 15 minutes after the starting time.
8. Always keep your workspace and equipment clean.
9. You are required to **wear safety goggles at all times** in the lab. You will be asked to leave for violation of this rule and you will receive a zero for the pre-lab report.
10. All notebook entries must be **in ink** and clearly dated. No entry is ever erased or obliterated by pen or "white out". Changes are made by drawing a single line through an entry in such a way that it can still be read and placing the new entry nearby. If it is a primary datum that is changed, a brief explanation of the change should be entered (e.g. "balance drifted" or "reading error"). No explanation is necessary if a calculation or discussion is changed; the section to be deleted is simply removed by drawing a neat "x" through it.
11. All data must be recorded with proper significant figures and units according to the scale or calibration of the lab equipment.
12. If you are working in a team, always participate in the lab activities. **You and your partner should contribute roughly equally to the final product**, which may look very similar in the two lab notebooks. The name of your partner should appear in the notebook, in this case, making it clear that the work was done collaboratively.
13. Your TA can assign different members of your team each time. Being a good team player is part of the lab training. You must indicate each member's role in the lab reports. Your performance in the areas of **lab safety**, **cleanup** and **participation** can affect your grade of the lab reports.
14. For experiments where two or more students work together and data have been recorded in one student's notebook, a copy of the data may be made in the other student's notebook with an appropriate citation to the location of the original data. Any other material in the notebook which has been copied from any source whatsoever must also be provided with a source citation. Copying data from previous work, even authored by you, constitutes academic dishonesty and will be reported.
15. You must obtain **a signature** on the lab notebook from your TA after finishing the experiment. Your TA will check your lab data and notebook writing. An experiment without the TA's signature will be considered as absent, and your pre-lab report will not be graded.
16. For some experiments, you can find pre-lab questions. You should answer all the prelab questions by yourself based on your understanding of the experiment. Copying of any portion of another student's laboratory report is plagiarism which is a violation of the academic honesty. Copying any portion of the lab manual, textbook, or other reference without a proper citation is also not appropriate. If you have questions, do not hesitate to go to your TA's or Dr. Ho's office hours. You are also encouraged to study with your partners, but remember you should still write your own notebook and reports.
17. Evan though you and your partner(s) design the experiment together, you still need to write your own pre-lab report including your own final procedure. Remember, you should write your own

notebook and reports. Copying procedure from another student is plagiarism. All students involved in plagiarized work will not receive a grade. Multiple violations will be dropped from the course and reported to the Dean of Students office.

Attending the Data Collection Lab

1. The requirement for attending the Data Collection Lab is the complete written procedure and prepared lab notebook as described below.
2. The written procedure should be printed out and be presented to your TA during the data collection lab.
3. Your lab notebook should be prepared by dividing the pages into two halves. The left side is for writing what you do. The right side is for recording observation and data. Draw data tables beforehand in your notebook is a good lab practice.
4. If you have missed the design lab and does not have a written procedure, but still want to do data collection lab, you must contact a group who has completed the design lab and have them agreed to join their group in the data collection lab. You must prepare the procedure in the lab notebook as described in 2, but hand write the procedure on the left half side of the notebook pages with your own word. You also need to prepare a chemical list and safety note for the procedure in your notebook before attending the Data Collection Lab.
5. Items 1 to 17 from the previous section, "Attending the Design Lab", are also applied to this lab.

Attending Experiment 9 and 10 Labs

1. Check the lab schedule for the day and time of each experiment. Check **Announcements**, **Lab Help** and **Lab News** from the LEARN site.
2. Before attending your scheduled lab, study the **Background Reading Assignment** of each experiment in the lab manual, and **write a complete experimental procedure** on your notebook, left side of the procedure.
3. You must submit **discussion questions** to the LEARN website by midnight a night before the scheduled design lab for grade.
4. On the lab day, you need to bring **(1) safety goggles (2) dressed according to Dress Code and (3) lab notebook with a complete experimental procedure and (4) lab manual.** Your TA will NOT allow you to stay in the design lab for the experiment if you do not have any of the four items listed above with you and will assign a zero for the pre-lab report of that experiment.
5. You will still follow the guidance of "Attending the Design Lab" and "Attending the Data Collection Lab" for group work, data collection, using lab notebook, and writing reports. Make sure you obtain signature from your TA before you leave the lab. Without the signature, your post-lab report will not be graded.

Data Processing and Analysis

1. All lab calculations and data processing need to be completed by yourself.
2. Use of another student's laboratory data is a violation of academic honesty, unless permission is granted by the author. When use of another's data is allowed, the source of the data must be indicated with a clear reference in the laboratory notebook.
3. Fabrication of data, alteration of your own data, or fabrication of observations to secure some desired result is a clear violation of the academic honesty.

4. When working with a lab partner, each person should independently perform all calculations. You may collaborate, to the extent of comparing results and helping each other with difficulties, however. You may also discuss your joint results and their significance with your partner, but each partner should write a result that contains individual conclusions written in her or his own words. Copying of any portion of another student's laboratory report is a clear violation of academic honesty.
5. Copying any portion of the lab manual, textbook, or other reference without a proper citation is a violation of academic honesty.

Asking for or Giving Help

1. Asking for and giving help with prelab problems, lab write-ups, or during the TA's office hours and lab should follow the academic honesty guidelines listed in the previous sections and the commonsense guidelines listed below:
2. You should understand your question before asking. Try to narrow down your question to a specific point. If you are looking for general guidance, you need to consider the question thoroughly before asking.
3. Do not ask for or give just an answer to a question. You need to form your own thinking toward the question.

   Example of such question is "What is the answer to question number two", or "Please show me the answer of this question". If the inappropriate question is answered, it constitutes a violation of lab conduct. To respond to these questions, you might say "Our prelab problems are to be done independently. Have you looked at this example problem in the manual? I could try to explain that to you."
4. Questions related to experimental procedures that can be found in the lab manual like "How many grams of NaCl are we going to add?" should be avoided because it is part of the prelab preparation and you should have known it before coming to the lab. If you want to know the principle and the reason for a particular step in the procedure, you should ask the question during your pre-lab time. A last-minute question shows your un-preparedness. However, it is appropriate to confirm information that is not clearly stated in the manual.

Grading

1. The final grades will be calculated from the scores of three categories: (1) **Report writing**: pre-lab reports (20%), post-lab report (20%), (2) **Scientific communications**: pre-lab discussion (5%), post-lab presentations (5%), and (3) **Assessments**: quizzes (25%), lab practical exam and skill assessments (25%).
2. Being absent from any part of an experiment you will receive a zero for the quiz and the report for the missed lab. Your grade for argumentation could also be lowered by your absence.
   a. If you miss a design lab but attend the data collection, you will be allowed to do the experiment in another group ONLY if you have the procedure prepared in your own word as described in the "Attending Data Collection Lab". You will receive a zero from the pre-lab report.
   b. If you completed a design lab but missed the data collection lab, you will be allowed to turn in the pre-lab report but receive a zero for the post-lab report.

c. You are required to complete at least 3 experiments, including both design and data collection labs for at least one of experiments 1, 2, 4, and 6, without missing either lab in order to have the lowest pre-lab report, post-lab report, and quiz grade dropped.

3. Dry labbing and plagiarism are cheating and the student may be dropped from the course.
4. Carrying out experiments in the section other than the one you are registered will be treated as absence and all grading policies for absence will be applied. You will be exempted from this rule if you have the permission from the lab tech or Dr. Ho to carry out an experiment in other sections due to legitimate reasons.
5. Check the correctness of grades recorded on LEARN website throughout the semester. Inform your TA immediately when a mistake is found. Do not wait until the end of semester to check your grades because it might be too late or have missed the chance for correction. To check your grades, login to http://learn.unm.edu and choose "Check My Grades".
6. If you intend to withdraw from the course, it is your responsibility to drop from the course properly. You will not be entitled to receive a "W" for this course without properly and officially completing withdraw process. After the deadline for withdraw without Dean's approval is past, you will need to contact the Dean's office to withdraw. Please note the rules associated with co-requisite course when you drop (see item 4 under **Registration** on page 2 for more detail).
7. Your grades are subject to final adjustment to ensure consistent grades from all sections. Your final grade will be assigned according to the following scale: A: 90~100%, B:80~89%, C:70~79%, D:60~69%, F: <60%. The above scale is subject to change. Any change of the grading scale will be announced on http://learn.unm.edu.

Lab Reports

1. Both pre-lab and Post-lab reports must be submitted to LEARN course website before your next lab meeting.
2. NO late lab report will be accepted.
3. You must follow the format of writing a lab report as prescribed by experiment 0 and your TA.
4. Without submitting the notebook pages of experimental data and observation, the post-lab report will not be graded.

Lab Cleanliness and Safety

1. Poor housekeeping can contribute to accidents in the lab and it is your responsibility to keep the lab clean and safe.
2. You might be sharing glassware and equipment with other students in your group, so it is common courtesy to clean up your area when you are done. Your TA will check to make sure you have cleaned up your equipment and chemicals at the end of each lab before you can leave.
3. If your area is clean, including the lab bench and sink, and your glassware drawer is inventoried with missing items replaced and extra items removed, you will not lose any points from post-lab report. If any of the conditions mentioned above is not met, you will lose points.
4. If you are determined to be responsible for the contamination of stock solutions or reagents, you will lose points.
5. Dress-code (Failure to abide by the dress code will result in removal from the lab):

- Full length pants, completely covering the lower limbs are required. Tops which expose shoulders, upper arms, and or upper torso are not allowed.
- A flat, closed-toe shoe, with a full heel and socks are required. No shoes with cut-outs or vents that leave skin exposed and unprotected are allowed.
- Loose clothing such as neckties, baggy pants and coats are not allowed in a laboratory. Such items can catch fire, be dipped in chemicals and get caught in equipment.
- It is recommended that anyone working in undergraduate laboratories remove jewelry to prevent collecting chemicals, contacting electrical sources, catching on laboratory equipment, and/or damage to the jewelry itself.

6. Safety goggles must be worn at all times while in lab. Failure to abide by this rule will result in removal from the lab.
7. You will be removed from the lab for disruptive behaviors or dangerous practices that affect yourself or other students. Multiple behavior problems can lead to expulsion from the lab.

Rules for Absence

1. There will be **NO** make-up experiment, skill assessment, or practical exam arranged for this lab.
2. You are advised to follow the lab schedule throughout the semester. Do not schedule doctor's appointments, vacations, or any other event that you have control of during the scheduled lab sections.
3. You may not go to another section to perform a missed experiment or assessment. Any experiment or assessment done not in your registered section without approval will not be graded and be counted as "zero" (Grading item 4).
4. If you have missed more than two lab periods consecutively or have any concern about your grade due to absence, you are encouraged to talk to your course instructor (Dr. Ho) for options and to receive advice regarding course grade. You should contact the instructor as soon as possible because the longer you wait, the fewer the options left for you.

Student Misconducts

1. The following student misconducts during a lab will result in student being removed from the lab and all work related to the removed lab will be counted as zero: (1) not wearing safety goggles (2) not following the dress code (3) disruptive behaviors (4) physical or mentally impaired and (5) not working safely. Serious or repeated offenders can be expelled from the course.
2. The following behaviors constitute plagiarism and will result in all work involved be counted as zero and students involved be reported to the Dean of Students Office for misconduct (1) copying any writing from another student's without proper acknowledgement even it is not word for word or from your lab partners (2) copying and pasting any text from lab manual, internet sites or a book (3) copying your own writing from the same course you took previously. For collaborative work, after the work is done, you should write your own reports or own graded assignments.
3. The following misconducts will be reported to the Dean of Students Office and may result in student being expelled from the course: (1) falsifying or fake experimental data or TA's signature (2) vandalizing lab properties, lab equipment, or other student's properties (3)

multiple offenses from items 1 and 2 (4) violating the prescribed lab safety rules multiple times (5) other cheating behaviors.

Accommodation Statement

Accessibility Services (Mesa Vista Hall 2021, 277-3506) provides academic support to students who have disabilities. If you think you need alternative accessible formats for undertaking and completing coursework, you should contact this service right away to assure your needs are met in a timely manner. If you need local assistance in contacting Accessibility Services, see the Bachelor and Graduate Programs office.

Academic Integrity

1. The University of New Mexico believes that academic honesty is a foundation principle for personal and academic development. All University policies regarding academic honesty apply to this course. Academic dishonesty specifically applied to this course includes, but is not limited to, cheating or copying answers from others during the exams, exchange information with another student in any form (for example, talking, eye contact, or texting) during lab quizzes, skill assessments, or lab practical, plagiarism (claiming credit for the words or works of another from any type of source such as print, Internet or electronic database, or failing to cite the source), fabricating information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used, or tampering with the academic work of other students. The University's full statement on academic honesty and the consequences for failure to comply is available in the college catalog and in the *Pathfinder*.
2. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.
3. You need to handle experimental data carefully. Any data that are not collected by you or your assigned group must be acknowledged for the author(s). Using data collected from other semester by you or others to write a post-lab report for the current semester is considered cheating. You should not share any data for the purpose of writing lab reports or receiving grades. All data must be recorded on your lab notebook, dated and signed by a witness. Any violation of our policy for handling experiment data is considered serious misconduct, and can be reported to the University and or be expelled from the course and receive a failing grade.

Title IX policy

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered “responsible employees” by the Department of Education (see pg 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). Students who want to talk with an advocate who is not a mandatory reporter can do so at the Women’s Resource Center (women.unm.edu), the Lobo Respect Advocacy Center (loborespect.unm.edu) and the LGBTQ Resource Center (lgbtqrc.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html

How a Two-Hour Delay Affects Chemistry Lab Classes

Chemistry Labs with start times before 10 a.m. that are normally scheduled to extend 45 minutes or more beyond the announced opening time will meet at 10 a.m. and dismiss at the normally scheduled ending time. So, when the university opens at 10 a.m., and a student had a lab that began at 9 a.m., the student should arrive for that class at 10 a.m.

Experiment 3 - QCEJ

xxxx

Lab Question

What is the enthalpy of the dissociation of hydrogen sulfate ($HSO_4^- \rightarrow H^+ + SO_4^{2-}$) and how can we solve for it?

Claim

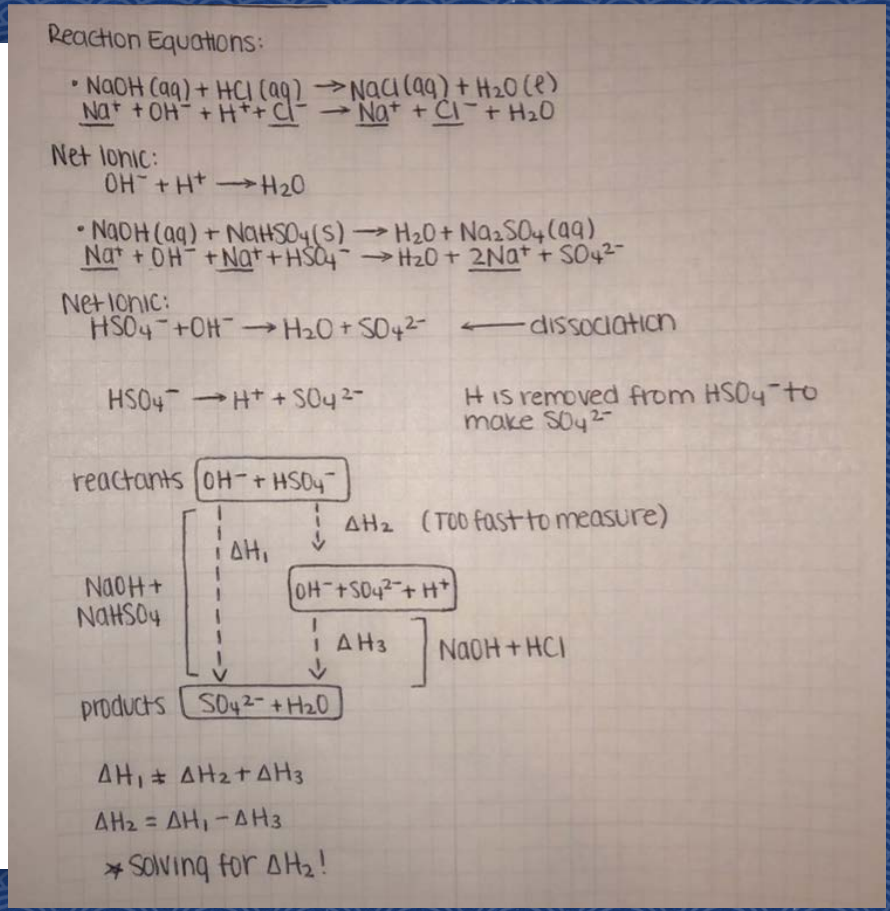
The enthalpy of the dissociation of hydrogen sulfate is -16.63 kJ/mol. It cannot be measured directly because the degree of dissociation is too small, requiring the use of Hess's Law and a constant pressure calorimeter in order to solve for its value.

Evidence

$NaOH + NaHSO_4$ and $NaOH + HCl$ act as intermediary steps to aid in finding ΔH of the dissociation.

Hess's Law:

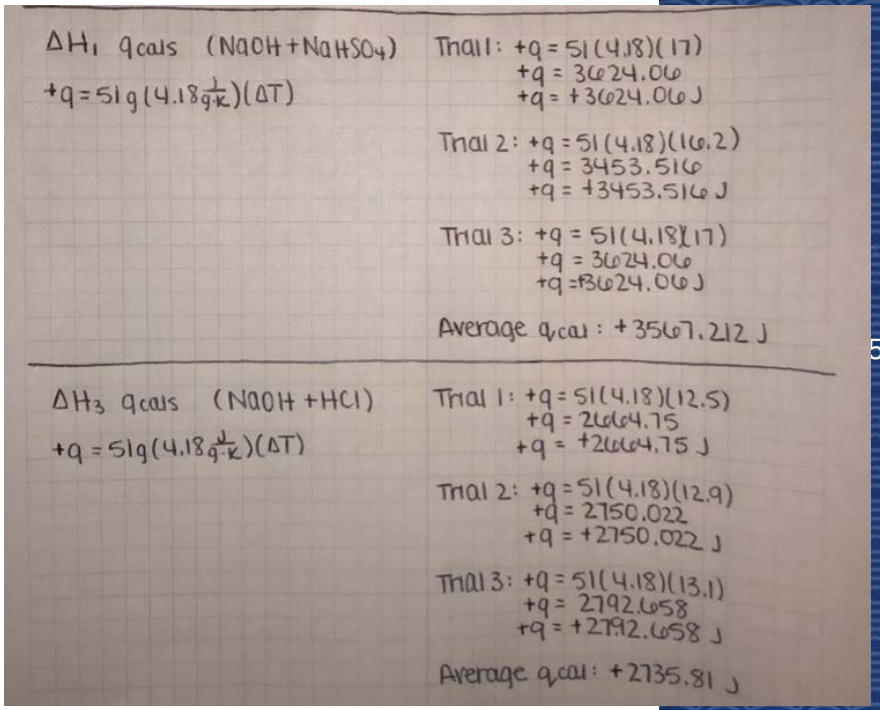
$$\Delta H_2 = \Delta H_1 - \Delta H_3$$



Evidence

Plug each ΔT into $q_{cal} = mc_s\Delta T$ for both rxns.

Find the overall average of each q_{cal}.



ΔH_1 q_{cals} (NaOH + $NaHSO_4$)

$+q = 51g(4.18\frac{J}{g \cdot K})(\Delta T)$

Trial 1: $+q = 51(4.18)(17)$
$+q = 3624.06$
$+q = +3624.06\ J$

Trial 2: $+q = 51(4.18)(16.2)$
$+q = 3453.516$
$+q = +3453.516\ J$

Trial 3: $+q = 51(4.18)(17)$
$+q = 3624.06$
$+q = +3624.06\ J$

Average q_{cal}: $+3567.212\ J$

ΔH_3 q_{cals} (NaOH + HCl)

$+q = 51g(4.18\frac{J}{g \cdot K})(\Delta T)$

Trial 1: $+q = 51(4.18)(12.5)$
$+q = 2664.75$
$+q = +2664.75\ J$

Trial 2: $+q = 51(4.18)(12.9)$
$+q = 2750.022$
$+q = +2750.022\ J$

Trial 3: $+q = 51(4.18)(13.1)$
$+q = 2792.658$
$+q = +2792.658\ J$

Average q_{cal}: $+2735.81\ J$

Evidence

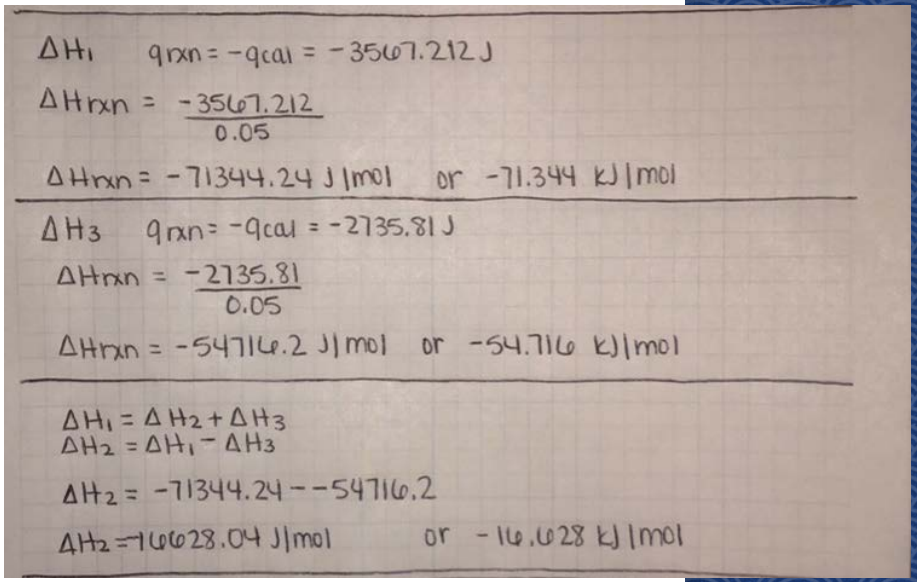
Solve for the enthalpy of each rxn (ΔH_{rxn}).

$\Delta H_{rxn} = q_{rxn}$/mole of LR

$q_{rxn} = -q_{cal}$

Hess's Law:

$\Delta H_2 = \Delta H_1 - \Delta H_3$



→ -16.63 kJ/mol

Justification

St. Dev : Precision

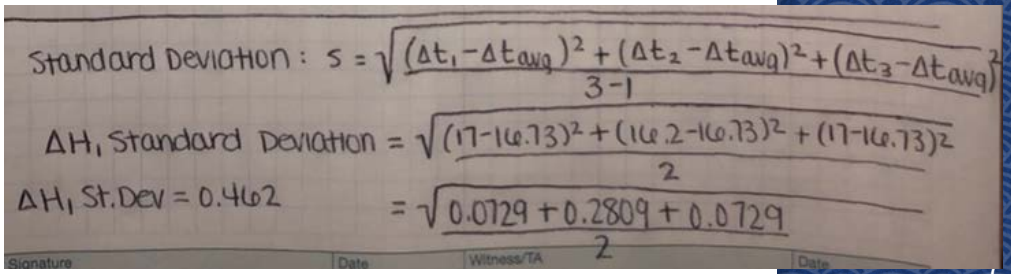
Using ΔT & ΔT_{avg}

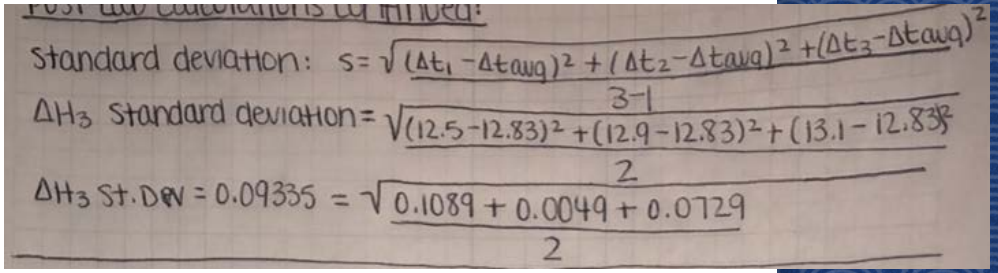
ΔH_1 St. Dev = 0.462

ΔH_3 St. Dev = 0.093

↓ St. Dev = Better

Human Error





Justification

% Error : Accuracy

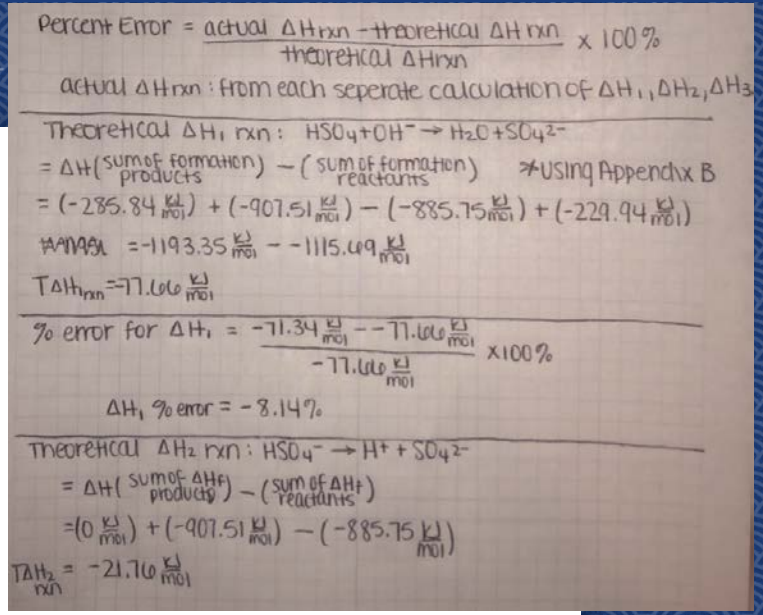
$$\frac{\text{actual } \Delta H_{rxn} - \text{theoretical } \Delta H_{rxn}}{\text{theoretical } \Delta H_{rxn}}$$

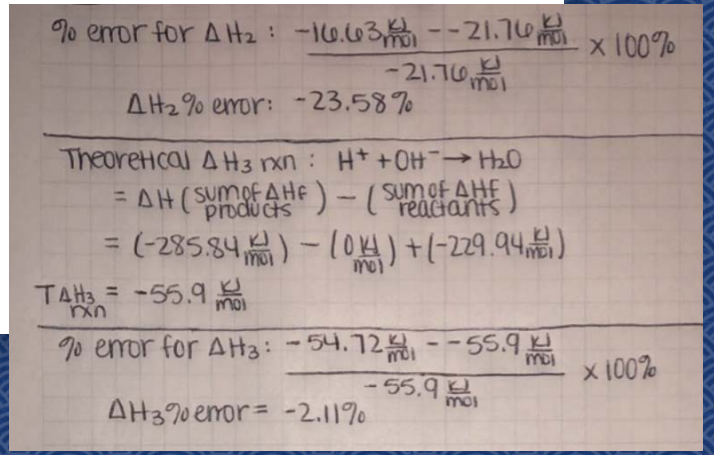
Multiply by 100%

$\Delta H_1 = 8.14\%$

$\Delta H_2 = 23.58\%$

$\Delta H_3 = 2.11\%$





Conclusion

The St. Dev and % Error were reasonable enough values, accounting for some error, to where the results of this experiment and the calculation of -16.63 kJ/mol for the enthalpy of ΔH_2 can be trusted as fairly reasonable.

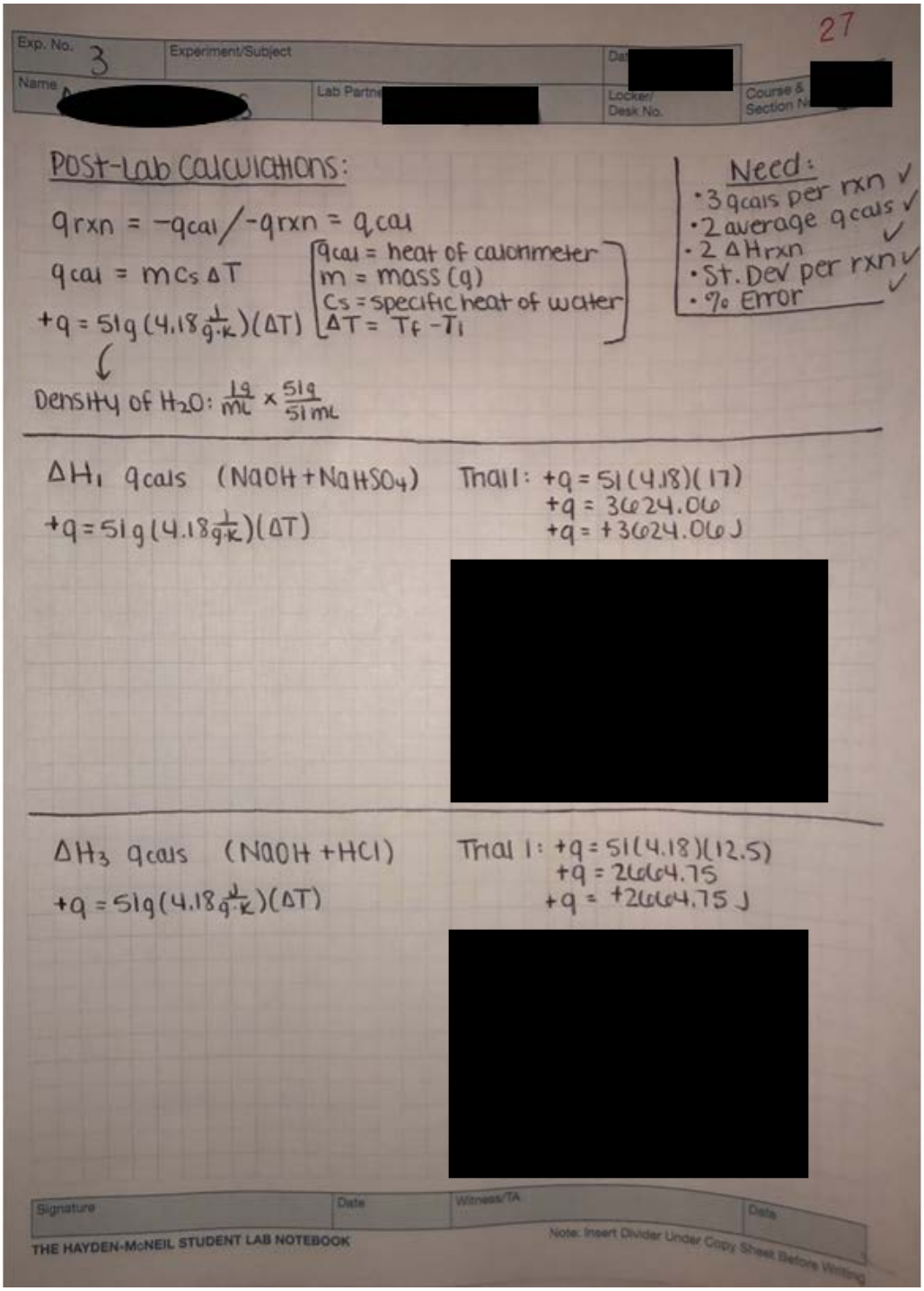
Experiment xx:
Determination of Enthalpy for a Reaction Using Calorimetry

xxxx, 20xx

xxxx
Partner: xxx

Chem 12xxL-xxx

Data Analysis:



Exp. No. 3 | Experiment/Subject | Date [redacted] | 27

Name [redacted] | Lab Partner [redacted] | Locker/Desk No. | Course & Section No. [redacted]

Post-Lab Calculations:

$q_{rxn} = -q_{cal} / -q_{rxn} = q_{cal}$

$q_{cal} = m c_s \Delta T$

$+q = 51g\,(4.18 \frac{J}{g \cdot K})(\Delta T)$

- q_{cal} = heat of calorimeter
- m = mass (g)
- c_s = specific heat of water
- $\Delta T = T_f - T_i$

Density of H_2O: $\frac{1g}{mL} \times \frac{51g}{51mL}$

Need:
- 3 qcals per rxn ✓
- 2 average qcals ✓
- 2 ΔH_{rxn}
- St. Dev per rxn ✓
- % Error

ΔH_1 qcals (NaOH + $NaHSO_4$)

$+q = 51g\,(4.18 \frac{J}{g \cdot K})(\Delta T)$

Trial 1: $+q = 51(4.18)(17)$

$+q = 3624.06$

$+q = +3624.06\,J$

[redacted]

ΔH_3 qcals (NaOH + HCl)

$+q = 51g\,(4.18 \frac{J}{g \cdot K})(\Delta T)$

Trial 1: $+q = 51(4.18)(12.5)$

$+q = 2664.75$

$+q = +2664.75\,J$

[redacted]

Signature | Date | Witness/TA | Date

THE HAYDEN-McNEIL STUDENT LAB NOTEBOOK

Note: Insert Divider Under Copy Sheet Before Writing

Exp. No. 3	Experiment/Subject Determination of Enthalpy	Date [redacted]
Name [redacted]	Lab Partner [redacted]	Locker/Desk No. / Course & Section No [redacted]

Post-Lab calculations continued:

$$\Delta H_{rxn} = \frac{q_{rxn}}{\text{mol of LR}} \quad [q_{rxn} + q_{cal} = 0, \; q_{rxn} = -q_{cal}]$$

LR = acid (25 mL)

$$\frac{2 \text{ mol}}{1 \text{ L}} \times \frac{1 \text{ L}}{1000 \text{ mL}} \times 25 \text{ mL} = 0.05 \text{ mol of acid}$$

[redacted]

ΔH_3 $q_{rxn} = -q_{cal} = -2735.81$ J

$$\Delta H_{rxn} = \frac{-2735.81}{0.05}$$

$\Delta H_{rxn} = -54716.2$ J/mol or -54.716 kJ/mol

[redacted]

2

or -16.628 kJ/mol

Standard Deviation: $s = \sqrt{\frac{(\Delta t_1 - \Delta t_{avg})^2 + (\Delta t_2 - \Delta t_{avg})^2 + (\Delta t_3 - \Delta t_{avg})^2}{3-1}}$

ΔH_1 Standard Deviation $= \sqrt{\frac{(17-16.73)^2 + (16.2-16.73)^2 + (17-16.73)^2}{2}}$

ΔH_1 St. Dev = 0.462

$= \sqrt{\frac{0.0729 + 0.2809 + 0.0729}{2}}$

Signature	Date	Witness/TA	Date

Exp. No. 3 | Experiment/Subject Determination of Enthalpy | D[redacted] | Course & Section N[redacted]

Name [redacted] | Lab Partne[redacted] | Locker/Desk No.

Post-Lab Calculations continued:

Standard deviation: $s = \sqrt{\frac{(\Delta t_1 - \Delta t_{avg})^2 + (\Delta t_2 - \Delta t_{avg})^2 + (\Delta t_3 - \Delta t_{avg})^2}{3-1}}$

ΔH_3 Standard deviation $= \sqrt{\frac{(12.5-12.83)^2 + (12.9-12.83)^2 + (13.1-12.83)^2}{2}}$

ΔH_3 St. Dev $= 0.09335 = \sqrt{\frac{0.1089 + 0.0049 + 0.0729}{2}}$

Percent Error $= \frac{\text{actual } \Delta H_{rxn} - \text{theoretical } \Delta H_{rxn}}{\text{theoretical } \Delta H_{rxn}} \times 100\%$

actual ΔH_{rxn}: from each seperate calculation of $\Delta H_1, \Delta H_2, \Delta H_3$

[redacted]

% error for $\Delta H_1 = \frac{-71.34 \frac{kJ}{mol} - -77.66 \frac{kJ}{mol}}{-77.66 \frac{kJ}{mol}} \times 100\%$

ΔH_1 % error $= -8.14\%$

[redacted]

Signature | Date | Witness/TA | Date

Exp. No. 3	Experiment/Subject Determining Enthalpy	Da[redacted]	
Name [redacted]	Lab Pa[redacted]	Locker/ Desk No.	Course & Section No [redacted]

POST Lab Calculations continued:

% error for ΔH_2 : $\frac{-16.63\frac{kJ}{mol} - -21.76\frac{kJ}{mol}}{-21.76\frac{kJ}{mol}} \times 100\%$

ΔH_2 % error: -23.58%

[redacted]

% error for ΔH_3 : $\frac{-54.72\frac{kJ}{mol} - -55.9\frac{kJ}{mol}}{-55.9\frac{kJ}{mol}} \times 100\%$

ΔH_3 % error = -2.11%

Signature	Date	Witness/TA	Date

Summary of Experimental Results:

Experiment 3 Scientific Argument (QCEJ):

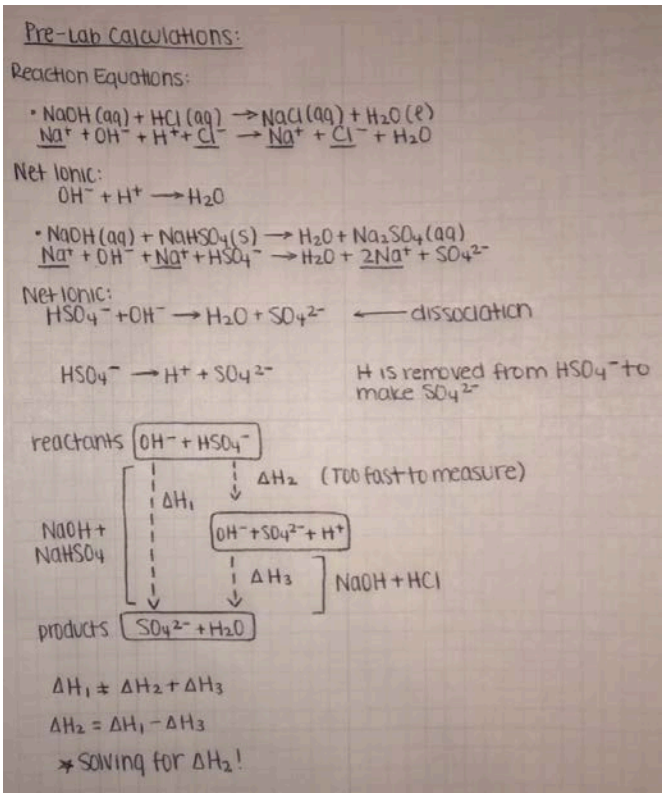
Lab Question:

What is the enthalpy of the dissociation of hydrogen sulfate and how can we solve for it?

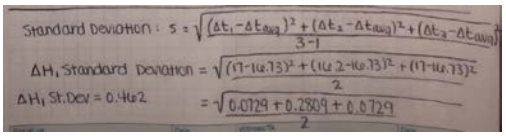
Claims:

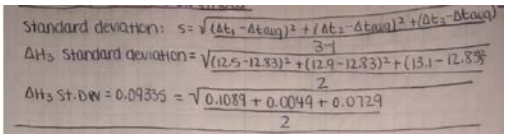
The enthalpy of the dissociation of hydrogen sulfate is -16.63 kJ/mol. It cannot be measured directly because the degree of dissociation is too small, requiring the use of Hess's Law and a constant pressure calorimeter in order to solve for its value.

Evidence:

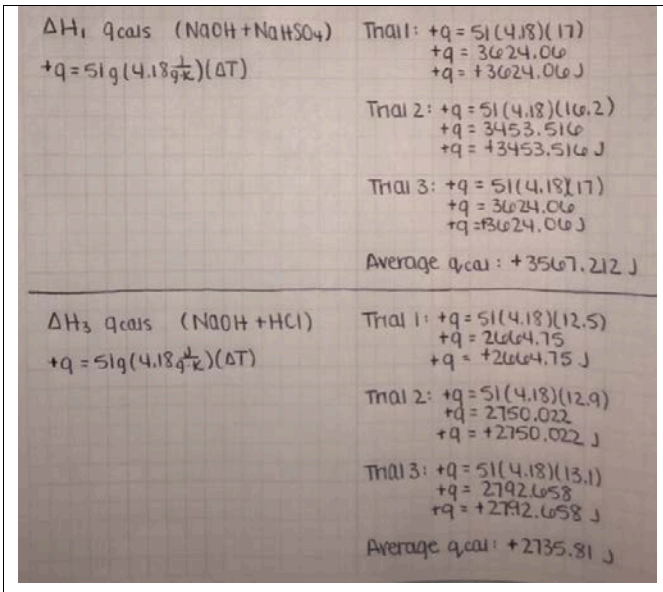


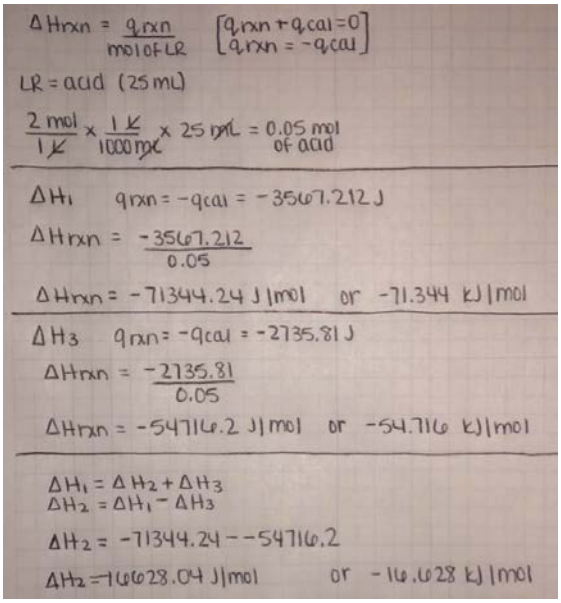
Justification:



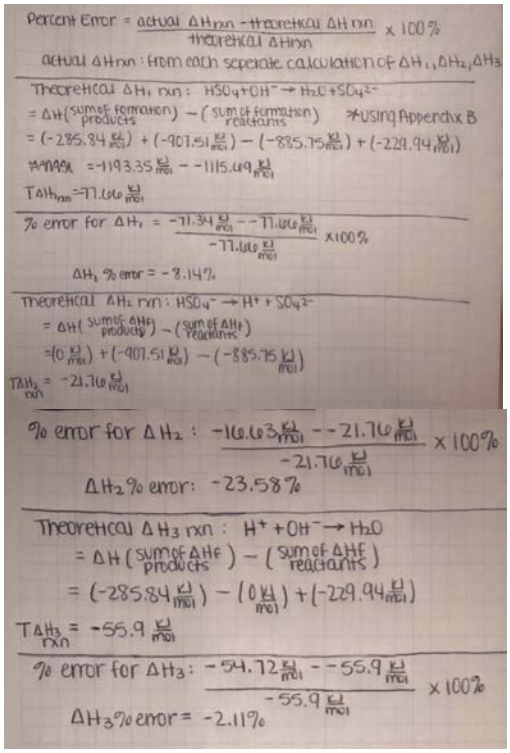


I calculated the standard deviation for each of the two reactions we conducted in the experiment, ΔH_1 and ΔH_2, using the individual ΔT values and then the average ΔT value for each reaction. For ΔH_1 I got a standard deviation of 0.462 and for ΔH_2 I got a standard deviation of 0.093. The lower the standard deviation, the better because it means that the data measurements were taken





with high precision and they were very close together.



Additionally, I calculated the percent error for all three reactions using the equation $\frac{actual\ \Delta H_{rxn} - theoretical\ \Delta H_{rxn}}{theoretical\ \Delta H_{rxn}} * 100\%$.

The actual ΔH_{rxn} is what I calculated from my experiment and the theoretical ΔH_{rxn} can be calculated by subtracting the sum of the ΔH_f reactants from the sum of the ΔH_f products. These values were obtained from the chart in Appendix B from the Lab Manual. I got a % error of 8.14% for ΔH_1, 23.58% for ΔH_2, and 2.11% for ΔH_3. The percent error for ΔH_3 is very

	low which means that there was higher accuracy associated with ΔH_3 calculations and measurements. The % error for ΔH_1 is 8.14% which is not awful, but I think it is what skewed the % error for ΔH_2 to be so much higher. Overall, the standard deviations and percent error are at reasonable enough values to where I think that the results of this experiment and the calculation of -16.63 kJ/mol for the enthalpy of ΔH_2 can be trusted as fairly reasonable.

Conclusion to the Lab Question:

The enthalpy of the dissociation of hydrogen sulfate is -16.63 kJ/mol. It cannot be measured directly because the degree of dissociation is too small, requiring the use of Hess's Law and a constant pressure calorimeter in order to solve for its value.

Hypothesis Analysis:

At the beginning of this experiment, I hypothesized that the enthalpy, change in energy, of the dissociation of hydrogen sulfate could be calculated using the principle of Hess's Law to determine the enthalpy of ionization for two other reactions and then used to solve for the third. Using a constant pressure calorimeter made of Styrofoam cups and a temperature probe, we can measure the change in heat of each reaction, solve for the overall temperature change (ΔT), and then use the equation $q = mc\Delta T$ to find the heat of the reactions (q). Finally, we would solve for

each ΔH_{rxn} and then using Hess's Law of $\Delta H_2 = \Delta H_1 - \Delta H_3$ to give us the enthalpy of the dissociation of hydrogen sulfate. The reason for doing this is because the dissociation of hydrogen sulfate cannot be measured directly since the degree of dissociation is too small, and the reaction occurs too fast.

Post-Lab Discussion Questions:

a.) Use Appendix B to calculate the enthalpy of dissociation of hydrogen sulfate from the enthalpies of formation.

Calculation is removed.

b.) Comment on the enthalpy you obtained from the experiment to the calculated one. Do they match? Evaluate on the success of this experiment.

The actual ΔH_{rxn} that I obtained from the experiment is xxx kJ/mol and the theoretical ΔH_{rxn} that is calculated by subtracting the sum of the ΔH_f reactants from the sum of the ΔH_f products, was xxx kJ/mol. The standard deviation that I calculated for ΔH_1 was not outrageously high, but it was significantly higher when compared to the standard deviation I got for ΔH_3. Although our results are only about 5.0 kJ/mol away from each other, possible human error leading to the higher standard deviation from our first trials could have contributed to this difference in values. Perhaps the thermometer touched the cup when we were mixing up the reactants. Maybe the lid of the Styrofoam cup was not on fully, allowing for some outside air to change the "closed" system nature of the calorimeter. Or maybe an error was made when timing the graph and recording the data measurement since we were choosing data points where we thought the graph had leveled out. Overall, the standard deviations and percent error (calculated in the Justification of the QCEJ) are at reasonable enough values to where I think that the results of this experiment and the calculation of -16.63 kJ/mol for the enthalpy of ΔH_2 can be trusted as fairly reasonable despite it not being incredibly close to the theoretical value.

Experimental Procedure/Observations & Data:

The images of lab note on data and observation is attached.

HISTORY OF ART 1 - 2110
FALL SEMESTER 20XX

Assignment 1
Due October 5

Formal Art Analysis

Description:

A formal analysis includes an analysis of the forms appearing in the work you have chosen. These forms give the work its expression, message, or meaning. A formal analysis assumes a work of art is (1) a constructed object (2) that has been created with a stable meaning (even though it might not be clear to the viewer) (3) that can be ascertained by studying the relationships between the elements of the work. To aid in writing a formal analysis, you should think as if you were describing the work of art to someone who has never seen it before. When your reader finishes reading your analysis, she/he should have a complete mental picture of what the work looks like. Yet, the formal analysis is more than just a description of the work. It should also include a thesis statement that reflects your conclusions about the work. The thesis statement may, in general, answer a question like these: What do I think is the meaning of this work? What is the message that this work or artist sends to the viewer? What is this work all about? The thesis statement is an important element. It sets the tone for the entire paper, and sets it apart from being a merely descriptive paper.

Format for the Paper:

Two and a half to three pages (not including title page, if you use one), black ink, double spaced, 10 or 12 pt type (Times only), 1” borders. Make sure you proofread your papers for adhering to the information listed above, as well as incorrect grammar, spelling, punctuation, and other errors. In addition, make sure your paper includes a thesis statement. Your grade will reflect your ability to follow these guidelines.

In the first paragraph, called the introduction, you will include:

- the name of the artist (if known), title (which is underlined or *italicized every time you use the title in your paper*), date, and medium (if known)
- what you think is the subject
- a very brief description of the work
- thesis statement - usually the last line or so of your first paragraph.

From that point, the rest of the formal analysis should include not only a description of the piece, but especially those details of the work that have led you to come to your thesis. Yet, your paper should not be a random flow of ideas about the work (i.e. stream of consciousness writing). Rather, your paper should have a sense of order, moving purposefully through your description with regard to specific elements (ex: one paragraph may deal with composition, another with a description of the figures, another with the background, another about line, etc.). Finally, in your conclusion (the final paragraph) you should end your paper with a restatement of your thesis.

It is important to remember that your interest here is strictly formal; NO RESEARCH IS TO BE USED IN THIS PAPER. In other words, you are strictly relying on your ability to visually 'read' a work of art and make interpretations about it based on your analysis of it. Remember too that your analysis should not be just a mechanical, physical description. Please use descriptive language and adjectives to describe your work. Begin with a general description of the work, and then move on to the more specific elements. In addition, please refer to your syllabus concerning my policy on plagiarism – do not share your thesis or paper with other students and please do not work on your paper with another student. This is considered plagiarism and will result in a failing grade for the entire class.

Course Title*:* Chicana/o Latina/o Musical Cultures and Expressions
Course Number: CCS 1125
Course Credits: 3
Instructor:
Office Location:
Office Hours:
Class Meeting Day(s): Tuesday/Thursday 1:00pm-2:15pm
Class Location / Room:
Term / Semester:

Catalogue 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.

Prerequisites: None

Course Objective:
The aim of this course is to examine diverse cultural musical expressions of Chicana/o and Latina/o peoples in the present geographical boundaries of the United States. The course emphasizes the intercultural formation of Chicano and Latino music as it relates to cultural production. The course examines broad similarities in the idioms, language, and instrumentation of contemporary Chicano Latino Music, which reflects influences from Rhythm and Blues, Son Jarocho, Mariachi, Oldies, Tex-Mex, Salsa, Bolero, Corrido, Chicano folk, Blues, Rock, Punk, Latin Jazz, Banda, Pop, Alternative. Students will apply diverse theoretical concepts and sources of evidence in drawing conclusions about the impact of musical cultural diversity with local, national and international creative rhetorical situations.

Goals:
- Explore how diverse human values and experiences contribute to the making and uses of art.
- Explain the cultural sources and outcomes of creativity in the arts and design
- Design a performance or a work of art
- Identify how arts and design are produced and how they affect different people and communities.

Learning Objectives:
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

Required Texts:

Steve Loza. *Barrio Rhythm: Mexican American music in Los Angeles*. Urbana: University of Illinois Press, 1993.

Ed Morales. *The Latin Beat: The Rhythms and Roots of Latin Music From Bossa Nova to Salsa and Beyond*. New York: Da Capo Press, 2003.

David Reyes. *Land of A Thousand Dances*. Albuquerque: University of New Mexico, 1998.

Additional readings and course materials are posted on Blackboard

Grading and Evaluation: Expectations and Procedures

If you meet the minimum requirements detailed in each assignment, you will receive a C. Students who achieve B's and A's in this course exceed the minimum requirements and guidelines provided. Their work is unusually thoughtful, careful, concise, creative, and technically proficient.

Here are the general guidelines I use in grading assignments:

A = Excellent. Greatly exceeds requirements. Shows extreme levels of creativity, skill, initiative, and/or effort.

B = Good. Exceeds requirements. Shows substantial creativity, skill, initiative, or effort.

C = Average. Meets, but does not exceed, requirements.

D = Below Average. Meets some requirements but deficient in others.

F = Poor. Deficient in all requirements.

Total points possible: 100

A+ = 98-100	B+ = 87-89	C+= 77-79	
A- = 94-97	B = 83-86	C = 73-76	D = 60-66
A- = 90-93	B- = 80-82	C- = 70-72	F = 50-59

Course Assignments:

Attendance & Participation (50%): Students are required to participate in class and complete online Learn assignments. Discussion Boards will center on course readings and materials, including videos. You will be expected to post both "threads" and "replies". Sometimes, you will also post a comment in response to a prompt or a "reply", which means students must read and respond to at least one other student's comments. Students are also expected to read the assignments or watch all videos posted on blackboard. Finally, I ask that all students respect their fellow classmates. We need to be willing and able to read and consider each other's arguments and opinions and think carefully about how to best offer constructive criticism. Online assignments will count for 50% of the grade.

Written Summaries of Concert Performances (20%):

The midterm assignment will consist of two 2 to 3 page narrative analytical summaries of live concert presentations or concerts available on Blackboard or You Tube. The instructor will distribute the guidelines on Learn.

Final Essay/Music Album: (30%):

The final essay is summative and will cover the appropriate key issues examined in the course. Students will be required to write a 4-5-page paper on three favorite songs selected by family members/friends from at least three genres discussed in the class. The essay should include descriptive information of each song that includes title, artist, genre, subject/topic, and era/period. In addition, the essay is required to explain the meaning and significance of the song to the student, friend or family member and its larger resonance for Latino communities in the US. A handout will be posted online.

Policy on Due Dates and Late Work:
Late work will not be accepted unless accompanied by a medical excuse or statement explaining undue hardship or circumstances. Work submitted after the designated date and time is considered late. I will only accept late work without penalty in the event of persona, family or medical emergency.

Make Up Work Policy:
If you miss an assignment due to illness or emergency, you may attend an outside event and complete the guidelines for extra credit work for make-up credit.

Accommodation Statement:

*An Accommodation statement is required for all syllabi. There is **no** specifically required wording. Listed below are two options acceptable to Accessibility Resource Center. NOTE: HSC, Law and distant campuses have/may have alternative and acceptable wording.*

"In accordance with University Policy 2310 and the Americans with Disabilities Act (ADA), academic accommodations may be made for any student who notifies the instructor of the need for an accommodation. It is imperative that you take the initiative to bring such needs to the instructor's attention, as he/she are not legally permitted to inquire. Students who may require assistance in emergency evacuations should contact the instructor as to the most appropriate procedures to follow. Contact Accessibility Resource Center at 277-3506 for additional information."

Title IX Statement:

There is no University specific language nor is there a requirement that Title IX be included in the syllabus. Please check for your department, school, college or campus requirements a preferred wording. Two options are listed below.

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see pg 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html

Academic Integrity Statement

There is no University specific language or requirement that an Academic Integrity Statement be included in the syllabus although many recommend it. Departments, schools, colleges or campuses may require different wording. Listed below is the statement listed in the UNM Student Handbook

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including

dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

COURSE OUTLINE**

**** All students are required to log in to blackboard and complete course assignments listed under the assignments tab on the left-hand side of the course blackboard site. Keep in mind that when you downloading readings or videos there may be a lag, please be patient. I recommend that you download reading materials directly to your desktop to ensure a quicker and more accessible format. If you have a slow server, it may take an hour or longer. Having a slow server does not allow you to turn in late work. You can always go to the UNM campus and use the computer labs. Make sure and take head phones with you to hear the audio of the videos. All course assignments will be listed under four sections (1, 2, 3, 4). However, all materials are organized by week. You will find materials contained in folders titled Week 1, Week 2, etc. Follow the course outline BELOW.**

Date	Topic	Reading/Assignment Due
Week 1	**The Origins of Chicano Music**	Introductions/Review Syllabus /Your Song **Reading** David Reyes. "Introduction," in *Land of A Thousand Dances*. Albuquerque: University of New Mexico, 1998, PP . XIII-XXL View: *Latin Music USA: The Chicano Wave*
Week 2	**Multicultural Background of Chicano Music**	**February 2** Blackboard Reading: Ed Morales, "Introduction," from *The Latin Beat: The Rhythms and Roots of Latin Music From Bossa Nova to Salsa and Beyond*. New York: Da Capo Press, 2003. **Discussion Board Assignment 1-Due at 12:00pm** Based on your readings from the Week 1 folder and your viewing of the video titled "Latin Music USA: The Chicano Wave," write two paragraphs describing Chicano Music in the United States and its significance in U.S. society. Keep the following in mind when writing your discussion board response: Contextualize your response using specific details from the course materials (readings and videos). Also, the response is graded based on the analysis, organization, grammar, and use of specific examples. Write to the uninformed reader. The assignment will be worth a total of five points. This assignment is worth 5 points.
Week 3	**Defining Chicano/ Latino Music: Lalo Guerrero, The**	**Discussion Board assignment 2: - Due at 12:00pm** Based on your reading of the "Introduction" by Reyes, answer the following question: How do Thee Midniters reflect cross-racial music? When writing discussion board responses, contextualize your response using specific details. Also, the response is

Date	Topic	Reading/Assignment Due
	Father of Chicano Music	graded based on the analysis, organization, grammar, and use of specific examples. Write to the uninformed reader. The assignment is worth 5 points. Reading: David Reyes: "Lalo, Chico, and the Pre-Rock Era, from *Land of A Thousand Dances*, Albuquerque: University of New Mexico Press, c1998, pp. 3-10. View: *Chicano Rock*
Week 4	**Defining Chicano/ Latino Music: Ritchie Valens, The Birth of Latin Rock**	**Blackboard Reading:** Loza: "Lalo Guerrero: Musician, Satirist, and Legend," from *Barrio Rhythm: Mexican American music in Los Angeles*. Urbana: University of Illinois Press, 1993, pp.158-183. Ed Morales, "The Beat is in the Blood, pp. 1-32. **Discussion Board Assignment 3 -** After considering the introductory essay by Reyes and Morales (posted under Assignments-Week 1 and 2) and the course videos, identify a singer or musical group discussed by either author. For example, you could choose Cannibal and the Headhunters or Los Lobos. You may also choose a non-Chicano or Latino individual or group. Find a sample of their music or a video on the internet. In two or three paragraphs provide the following: 1) Artist/Peformer/s/Group 2) Author/composer 3) Time period 4) Identify and describe the genre (Rock n Roll, R&B, etc) 5) Explain what you think is the popularity or appeal of the song during the specific period. Please remember when writing discussion board responses, contextualize your response using specific details. Also, the response is graded based on the analysis, organization, grammar, and use of specific examples. Write to the uninformed reader. The assignment is worth 5 points. **Due at 12:00pm**
Week 5	**Mexican Folk** **Bolero: Origins and Reinterpretations**	**Discussion Board Assignment 4:** Find a traditional version of a Bolero by a Mexican or Latino artist/s such as Los Panchos, Benny More, Los Tres Ases or Los Dandis. Write a one to two paragraph response describing the title, year, artists, genre, lyrics, meaning, and instrumentation. Please remember when writing discussion board responses you should strive to contextualize your response using specific details. Also, the response is graded based on the analysis, organization, grammar, and use of specific examples. Write to the uninformed reader. The assignment will be worth 5 points. The assignment is **due by 12:00pm on Learn.** **Blackboard Reading:** Read the short essay on the Bolero at the Wikipedia site http://en.wikipedia.org/wiki/Bolero Read the essay on the Bolero http://worldmusic.nationalgeographic.com/view/page.basic/genre/content.genre/bolero_694/en_US
Week 6	**The intercultural context of Afro-**	**Blackboard Reading:** **Read Music from Mexico Oxford Music Online**

Date	Topic	Reading/Assignment Due
	Cuban forms (son, bolero, cha cha cha, rumba and mambo) **Afro-Mexican Roots of Jarocho**	**Read "Son Jarocho Study" Guide on Blackboard** **View Video Clip *Las Cafeteras***
Week 7	**Jarocho Tradition in Chicano/o Music: Historical and Contemporary Developments**	**Blackboard Reading:** **Read "Son Jarocho as African Resistance Music"** **Read E. Thomas Stanford, The Mexican Son,"** *Yearbook of the International Folk Music Council*, Vol. 4, 25th Anniversary Issue. (1972), pp. 66-86. **Discussion Board Assignment 5:** Using the lecture, video and reading materials on Son Jarocho, write a two to three paragraph response to the following question, "How have Chicana/o musicians incorporated the Son Jarocho tradition in to their music? Please remember when writing discussion board responses you should strive to contextualize your response using specific details. Please remember when writing discussion board responses you should strive to contextualize your response using specific details. Also, the response is graded based on the analysis, organization, grammar, and use of specific examples. Write to the uninformed reader. The assignment is worth 5 points. The assignment is **due on Learn by 12:00pm.**
Week 8	**Mexican Folk: Mexican Cultural Influences in Chicano Music** Corrido Trio Ranchero	**WATCH CONCERT 1: Music Demonstrations** **By Son de Madera on the Blackboard Learn site**. *Primavera Music Series* California State University Dominguez Hills. Ramon Gutierrez-Hernandez, Jose Tereso Vega Hernandez, Juan Perez © 2007. **Blackboard Reading:** **Read Sheehy, Mariachi Music America** **View Linda Rondstadt, "Los Laureles" video** **View "Viva el Mariachi" video** **Concert Summary 1 is due**
Week 9	**Mariachi: Mexican Cultural Influences in Chicano Music**	**Blackboard Reading:** **Read Sheehy, "Viva Mariachi"** **View video lecture titled "Mariachi and Identity"** **Discussion Board Assignment 6:** Briefly describe the defining characteristics of the Mariachi genre -in other words *what makes mariachi music unique*? Also, explain in your own words why Mariachi music is seen as one of the premier symbols for Mexican culture- give specific examples. You are also required to comment on another student's thread by posting a response on the Discussion Board (1 point). Please remember when writing discussion board responses you should strive to contextualize your response using specific details. Also, the response is graded based on the analysis, organization, grammar, and use of specific examples. Write to the uninformed reader. The assignment will be worth five points. The assignment is **due by 12:00pm on Blackboard Learn.**
Week 10	**Musica Tejana:**	**Blackboard Reading:** Read selection from *Musica Tejano* View video "Songs of the Homeland"

Date	Topic	Reading/Assignment Due
		Discussion Board Assignment 7: Briefly describe the defining characteristics of the Tejana genre -in other words *what makes Tejana music unique*? Also, explain in your own words why Tejana music is seen as one of the premier symbols for Chicano culture- give specific examples. You are also required to comment on another student's thread by posting a response on the Discussion Board (1 point). Please remember when writing discussion board responses you should strive to contextualize your response using specific details. Also, the response is graded based on the analysis, organization, grammar, and use of specific examples. Write to the uninformed reader. The assignment will be worth five points. The assignment is **due by at 12:00pm on Learn.**
Week 11	**Latin Jazz**	**Blackboard Reading:** Read, Ed Morales: "Latin Jazz" **WATCH CONCERT 2: Music demonstration on Learn under the Week 12 folder. Concert Summary 2 is due**
SECTION 4 Week 12	**Zoot Suit and Chicano Blues** Mambo Cha Cha	**Blackboard Reading:** David Reyes: "Lalo, Chico, and the Pre-Rock Era, from *Land of A Thousand Dances,* Albuquerque: University of New Mexico Press, pp. 285-99. Film: Selection from *Zoot Suit* **Discussion Board 8:** Write a 2 to 3 paragraph response on the music score for the movie *Zoot Suit.* Explain how the music enhances the story line of the film. For example, how do specific songs or pieces of music bring out elements of the narrative (story)? How does the music relate to the Mexican American communities depicted in the film? Also, the response is graded based on the analysis, organization, grammar, and use of specific examples. Write to the uninformed reader. The assignment will be worth five points. The assignment **is due at 12:00pm on Learn.**
Week 13	**Post-Modern Afro-Cuban Musical Influences** **Discuss Final and Essay and Presentation**	**Blackboard Reading:** Read Ed Morales, "Other Latin Beats from Mexico, Colombia, and the Dominican Republic," pp. 237-274.
Week 14	**Latin Rock** View Clips from Santana **Chicano/Latino Rap / Alternative**	**Discussion Board Assignment 9:** On YouTube find an example of a song by the music group OZOMATLI. Write a half page essay on how the song represents Latin Fusion. Be sure to include a discussion of instrumentation, lyrics, style, and genre. Post to the Digital Drop box. Please remember when writing discussion board responses you should strive to contextualize your response using specific details. Also, the response is graded based on the analysis, organization, grammar, and use of specific examples. Write to the uninformed reader. The assignment will be worth 5 points. **The assignment is due at 12:00pm on Learn.** **Blackboard Reading:** Read Pancho McFarland, Chicano Rap Roots
Week 15	**Review: Multicultural Dimensions of**	

Date	Topic	Reading/Assignment Due
	Chicano/Latino Music	
<u>Week 16</u>	**Music Album& Final Essay Due –**	**Bring the final essay to class. Students will give a final presentation on this day. Any late essays will be docked two points.**

ARTS 1610 - Drawing 1

Luna Community College

Form Construction & Shading

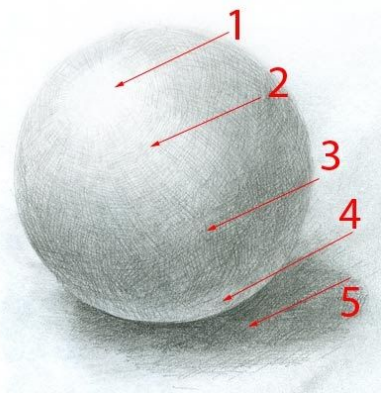
Chiaroscuro Shading Pattern

Overview

It is vital to understand the construction process of basic geometric forms and chiaroscuro shading pattern application.

Chiaroscuro is a method for applying value to a two-dimensional piece of artwork to create the illusion of a three-dimensional solid form.

This way of working was devised during the Italian Renaissance and was used by artists such as Leonardo da Vinci and Raphael.



By the completion of this assignment, you will be able to evaluate how light interacts with objects and how it affects value and shading.

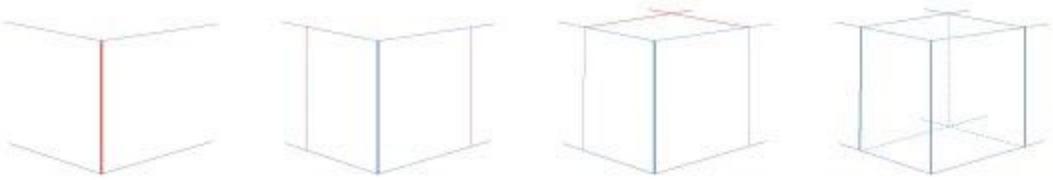
For this assignment, you will draw the listed objects from observation:

1. *Highlight* is the lightest value of an object. This is where direct light hits the surface.
2. *Light* - as the surface curves, it does not get as much light, so value becomes slightly darker.

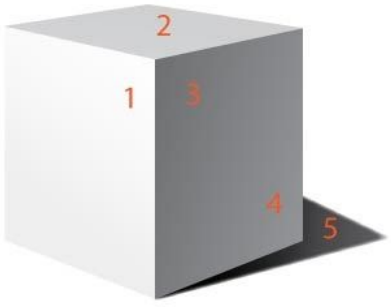
3. *Shadow* - once the surface curves away from the light source, it does not receive any direct light, but it does get some indirect light from the surroundings - that's why it is not completely black.
4. *Reflected light* is light that is bounced off the surfaces (surroundings), making the value slightly lighter.
5. *Cast shadow* is the darkest value, but further it is from the object - lighter it gets.

Steps

Cube



- Start with the front corner line. Draw 4 receding lines going to the right and to the left. Use intuitive perspective.
- Define the far corners.
- To create the top side - draw two receding lines going the opposite directions.
- Draw the back corners (that are hidden) - imagine that the box is made out of glass or clear plastic.



Imagine the light source on the left. Apply chiaroscuro pattern to shading:

1. The left side will receive the direct light. It will be the lightest value.

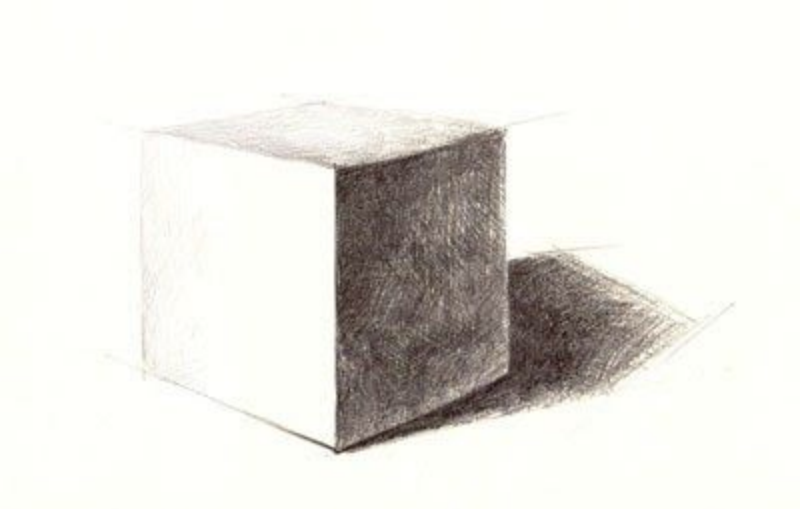
2. The top side will get some light - it will be slightly darker than the left.

3. The right side does not get any light from the light source. It is in the shade. This side though receives some light, reflected from the ground surface (4 - reflected light).

5. Drop shadow is the darkest value of all, especially closer to the object.

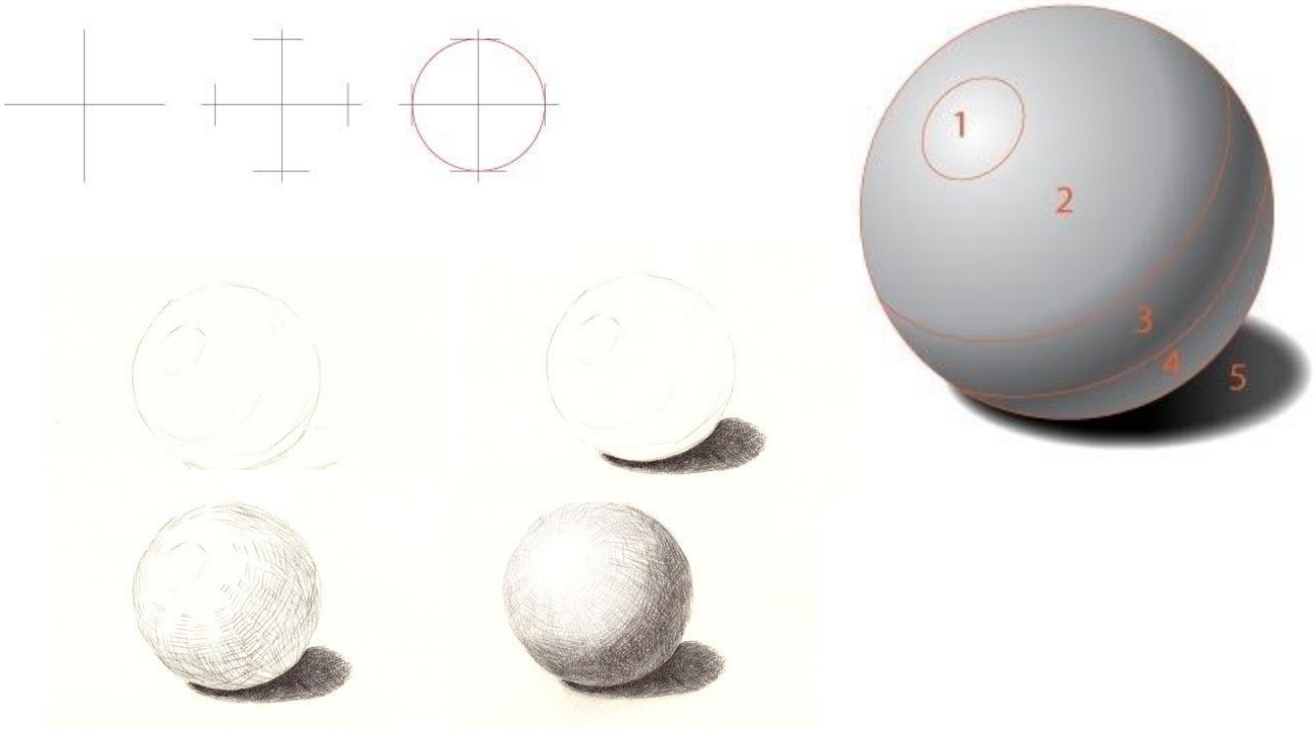
- **Shade the darkest values first.**
- **Create the biggest contrast next to the corners.**

Use these steps to determine different values and shading of the forms.

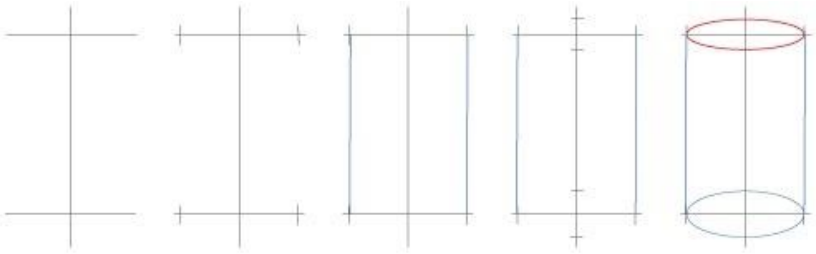


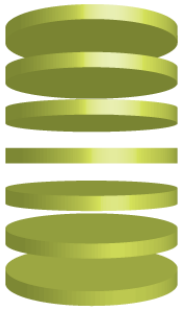
Sphere

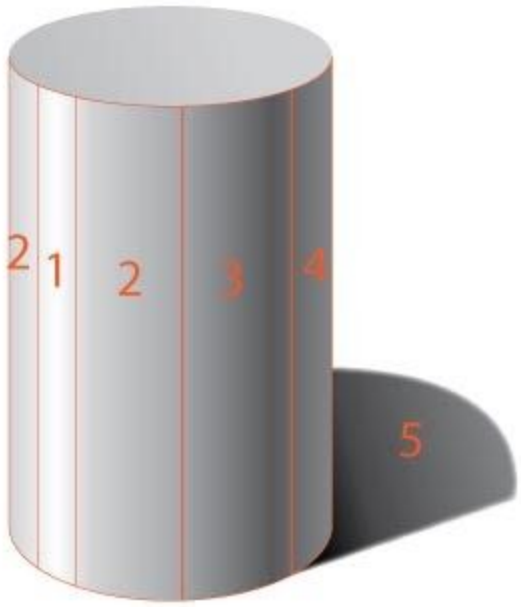
Follow the previously listed steps in order to properly shade your form.



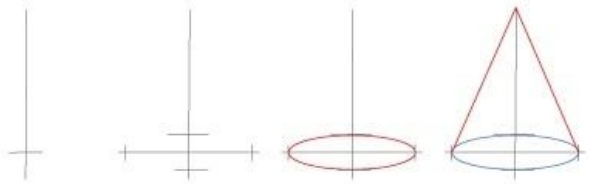
Cylinder

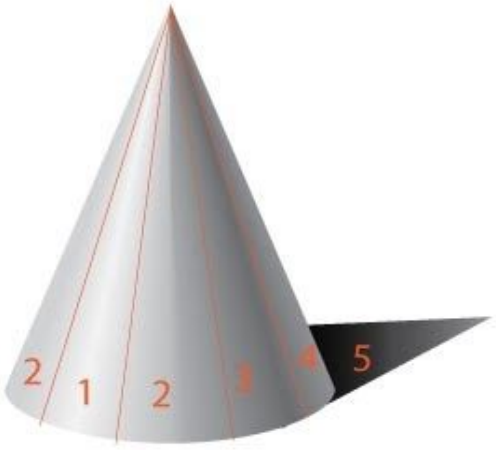




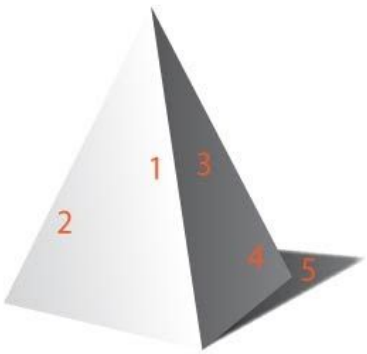


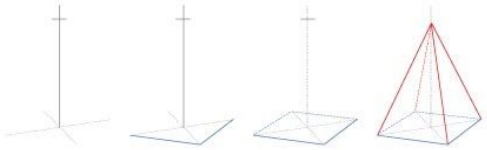
Cone





Pyramid





UHON 204-002
Individual and Collective: Understanding Social Change

Essay #3: Final Synthesis

Required proposal due April 16 (see back)
First draft due April 23. We will spend time in class to workshop and revise. Please have a **complete** draft.
Final draft due April 30.

Write an 8-9 page analytical essay that applies the theories and ideas discussed in this class to analyze one contemporary social problem. There are four required elements of this essay:

a) Identify a pressing *contemporary* social issue (may be the same as discussed in Essay #1). You must summarize this issue for the reader and present data about it. You may revise parts of Essay #1 for this assignment, but you do not have to or you might want to add on to it. As in Essay #1, your discussion of this contemporary issue must be based on articles or other evidence that help you **concretely define and describe** the issue. [10%]

b) **Apply theories from class** to help explain and analyze this contemporary issue. The main part of your essay will apply the theories of *at least two* social theorists that we've read about and discussed in class to analyze the issue and place it in a broader social and historical context. You might also compare or contrast how two different theorists would approach the issue or indicate what questions these theories raise about the issue. This part of the essay should demonstrate comprehension of the social theories, and **use texts from class as evidence.** Helpful questions for this section might be: How do these ideas help us understand or explain the issue? What specific concepts are applicable to the issue? What questions would these theorists ask about your social problem? [35%]

c) Use the theories to propose a solution to the social problem. How would the social theorists you focus on in your paper seek to solve the issue? What factors would they take into account? What would they suggest needs to change before we see a solution? These solutions must be **grounded in the theories we have studied in class.** [20%]

d) **Evaluate** whether and how the social theories you are using and that we have read in this class remain relevant in today's moment of social transformation. What do these theories do well and what are the limits of these theories? What do you propose is missing from these theories? How might we rewrite them to be more applicable to contemporary social change? [10%]

The essay will also be graded on the quality of the writing, including your **thesis and argument,** organization, use of **evidence**, integration of quotes, and technical precision – including grammar, citations, and clarity. [20%].

Paper proposal due April 16
Worth 5% of assignment grade

Instructions for Essay #3 paper proposal:

1) Provide a two-sentence overview of the contemporary issue the essay will investigate;
2) Indicate two potential theorists that could help you explain this issue;
3) For each theorist provide two sentences to indicate how you might apply their theories to your issue;
4) For each of these two theorists, select a minimum of three quotes that you expect will be usefully applied in your paper to explain your issue.

Tips for a successful Essay #3

- It is better to focus on a small number of theorists (2-4) more deeply than try to apply every single theorist superficially. Select the theorists and ideas you think are most compelling or provocative.
- Evidence, evidence, evidence. Ground your claims in evidence from the texts we read or the articles you are consulting. Then cite where this evidence and these ideas come from.
- In years past, students sometimes fail to adequately address requirements c and d (above) and lost points for their failure to do so. Make sure you are satisfying all of the essay requirements.

UHON 204-002
Individual and Collective

Essay #3

Name:

	Excellent	Okay	Needs Improvement
A: Summary description of the contemporary social issue Score: _____ [10%]			
The problem is clear			
Evidence is provided that demonstrates the problem			
B: Apply theories to explain and understand contemporary issues Score: _____ [35%]			
Essay applies at least two theorists & demonstrates comprehension of their social theories			
Uses texts from class as evidence			
C: Use theories to propose a solution to the social problem Score: _____ [20%]			
Identifies how social theorists would address this issue			
D: Evaluate whether the social theories remain relevant in contemporary society, Score: _____ [10%]			
Appraises the limitations and usefulness of these theories			
Addresses how the theories need to be revised for contemporary society			
E: Technical elements of writing, Score: _____ [20%]			
Thesis statement and argument			
Organization			
Integration of quotes			
Technical precision – grammar, citations, clarity			
F: Proposal, Score: [5%]			

General Education Course NMHED Recertification Form

This form has been designed to guide you through the recertification process for the UNM General Education course in question. Please fill out your contact information below, and then review the information about the course provided to us by the New Mexico Department of Higher Education *(*NMHED*). After this, you will be instructed to fill out three separate narratives concerning the course and its relevance to NMHED's area and skills associated with the course.*

UNM Course Information

Prefix	**PHYS**
Number	**1240L**
Name	**Algebra-based Physics II Lab**

Contact Information

Name	
Title	
Phone	
Email	

NMHED's Description and Outcomes for the Common Course

The description and student learning outcomes below come from NMHED's Common Course Catalog, *which can be found here, and is meant to designate standard descriptions and outcomes of courses registered as a NMHED* Common Course.

PHYS 1240L: Algebra-based Physics II Lab

A series of laboratory experiments associated with the material presented in PHYS 1240.

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.

Institution-specific Student Learning Outcomes

Please add additional SLOs of the general education course to the ones provided by NMHED, or if no SLOs are provided by NMHED, input the SLOs used in assessment for the course.

Area and Essential Skills

Below gives information concerning the area and associated skills of the course to be re-certified. The area here matches the General Education Area of UNM; the "Essential Skills" and their respective Component Skills are characterizations of the area determined by NMHED. You will use this information to fill out the narratives below.

Area in which *PHYS 1240L* resides: Science

Essential Skills in the Area:

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.

Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.

Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.

Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well-reasoned evaluation.

Personal and Social Responsibility

Intercultural reasoning and intercultural competence

Sustainability and the natural and human worlds

Ethical Reasoning

Collaboration skills, teamwork and value systems

Civic discourse, civic knowledge and engagement -- local and global

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.

Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.

Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

Narrative Input

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Explain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking: *Problem Setting; Evidence Acquisition; Evidence Evaluation; Reasoning/Conclusion.*

Personal and Social Responsibility: *Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical Reasoning; Collaboration skills, teamwork and value systems; Civic discourse, civic knowledge and engagement -- local and global.*

Quantitative Reasoning: *Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; Application of Quantitative Models.*

Additional Information

Course Materials

NMHED requires that both a syllabus and a sample course assignment (project, paper, exam,etc.) from the course in question to be attached to the recertification form. Be sure and pick an assignment that correlates with the descriptions provided in the narratives above.

Assessment Plan

When it is submitted to NMHED, each general education course will also have attached the assessment plan that is used for General Education Assessment at UNM. For more information on this process, please visit this page from UNM's Office of Assessment.

Physics 1240L Syllabus – Fall 2019

TA:
email:

Welcome to Physics 1240L! I am here to help you do your labs and learn some physics that may help you in your lecture and future courses. Always feel free to ask questions or make suggestions. Also, feel free to talk to the Lab Director in room RH 113, phone 277-2751.

Description

Physics 1240L is a companion course to Physics 1240 covering topics in electricity, magnetism, geometrical optics and wave optics at the algebra 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.
(Pre- or co-requisite: Physics 1240)

Objectives

This course serves to reinforce concepts presented in lecture, to give you experience working as a member of a team and to familiarize you with various experimental techniques.
Lab students will:

- Communicate and cooperate as a team to accomplish technical goals
- Read and interpret procedural instructions
- Gather and analyze data using electronic and optical devices
- Observe electrical, magnetic and optical phenomena
- Relate observed phenomena to mathematical and physical models
- Use basic laboratory equipment (e.g., timer, balance, rods, clamps, etc.)

List of Experiments – schedule is posted http://regenerlab.unm.edu/

- Uncertainty in Measurement
- Electric Force
- Electric Field
- Electric Potential
- Introduction to Capacitors
- DC Circuit Basics
- DC Circuits II
- Magnetic Field
- Magnetic Force
- Magnetic Induction
- Images from Lenses
- Reflection and Refraction
- Thin Lenses
- Spectral Analysis
- Holography

Materials

Lab workbooks are available at the UNM Copy Center in Dane Smith Hall. Every student is required to purchase one before the second week of lab. No copies will be provided.

Students with Disabilities

Qualified students with disabilities needing appropriate academic adjustments should contact me as soon as possible to ensure your needs are met. Handouts are available in alternative accessible formats upon request.

Attendance

Lab attendance is mandatory. You are responsible to perform all experiments.

- **Tardiness**
  You are expected to arrive on time to lab. If you are late, you will still be required to do the entire lab but your grade may be diminished at my discretion.
- **Excused absences**
  - If you cannot make it to lab and know in advance, contact me and we will arrange a time for you to do the lab.
  - If something comes up unexpectedly (sudden illness, accident, family emergency, etc.) contact me as soon as possible. Unscheduled absences WITH A VAILD EXCUSE must be made up. Contact me to arrange a mutually convenient time.
  - Missed labs must be made up promptly. If you do not make up a missed lab within one week, your grade may be diminished at my discretion.
- **Unexcused absences**
  One unexcused absence will reduce your final grade by one letter grade. Two unexcused absences will cause you to fail the class.

Conduct:

UNM has strict guidelines for both student and TA conduct, which are outlined in the University catalogue. Both the students and the instructor are expected to adhere to these policies. In particular:

- **Please do not answer cell phones, texts, or tweets in the lab room!! If urgent,** Calls may be taken in the hallway so long as classes are not disturbed.
- **Drinks must be in a container with twist cap or other sealed top and kept on the floor or at the front of the room.** Food in the lab is not allowed without special permission from the instructor.

Grading

Each week, you will receive a grade with two components: one for attendance/participation, and one for the physics and other details in the lab report. Attendance and participation will count for 1/3 of your semester grade. Lab report grades and quizzes which may be given at announced times will count for 2/3 of your semester grade.

Attendance/Participation Guidelines

A	Active Participation	Example behaviors: helps with set up, participates in data taking, asks questions, participates in discussions, etc.
B	Passive Participation	Example behaviors: is tardy to lab, merely records data, does not help with set up, does not participate in discussions, copies partners, etc.
C	Poor Participation	Example behaviors: Reads newspaper, does homework, antagonizes lab partners, etc.
0	No Participation	Not present in your section. Attendance in another section not verified by TA.

Lab Report Guidelines

A	Standard	The report is everything I would expect. All entries are complete, all questions meaningfully answered, data record including graphs is clear and correct, all calculations and units are correct. The report is organized and legible.
A-	Good	Report has minor error(s).
B	Acceptable	Report is OK, but there are errors and/or missing entries.
C	Unacceptable	Report has significant errors, unanswered questions, missing data, etc.
0	No Report	No report is turned in. Authorship not verified by TA.

UNM Academic Dishonesty Policy:

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Title IX

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see pg 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). If you want to retain anonymity, instead report the incident to other units on campus, namely Student Health and Counseling (SHAC), Counseling and Resource Center (CARS), a licensed medical practitioner on campus, or off campus to the Rape Crisis Center of Central New Mexico, or a sexual assault nurse examiner. If you report the incident to the LoboRESPECT advocacy center, Women's Resource Center, or the LGBTQ Resource Center, you retain anonymity but an anonymous record is made for statistical purposes. See more information at https://policy.unm.edu/university-policies/2000/2740.html#_Toc414642678.

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.
Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.
Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.
Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well reasoned evaluation.

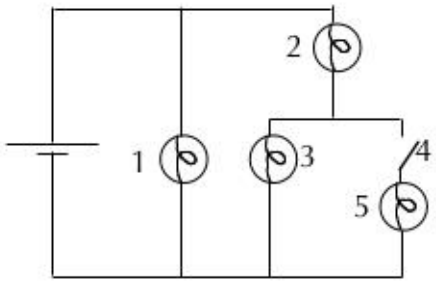
Sample Assessment Questions (These questions are all taken directly from the lab manual and could be used an embedded assessment on critical thinking. More traditional assessments such as the Conceptual Survey of Electricity and Magnetism could also be used here):

1. From the "Electric Potential" lab:

We have a large region of space that has a uniform electric field in the +x direction as indicated by the arrows in the diagram below. At the point (0,0) m, the electric field is 30 **î** N/C and the electric potential is 100 volts. Rank the electric potential from greatest to least at the following points within this region.
Please carefully explain your reasoning.
How sure were you of your ranking? (circle one)
Basically Guessed Sure Very Sure

2. From the "DC Circuits II" lab:

Predict what happens to the brightness of bulbs 1, 2, 3 and 5 when switch 4 is closed.



Personal and Social Responsibility - Address 2 of the 5 component skills

Intercultural reasoning and intercultural competence
Sustainability and the natural and human worlds
Ethical Reasoning
Collaboration skills, teamwork and value systems
Civic discourse, civic knowledge and engagement -- local and global

This activity from the "Magnetic Induction" lab and could be used to evaluate the Sustainability and the natural and human worlds component skill**.**

Generating Electricity

It seems fairly easy to cause current to flow in the coil. You have just demonstrated or seen several ways of doing this. A hand crank generator operates on the same basic principle you have been investigating. It is designed to optimize the interaction between magnet and coils and has gearing to increase the speed of the coil moving relative to the magnet.

1. Have each person in your lab team turn the crank of the generator a few times and note how much force is needed.

Question 20 It takes work to turn the hand crank generator. List what the work is accomplishing, or state why work is required to turn the crank.

2. Now connect the hand crank generator to the small light bulb in its holder.
a. Crank gently so that the light bulb does not "burn out."
b. Again have each person in your lab team crank it around a few times and note how much force is needed.

Question 21 Does it take work to drive the current in the light bulb? Describe your observation and explain.

The energy required to operate a 100W light bulb for one hour costs about a penny on your electric bill. This energy is easily calculated.
Energy = power x time = (100 W) x (3600 s) = 360,000 J

Question 22 Could you generate this much energy using your hand crank generator? How much mass would have to be lifted through a distance of 1 meter to generate this same energy?

I Googled "human power" and found this post on an alternative energy forum:
I keep looking but never seen anyone talk about how to convert the lifting and lowering of a weight into electricity. Maybe its too far out but humour me, If I move a weight of say 10lb over a vertical distance of 5 ft can we calculate the energy in watts. Do you have to go into newtons first? I will split the millions with you.lol! I thought about converting the force into rotary motion then into an alternator, not even sure if that is possible but thats why I thought I would write here. Those wave machines at the bottom

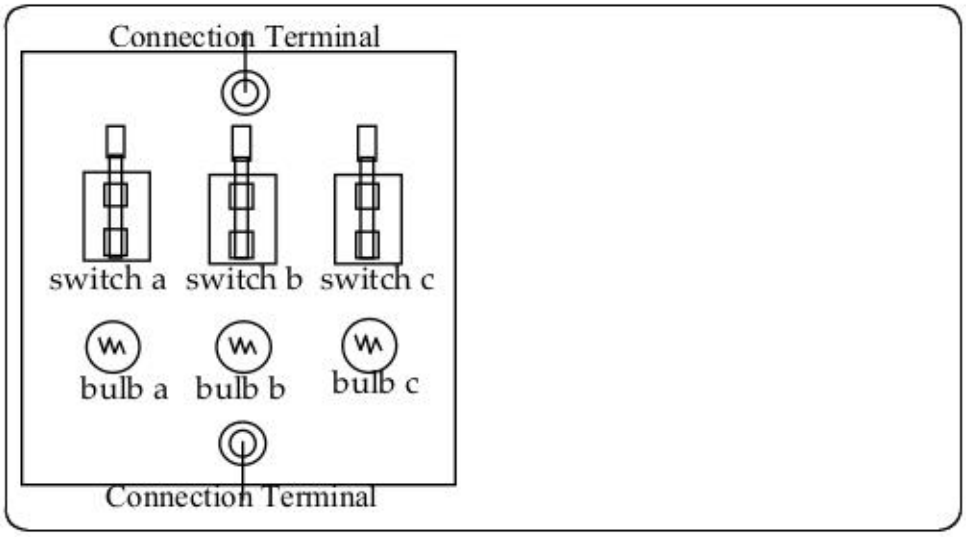
of the seabed are another possible design. You could move the magnet which is the weight, all ideas anyway- I hope its enough to get you thinking.
Question 23 The person who posted the note is suggesting an alternative way of generating electricity by converting “the lifting and lowering of a weight into electricity”. Based on your calculation in the previous question, what do you think of this idea? Is it practical or feasible? How would you respond the suggestion in the first paragraph? Write it out the way you would if you were responding to this post.

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.
Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.
Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

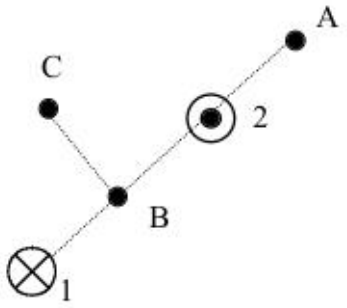
In Physics 1240L, there is a much wider variety in the type of graphical representations encountered by students. The “DC Circuit Basics” lab has the students perform the following activity.

Each light board used in this experiment has three bulbs and three switches. Compare your light board to the picture. Examine the back of the board to see the wiring. Then immediately to the right of the picture, sketch a circuit diagram using standard symbols. Draw circuit diagrams below assuming that one, two, and then three switches on the light board are closed. Label each resistor "R" to show that *we are assuming that each bulb has the same resistance R.*



Also encountered in Physics 1240L is the use of the “Right-Hand Rule” which is used in magnetism. This post-lab question from the “The magnetic Field” lab can be used to assess the students’ familiarity with the right-hand rule as well as the skill of vector addition.

Two long parallel wires carry a current of 3 A in opposite directions. Calculate the magnetic field for the points shown. Draw vectors (to scale) representing the two individual fields along with the net magnetic field. The wires are 2.0 cm apart. Point B is midway between them. Point A is 1.0 cm from wire 2. Point C is 1.0 cm from point B along a line perpendicular to BA.



Anthropology 1115
The Development of Culture and Civilization
Haviland: The Essence of Anthropology

Test I

Multiple Choice.....40 Pts.

1. **Anthropology is:**
   a. **An upscale fashion outlet**
   b. **The study of Human behavior in all places and in all times**
   c. **A systemic categorization of the physical universe**
   d. **The Study of all living and past apes**

2. **A Physical Anthropologist would most likely be associated with**
   a. **Charts, maps, and historical documents**
   b. **Human Skeletal Remains**
   c. **Other Biomedical Anthropologists**
   d. **The social environment of a particular study group**

3. **The with holding of judgement, the ability to assess an individual or group using their standards as a measure, is referred to as:**
   a. **Prejudice**
   b. **Ethnocentricism**
   c. **Cultural Relativism**
   d. **Altruism**

4. **Which of the following is not one of the four branches of Anthropology**
   a. **Archaeology**
   b. **Linguistics**
   c. **Physical Anthropology**
   d. **Chemistry**

5. A unique perspective used by anthropologists which enables researchers to achieve a complete picture of their subject area, is referred to as:

a. Naturalistic
b. Organic
c. Synthetic
d. Holistic

6. Anthropological enquiry examines the human quest to fulfill basic needs. These needs are referred to as:

a. Universals
b. Monolithic
c. Sympathetic
d. Unattainable

7. The qualitative literary device used by anthropologist to disseminate gathered information, is referred to as:

a. The Historical Record
b. Ethnology
c. Ethnography
d. Ethnolinguistics

8. The process by which organisms adjust beneficially to their environment, or the characteristics by which they overcome hazards and gain access to the resources they need to survive, is called

a. Culture
b. Biology
c. Integration
d. Adaptation

9. Carl Von Linne` created a classificatory system enabling all of the natural sciences to be on the same page, this system is referred to as:

a. Taxidermy
b. Ataxia
c. Taxonomy

d. A Data Base

10. Gregor Mendel, an 19th century monk observed the passage of inheritable traits in what garden variety vegetable

a. Cucumbers
b. Onions
c. Potatoes
d. Peas

11. The technical process by which physical anthropologists measure brain capacity is called

a. Ectoplasm
b. Enclavism
c. Endocasts
d. ecograms

12. The primate most closely related to Humans are the

a. Baboons and Macaques
b. Chimpanzees and Bonobos
c. Lorises and Lemurs
d. Orang-utang and Tarsiers

13. Sexual dimorphism refers to

a. Gender handedness
b. Tool use by males
c. Difference in body size between the sexes
d. None of the above

14. Traveling through the trees demands judgements concerning depth, direction ,distance , and the relationships of objects hanging in space, in monkeys, apes and humans this is achieved through

a. Cybernetics
b. Stereoscopic color vision
c. Radar sensing abilities
d. Sonar like skills

15. The footprints at Laetoli are

- **a. 1 million years old**
- **b. From hominian ancestors that walked on four legs**
- **c. Pleistocene in age**
- **d. 3.6 million years old**

16. The earliest known tool tradition

- **a. Is Called Olduwaan**
- **b. Begins about 2.5 MYA**
- **c. Marks the beginning of the paleolithic**
- **d. All of the above**

17. Footprints preserved in 3.6 million- year old volcanic ash at Laeotoli, Tanzania indicated that

- **a. Some of our early ancestors may have worn crude sandals**
- **b. Australiopithecines were on their way out of Africa**
- **c. Evidence supports that australiopithecines were quadrupedal**
- **d. Bipedalism definitely preceded marked brain in human evolution**

18. Which of the following is considered to be the first major development in hominian evolution

- **a. Increased brain capacity**
- **b. Tool making**
- **c. Bipedalism**
- **d. None of the above**

19. The AOut of Africa@ Hypothesis refers to:

- **a. The molecular evidence that all modern humans derive from a common African ancestry**
- **b. A belief that humans did not evolve, but were created by god**
- **c. The fossil evidence that Neanderthals were wiped out by modern humans**

d. The primate evidence suggesting that humans are descended from modern chimps

20. An Archaeologist, for all intents and purposes, could be considered to be a

a. Crackpot
b Glorified Garbologist
c. Bone Collector
d. Unemployed

True and False.....40 Pts.

21. Humans are Mammals, specifically primates. However, they do not share a common ancestry with other primates, like apes

22. Unlike other scholars who study people, anthropologists are not concerned with the description and explanation of reality

23. Judging the beliefs and behavior s of people in terms of their own cultural context is considered to be ethnocentric

24. Anthropology studies the comparisons between cultural similarities, but not their differences

25. Ethnocentricism is the folk festival which is held in the center of town

26. Phenotype is the technical term to describe identifiable characteristics such as hair; hair color; texture; eye color eye shape etc.

27. Rosalind Franklin, the primary investigator of the Dna double helix receive the noble prize with her co collaborators Wallace and Crick in 1963

28. **DNA testing has proven to be more accurate with regard to identifying living organisms than finger printing could ever imagine**

29. **Evolution from the Latin Aevolvar@ to roll forward**

30. **Primatologists rely on observation and non-invasive techniques to minimize contact that could endanger primate populations**

31. **A particular feature of primate evolution has been in the increase in the sense of smell**

32. **Notwithstanding the physical characteristics to humans, chimps cannot speak any human languages because of their inability to reason**

33. **Bipedal locomotion and larger brains constitute the most striking differences between humans and our closet living primates**

34. **Clades, not a ladder, not a tree, but rather a bush**

35. **The earliest stone tools are found in association with Homo Habilis**

36. **Humans did not merely adapt to the environment through biological change, but rather shape the environment to suite their own needs and desires**

37. **Homo Habilis was nicknamed hardly man because he was so clumsy**

38. **Homo Erectus, the wanderer was the first form to both literally and figuratively leave Africa**

39. The multi regionalism hypothesis suggests that humans did not evolve, but rather were created by god

40. Archaeology is the study of culture and cultural evolution using the remains of past societies

Map Skills....20 Its.

Las Vegas, N.M.

Africa

Arctic Circle

The Middle East

The Pacific ocean

Canada

Mexico

The North Atlantic

South America

The United States

ENG 221 – 09 British Literature

Assignment

Explicating English Folksongs and their Social Context

1) After studying the four narrative folk lyrics, “Tam Lin”, “Matty Groves”, “Tom O’Bedlam”, and “Reynardine”, write a paragraph or two for each in which you discuss the socio-cultural issues (social class, gender roles, adultery and sexuality, poverty, the role of the gentry as models of behavior, mental illness, duty to others, and of course, the risky and pervasive presence of magical being in the English countryside) you can see in the text. What do you see here that seems to you to be particularly ‘British” in content or context?

2) Choose two of these works which share at least one common concern or theme to examine more closely. Take a few minutes to research some of the basic historical information about what we think we know about the composition, context, and origin of these lyrics. You will then generate a short comparison/contrast essay (about 250 to 350 words) analyzing the different ways this theme or cultural issue is dealt with – and how you think the circumstances of their presumed origins may have impacted those implicit attitudes.

Grades/Point Value: Four lyric analyses – 5 points each

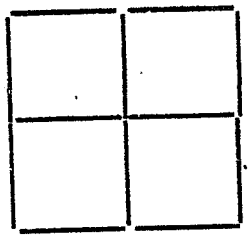
Short Comparison Essay – 15 points

Math 111: Math for Elementary Teachers I
Sample Activities

Critical Thinking:

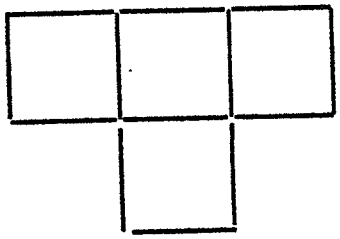
1. Use guess-and-check to solve toothpick problems and coin problems.

❑ a.



1. Remove 2 toothpicks, leaving 2 squares.
2. Move 2 toothpicks to make 7 squares.
3. Move 3 toothpicks to make 3 squares.

❑ b.



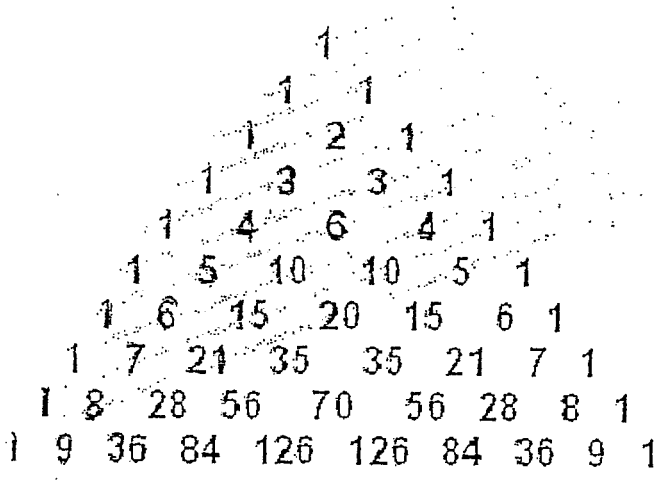
Remove 1 toothpick, leaving 3 squares.

Organize your information in a chart

Six coins are worth 56 cents. How many quarters, dimes, nickles and pennies?

Coins		Value
_____	quarters	_____
_____	dimes	_____
_____	nickles	_____
_____	pennies	_____
6		56

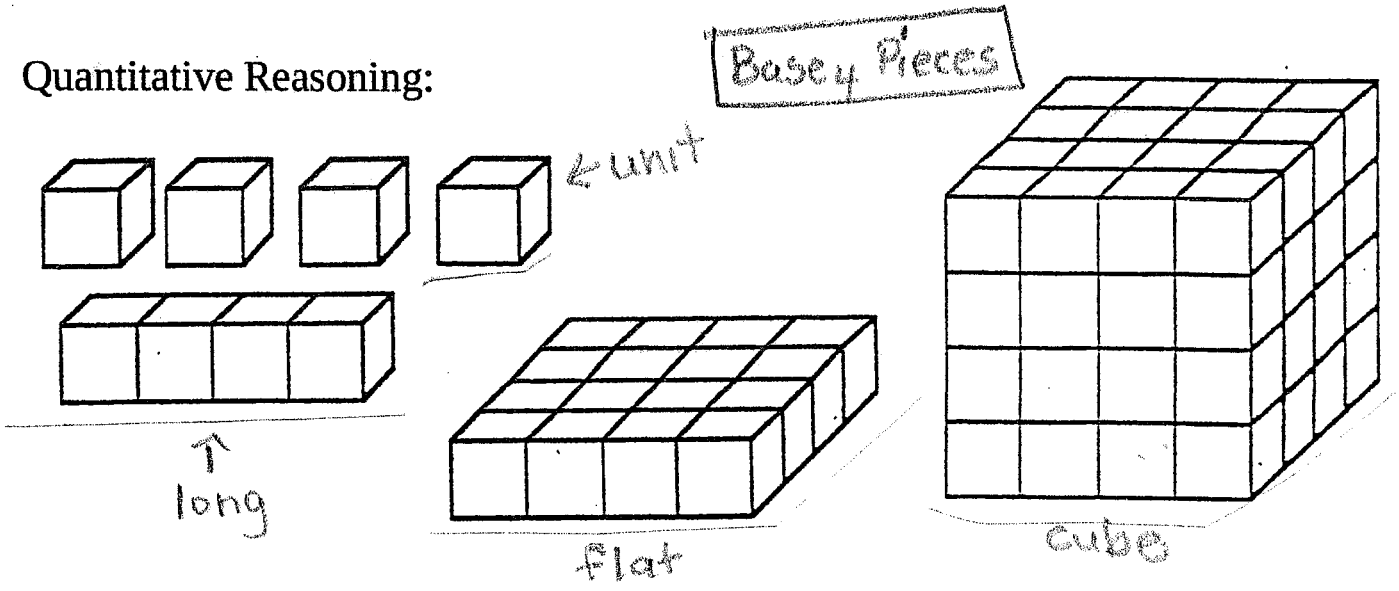
2. Look for patterns in Pascal's triangle.



3. Estimate the weight of an object in grams. Weigh it. Take another object and consider the relative weights of the two objects. Estimate the weight of the second object. Weigh it. (The same can be done for estimating and measuring metric length and volume.)

4. Each table of four students makes up real-life story problems for each math topic as we study them. (The class, as a whole, will work together to solve the story problems, after which we'll ask the story problem creators if we got it right.)

Quantitative Reasoning:



1. In Base4, the trade-up and trade-down is 4. Using a place value chart, Base4 pieces, and dice with sides of 1, 1, 2, 2, 3, and 3, get a partner to play the following game. Taking turns, roll the die. The number that comes up on the die is the number of units you put on the far right column. You'll trade up 4 for one of the next column over as that opportunity arrives. The winner of the game is to be the first to get a cube on the fourth column over.

2. Now go backwards, subtracting units with each roll of the die, until one player has nothing left on his board.

3. Now use the chart and the Base4 pieces to relearn addition, subtraction, multiplication, and division, done in Base 4.

Communication:

1. Make small posters for a multiplication fact and a division fact by
   a) Writing a real-life story problem for the fact.
   b) drawing an illustration of that story problem fact
c) writing the equation for the fact (minus the answer)

2. Make these pie fractions with a protractor: halves, thirds, fifths and sixths.
   a) use them to show that ½ plus 1/3 does not equal 2/5
   b) Create questions concerning the denominators that might lead students to find a valid way of figuring out what ½ plus 1/3 is.
c) Experiment with ways to show what ½ plus 1/3 is

3. A common error in subtraction is, in any column, to subtract "the little number from the big number" How are you going to explain this situation so the students won't make that mistake?

$$\begin{array}{r} 323 \\ -176 \\ \hline 253 \end{array}$$

Carolyn Stupin

Critical thinking : problem solving, evidence acquisition, evidence evaluation and reasoning/conclusion.

Equivalent fractions.

There is a real-life story I start out this section with. It is about me and my brother, William, who is two years older than me. Once someone gave us a chocolate bar to share. Only I didn't understand it was going to be a shared bar and since the chocolate was handed to me, I thought it was all mine. My brother took it out of my hands, opened it up, and broke it in half, giving half back to me. I was incensed as only a girl of 5 can be incensed, I began crying so William took my piece, broke it into six equal pieces and gave all six back to me. Six! I had six pieces to his one. Sometimes it pays off to throw a fit.

This is what equivalent fractions are all about. Equivalent fractions are the exact same amount of candy bar. It's just that one of those fractions is broken into more pieces (½ = 6/12)

The following exercise I use to explore the physical construction of equivalent fractions, The critical evaluation goes on during the making process, where I go around the class as the fractions are made to catch and redirect any error, and to show off the many examples of folded-and-colored fractions that are done so beautifully.

Everyone gets twelve quarter sheets of printing paper. The education students are to take four of those sheets and fold them all exactly in half. They then take a color crayon and draw along the line of the fold and color one half of the paper. Once they've done all four of the papers, they set them aside, and take another set of four. With these, they fold the papers into exact thirds. (To do this you must fold so that the folded over part is exactly equal to the sticking out part, then fold the sticking out part exactly over the folded over part.) Once unfolded, the ed students are to draw in the fold lines, then color in two of the three equal parts. Once done, they are set aside. Then the last four papers are taken and folded, then folded again so that when they are opened, the papers are in four equal parts. The Ed students then draw over all the fold lines and color in three of the four equal parts.

We've got three piles now: a pile of halves, a pile of two-thirds, and a

pile of three-fourths. We will now use just the halves pile. With the first one, we won't do any more folding and coloring. We examine it: How many equal parts are there? 2. On the back of the paper we draw a fraction line, then put 2 beneath it because the denominator tell us how many equal parts the whole is divided into. How many parts are colored? 1. On the back we put a 1 above the fraction line because the numerator tells us how many of those equal parts we get. Set that paper aside.

Now take a second halves paper and refold it over it's original line. Once you've done that, fold it again into two equal parts. Unfold it and with the crayon, draw along the new fold line. Now how many equal parts is the paper divided into? 4. On the back, write a fraction line, then put the four beneath the line where the denominator goes. On the front, how many equal parts are colored? 2. On the back write 2 above the fraction line where the numerator is.

With the third and fourth halves papers, you will have the ed students make the original fold, then continue folding into thirds or fourths or sixths or eights, so they come out with two additional equivalent fractions. 3/6, 4/8, 6/12, 8/16. And each new equivalent fraction is written in digital form on the back of the paper.

With the 2/3 papers and the ¾ papers, they will create more sets of equivalent fractions

Now take time to compare the equivalent fractions: 2/3 = 4/6
2/3 = 6/9
2/3 = 8/12

What pattern do you notice? In 2/3 = 4/6, what do you do to the 2 to get 4? what do you do to the 3 to get 6? In 2/3 = 6/9, what do you do to the 3 to get 6? What do you do to the 3 to get 9?

(This is a rule that all of the education students walked into the classroom with: That you multiply the numerator and the denominator by the same number to get an equivalent fraction. What they didn't walk in with was why? And this is very important: Teaching is more than explaining what you know about a subject. Teaching is helping students build their own understanding on a topic. And to do this they must continually be active participants.)

So then, all the cards are mixed up on the table in front of each of the students, face up, and the students try putting them in neat columns of equivalent fractions. Then the cards are all turned over and mixed up so that just the digital fractions show, and the students try putting them in neat columns of equivalent fractions, checking to see if they are right by peeking to the other side.

When I do tests, I have my ed students bring their books, their notes, and all the stuff they've made. Perhaps one of the test questions will be: Create cards for ¼ and three equivalents fractions of 1/4.

What skills do I want them to take from this exercise>

1. You can make physical representations of fractions by folding and coloring paper.

2. With these papers, you can show that equivalent fractions cover the exact same amount of the paper but are divided into more pieces.

3. Looking at a list of digital fractional equivalents, it is possible to see a pattern on how you get from one equivalent fraction to another. (inductive reasoning)

4. Using that pattern, you can invent a rule and use that rule to do some work for you. (deductive reasoning)

General Education Course NMHED Recertification Form

This form has been designed to guide you through the recertification process for the UNM General Education course in question. Please fill out your contact information below, and then review the information about the course provided to us by the New Mexico Department of Higher Education *(*NMHED*). After this, you will be instructed to fill out three separate narratives concerning the course and its relevance to NMHED's area and skills associated with the course.*

UNM Course Information

Prefix	**PHYS**
Number	**1310L**
Name	**Calculus-based Physics I Lab**

Contact Information

Name	
Title	
Phone	
Email	

NMHED's Description and Outcomes for the Common Course

The description and student learning outcomes below come from NMHED's Common Course Catalog, *which can be found here, and is meant to designate standard descriptions and outcomes of courses registered as a NMHED* Common Course.

PHYS 1310L: Calculus-based Physics I Lab

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.

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.

Institution-specific Student Learning Outcomes

Please add additional SLOs of the general education course to the ones provided by NMHED, or if no SLOs are provided by NMHED, input the SLOs used in assessment for the course.

Area and Essential Skills

Below gives information concerning the area and associated skills of the course to be re-certified. The area here matches the General Education Area of UNM; the "Essential Skills" and their respective Component Skills are characterizations of the area determined by NMHED. You will use this information to fill out the narratives below.

Area in which *PHYS 1310L* resides: Science

Essential Skills in the Area:

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.

Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.

Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.

Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well-reasoned evaluation.

Personal and Social Responsibility

Intercultural reasoning and intercultural competence

Sustainability and the natural and human worlds

Ethical Reasoning

Collaboration skills, teamwork and value systems

Civic discourse, civic knowledge and engagement -- local and global

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.

Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.

Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

Narrative Input

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Explain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking: *Problem Setting; Evidence Acquisition; Evidence Evaluation; Reasoning/Conclusion.*

Personal and Social Responsibility: *Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical Reasoning; Collaboration skills, teamwork and value systems; Civic discourse, civic knowledge and engagement -- local and global.*

Quantitative Reasoning: *Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; Application of Quantitative Models.*

Additional Information

Course Materials

NMHED requires that both a syllabus and a sample course assignment (project, paper, exam,etc.) from the course in question to be attached to the recertification form. Be sure and pick an assignment that correlates with the descriptions provided in the narratives above.

Assessment Plan

When it is submitted to NMHED, each general education course will also have attached the assessment plan that is used for General Education Assessment at UNM. For more information on this process, please visit this page from UNM's Office of Assessment.

Physics 1310L Syllabus – Fall 2019

TA:
email:

Welcome to Physics 1310L! I am here to help you do your labs and learn some physics that may help you in your lecture and future courses. Always feel free to ask questions or make suggestions. Also, feel free to talk to the Lab Director in room RH 113, phone 277-2751.

Description

Physics 1310L is a companion course to Physics 1310 covering topics in mechanics and waves at the calculus level. Lab experiments mirror and enhance lecture topics: motion (kinematics), interactions between objects and the resulting effects on their motions (dynamics), the effects of forces acting over displacements (work and energy), the effects of forces acting over time (impulse and momentum), and the physical nature of waves. Real time experiments involving computer assisted data acquisition and analysis give a better conceptual framework for understanding physics.
(Pre- or co-requisite: Physics 1310)

Objectives

This course serves to reinforce concepts presented in lecture, to give you experience working as a member of a team and to familiarize you with various experimental techniques.
Lab students will:

- Communicate and cooperate as a team to accomplish technical goals
- Read and interpret procedural instructions
- Gather and analyze data using computers interfaced to various probes
- Interpret graphical data
- Estimate uncertainties in measurements
- Use basic laboratory equipment (e.g., timer, balance, rods, clamps, etc.)

List of Experiments – schedule is posted http://regenerlab.unm.edu/

- Uncertainty in Measurement
- Introduction to Motion
- Vector Addition
- Changing Motion
- Force and Motion
- MIDTERM Project Proposal
- More on Forces
- Impulse – Momentum
- Work and Energy
- Experiment Problem
- Collision!
- Torque
- Periodic Motion
- The Pendulum
- Introduction to Waves

Materials

Lab workbooks are available at the UNM Copy Center in Dane Smith Hall. Every student is required to purchase one before the second week of lab. No copies will be provided.

Students with Disabilities

Qualified students with disabilities needing appropriate academic adjustments should contact me as soon as possible to ensure your needs are met. Handouts are available in alternative accessible formats upon request.

Attendance

Lab attendance is mandatory. You are responsible to perform all experiments.

- **Tardiness**
  You are expected to arrive on time to lab. If you are late, you will still be required to do the entire lab but your grade may be diminished at my discretion.
- **Excused absences**
  - If you cannot make it to lab and know in advance, contact me and we will arrange a time for you to do the lab.
  - If something comes up unexpectedly (sudden illness, accident, family emergency, etc.) contact me as soon as possible. Unscheduled absences WITH A VAILD EXCUSE must be made up. Contact me to arrange a mutually convenient time.
  - Missed labs must be made up promptly. If you do not make up a missed lab within one week, your grade may be diminished at my discretion.
- **Unexcused absences**
  One unexcused absence will reduce your final grade by one letter grade. Two unexcused absences will cause you to fail the class.

Grading

Each week, you will receive two grades: one for your attendance/participation, and one for your written lab report. Attendance and participation will count for 1/3 of your weekly grade. The lab report will count for 2/3 of your weekly grade. Your Midterm Project Proposal will count for one full week of work. Your semester grade will be the average of 13 weekly grades and the proposal grade.

Attendance/Participation Guidelines

A	Active Participation	Example behaviors: helps with set up, participates in data taking, asks questions, participates in discussions, etc.
B	Passive Participation	Example behaviors: is tardy to lab, merely records data, does not help with set up, does not participate in discussions, copies partners, etc.
C	Poor Participation	Example behaviors: Reads newspaper, does homework, antagonizes lab partners, etc.
0	No Participation	Not present in your section. Attendance in another section not verified by TA.

Lab Report Guidelines

A	Standard	The report is everything I would expect. All entries are complete, all questions meaningfully answered, data record including graphs is clear and correct, all calculations and units are correct. The report is organized and legible.
A-	Good	Report has minor error(s).
B	Acceptable	Report is OK, but there are errors and/or missing entries.
C	Unacceptable	Report has significant errors, unanswered questions, missing data, etc.
0	No Report	No report is turned in. Authorship not verified by TA.

Conduct:

UNM has strict guidelines for both student and TA conduct, which are outlined in the University catalogue. Both the students and the instructor are expected to adhere to these policies. In particular:

- **Please do not answer cell phones, texts, or tweets in the lab room!! If urgent,** Calls may be taken in the hallway so long as classes are not disturbed.
- **Drinks must be in a container with twist cap or other sealed top and kept on the floor or at the front of the room.** Food in the lab is not allowed without special permission from the instructor.

UNM Academic Dishonesty Policy:

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Title IX

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see pg 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). If you want to retain anonymity, instead report the incident to other units on campus, namely Student Health and Counseling (SHAC), Counseling and Resource Center (CARS), a licensed medical practitioner on campus, or off campus to the Rape Crisis Center of Central New Mexico, or a sexual assault nurse examiner. If you report the incident to the LoboRESPECT advocacy center, Women's Resource Center, or the LGBTQ Resource Center, you retain anonymity but an anonymous record is made for statistical purposes. See more information at https://policy.unm.edu/university-policies/2000/2740.html#_Toc414642678.

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.
Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.
Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.
Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well reasoned evaluation.

Sample Assessment Questions (These questions are all taken directly from the lab manual and could be used an embedded assessment. More traditional assessments such as the Force Concept Inventory could also be used here):

1. From the "Force and Motion" lab: Check the calibration. First **Zero** the force probe. Then **Collect** data, and pull on the force probe with the spring scale with several different forces, each 2.0 N or smaller. Use the **Examine** tool to record the force probe readings and corresponding spring scale readings in the table below. How well do your force probe readings correspond to your spring scale readings?
2. From the "More on Forces" lab: You have a tug-of-war with someone who is much smaller and lighter than you are, but stronger. You both pull as hard as you can, and it's a tie. One of you might move a little in one direction or the other, but mostly you are both at rest. Predict the relative magnitudes of the forces between person 1 and person 2. Place a check next to your prediction.
   ____ Person 1 exerts a larger force on Person 2. ___ The people exert equal forces on each other ____ Person 2 exerts a larger force on Person 1.
3. From the "More on Forces" lab: Can an astronaut experience weightlessness? Masslessness? Explain.

Personal and Social Responsibility - Address 2 of the 5 component skills

Intercultural reasoning and intercultural competence
Sustainability and the natural and human worlds
Ethical Reasoning
Collaboration skills, teamwork and value systems
Civic discourse, civic knowledge and engagement -- local and global

These post-lab questions come from the "Work and Energy" lab and could be used to evaluate the Sustainability and the natural and human worlds component skill**.**

A glance at an old bill from PNM shows that I was charged for electrical energy in units of kilowatt-hours.

1 kilowatt-hour = (1,000 watts) x (3,600 seconds) = 3,600,000 J

I was charged $57.97 for 589 kWH of energy. This works out to a little more than 9.8¢ per kWH including tax and other charges. For the following estimations, use 10¢ as the cost per kWH.

Q10 How much would I pay to operate a 100-watt light bulb for one hour?
cost: _____

Q11 Looked at another way, according to the Energy Information Agency, the average monthly residential electric energy use in the United States in 2009 was 908 kWH. Suppose that lifting 16 tons through a height of one meter represents the amount of work a strong person can do in one day. If that person worked 365 days per year, how many years would it take to produce the electric energy used in one month in one household?

This activity comes from the "More on Forces" lab and could be used to evaluate the students' ability to work collaboratively.

Activity 2 Tutorial

Counterintuitive Ideas: Newton's Third Law

A. Newton's Third Law and Common Sense

Often, Newton's Third law just makes sense. But in some cases, it seems not to. Consider a heavy truck ramming into a parked, unoccupied car.

1. (*Work together*) According to *common sense*, which force (if either) is larger during the collision: the force exerted by the truck on the car, or the force exerted by the car on the truck? Explain the intuitive reasoning.

2. (*Work together*) We've asked this question of many students, and a typical response goes like this:

Intuitively, the car reacts more during the collision. (You'd rather be riding in the truck!) So the car feels the bigger force.

Is your group's explanation in part A similar to or different from this? Explain.

3. (*Work together*) According to Newton's third law, which of those forces (if either) is bigger?

4. *Experiment.* Is this a case where Newton's third law doesn't apply? At the front of the room, the TA has set up an experiment that simulates a truck ramming a car. Go do the experiment and record the results here. You can also test whether Newton's third law holds for other collisions.

B. What to do with the contradiction between common sense and Newton's 3rd Law

Let's consider the contradiction we just found between physics and common sense.

1. (*Work individually*) For most people, Newton's third law contradicts the common-sense intuition that the car reacts more during the collision. Which one of the following best expresses your attitude toward this contradiction?

a. We shouldn't dwell on these kinds of contradictions and should instead focus on learning exactly when Newton's third law does and doesn't apply.

b. There's probably some way to reconcile common sense with Newton's third law, though I don't see how.

c. Although physics usually can be reconciled with common sense, here the contradiction between physics and common sense is so blatant that we have to accept it.

Briefly explain why you chose the answer you chose.

2. Discuss your answer in your group. Is there a consensus or disagreement? If there was disagreement explain how you group decided to deal with this disagreement.

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.
Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.
Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

The following activity from the "Changing Motion" lab is just one of many that could be used to gather assessment data for quantitative reasoning. Given that this lab is very early in the semester, it could even be thought of as a pre-test of their ability to express quantitative information graphically.

Activity 2 Speeding Up "Away"

In this activity you will look at the motion of a cart when its speed is changing.
1. Set up the cart, ramp, pulley, and motion detector as illustrated below. Make sure that the end stop catches the cart before the hanging mass reaches the ground. If the cart has a friction pad, make sure that it does not drag. The cart should never get closer than 0.15 m to the detector.
2. **Prediction** What will the position and velocity graphs look like? *Ignore the acceleration graph for now.* Sketch predictions with **d-a-s-h-e-d---l-i-n-e-s**.
3. Test your predictions.
a. Open **L02A1-1(Speeding Up).cmbl.** Before releasing the cart, click **Collect** and move the cart with your hand to make sure that the detector can "see" the cart all the way to the end of the board. You may need to make adjustments.
b. Hang 50g from the end of the string. This will cause the cart to speed up when released. Hold the front of the cart until you are ready to graph. Hold it in such a way that *the motion detector does not see your hand*.
c. **Collect** data, and when you hear the clicks of the motion detector, release the cart from rest. Repeat, if necessary, until you get a nice set of graphs.
d. Change the position and velocity scales if necessary so that the graphs fill the axes. Save your data for Activity 6. Select **Save as . . .** from the **File** Menu, give your file a new name such as **SPEEDUP** __ __ __**.cmbl**, where are your initials, then click on **Save**.
e. Sketch your position and velocity graphs neatly on the previous axes with a solid line.

One of the final labs of the semester is a lab on pendulums. This activity could be used as a post-test for this component skill.

Measure the Displacement of the Pendulum

1. Set up the pendulum. Suspend the wooden sphere from the pendulum clamp.
   a. Pinch the string in the clamp. Do not cut the string or tie knots.
   b. A length of about 70 cm works well.
2. Measure the length of the pendulum. Measure from the edge of the clamp to the center of the bob.

Length of pendulum _____

3. Set up the detector. As the pendulum bob swings, it should come no closer than 0.15 m to the detector or the detector may not work properly.
4. Open ThePendulum.cmbl. The file should be on the desktop.
5. Zero the motion detector. The software has a zeroing feature to subtract off the equilibrium position x_0. Make sure the pendulum bob is at rest and hanging in its equilibrium position. Click the **Zero** tool.
6. Graph the motion of the pendulum bob. Set the bob in motion with an amplitude of about 10 cm, making sure that the motion is straight toward and away from the detector. When the pendulum is swinging smoothly, click **Collect**. When the data run is complete, make sure the detector "sees" the bob over the whole range of motion and that there are no obvious flat spots or spikes.
7. Save your data. From the **File** menu select **Save As**... Save your data with your name or initials, e.g. **Pendulum(name).cmbl**. Motion Detector

Period, Frequency and Amplitude

1. Determine the period and frequency. Use the **Examine Tool** to determine period, and frequency of the motion. For better accuracy, determine the beginning and ending times for several cycles. Enter data below.
2. Determine the amplitude. The **amplitude** is the maximum displacement from equilibrium. Use the **Examine Tool** to determine the amplitude. The motion should be symmetrical. Check maximum and minimum positions to verify.

Art History 1120.001 – First Written Assignment
Morellian Attribution
See syllabus for due date!

For this project, you will analyze a pair of images of ceramic vessels, painted with figurative imagery. Using an art historical technique known as "the Morellian method" or "Morellian connoisseurship," you will determine whether or not both bowls were painted by the same artist. Finally, you will present your conclusions and the evidence used to reach those conclusions in a written report thoroughly explaining your position, the visual evidence you based your argument on, and your conclusion. Your paper should be between 2 to 3 pages max (about 700 to 850 words), exclusive of illustrations, cover sheet, and/or reference material.

Morellian Connoisseurship: This art historical tool is used to determine whether a given artist created a specific work of art. It was pioneered by Giovanni Morelli, an Italian doctor and art collector living in Germany in the 1800s. As a collector, it was important for Morelli to be able to prove that the works in his collection were indeed made by the artists to whom paintings were attributed. Morelli could also use his technique of analyzing a work of art to show that supposedly anonymous paintings were really by known artists; conversely, Morelli could show that works attributed to famous artists were actually fakes or copies. For art collectors or museums, such questions of authenticity might have major economic consequences, especially in today's art market, when a work by a well known artist might be bought and sold for millions of dollars.

Morelli's analytical technique is really simple (in theory), but is also very subjective. Basically, Morelli argued that every artist has particular personal quirks in how they create a painting, and these are usually visible in the smallest details of a work; in these small details, an artist often unconsciously repeats formulaic approaches to creating the overall image. For example, an artist may study human anatomy for years and years, but when it comes to painting something like a fingernail or eyelash, the artist may unconsciously use the same basic formula on two dozen different portraits. Hence, suppose we have two paintings: "painting A" of a young Flemish soldier was made by Jan van Eyck; "painting B" of an elderly priest is by an unknown artist, and the overall image looks very different. However, if the fingernails of the figure in "painting B" are identical to those in "painting A" we could argue that they were both made by the same person, no matter how different the paintings might look otherwise. The artist might consciously choose to use different compositional techniques or lighting effects, but never think about something as seemingly trivial as a fingernail.

Likewise, artists often use particular technical approaches when creating a work. The angle that a painter holds his or her brush produces clearly observable results in a painting. The exact recipe that a sculptor uses in preparing clay might differ from other artists, resulting in a clear "signature" of who made an object. The combination of stylistic and material evidence of a particular artist is called an artist's "hand." Hence, if you have two paintings – one by Rembrandt and one anonymous work – there is clear evidence that might prove that the anonymous work was by Rembrandt as well. Careful examination of the quality of brush strokes, the chemical composition of the paint, or the exact thread count of the canvas, when combined with the careful observation of personal stylistic quirks like the depiction of the folds of an ear as noted above, are used by art historians, museums, galleries, and private collectors to attribute an artist to otherwise anonymous works of art.

The same ideas can be used to show that two similar looking works were actually made by different artists. Let's say that a collector wants to sell a painting attributed to Michelangelo, but a museum interested in buying the work suspects that it is a fake or forgery. The museum would examine the minute details of the work and compare them to works that are securely and documentably attributed to Michelangelo. If the shape of the fingernails differs significantly between the two works, combined with technical differences in the paint or characteristics of the brushstrokes, the museum might conclude that the painting was not by Michelangelo. A copyist or forger, no matter how well they can replicate the overall appearance of another artist's work, will unconsciously use formulaic approaches when painting the small details, and can never control all of the variables in the technical dimensions of a work. Indeed, in one case a work was proven to be a forgery because of minute stylistic differences combined with trace elements from air pollution that simply did not exist when the work was supposedly made. Morellian connoisseurship is the detective work of art history.

The most important thing to remember about Morelli's technique is that it emphasizes the smallest details, and therefore requires that you look very closely at those details. It is very easy to get distracted by the overall work, but you must look beyond outward appearances and focus on the peculiar details that artists unconsciously include in their works. While formal elements and compositional devices are important pieces of evidence in Morellian connoisseurship, you are *not* writing a formal analysis of the works. Likewise, you are *not* writing an iconological analysis, so attributing meaning to the visual forms of your chosen works is not necessary.

Unfortunately, we are not able to do a hands-on examination of the ceramic vessels that you will be writing about. Hence, looking at some of the technical details such as the composition of the paint or clay will be impossible. Instead, for your paper, you should just focus on the stylistic qualities of the painted designs that you *can* see in the images provided for you. One thing to keep in mind is that the painted designs are on a three-dimensional surface, and the paintings curve up the sides and around the interior of the ceramic vessels. Therefore, you must keep in mind that if hatched lines look really closely spaced, you might be seeing a by-product of the curved surface of the vessel rather than evidence of similar or different artists' hands at work. Above all, you must look closely at the works and build a convincing case based on the available evidence in the photographs.

You will **choose one** of the following pairs of ceramic vessels to write about. Basic identification information is provided for each pair so that you have a general sense of where and when these ceramic vessels were made. You can copy/paste these images into your own paper or photo editing software, and you can crop or zoom in on specific details to help you build your argument. Your essay will compare the small details of each vessel to determine whether or not the bowls were painted by the same person. You might look at how hands or eyes are painted; you might look at how hatching is used to fill shapes; you might look at how positive or negative space are used in the creation of the image; you might look at how brushstrokes vary from thick to thin. REMEMBER, DO NOT GET DISTRACTED BY THE OVERALL IMAGE!!! DO NOT TRY TO INTERPRET A MEANING FOR THE PAINTED DESIGNS!!! FOCUS ON THE SMALL DETAILS!!! Are those details similar or different? Are there numerous similarities but one or two slight differences? Are there some things that look kind of similar, but with many clear differences in other small details? Ultimately, you must choose a position – are the painted designs on your chosen vessels by the same artist or not? Do not equivocate and try to argue both sides – pick a side and make the strongest case you can based on the visual evidence!

Once you have reached a conclusion about whether the two vessels were painted by the same or different artists, you will write a 2 to 3 page essay (exclusive of illustrations, cover sheet, and/or reference material) explaining what visual evidence supports your conclusion and how you reached your conclusion. Your essay should follow proper essay format, with an introduction and thesis statement that sets out your position (same or different artist?), a body where you explain how the visual evidence supports your position, and a conclusion that summarizes your work and points out any additional unresolved issues.

Your paper should be double spaced in 12 pt font, with one inch margins on all sides. A separate cover page is not needed, but be sure to include your name as it appears in UNM records. Please staple your paper so that pages do not fall out as we sort through 150 students' papers. You must turn in a printed hard copy of your paper – we will not accept e-mailed papers! We simply do not have the time or resources to print and staple your paper for you!

The most difficult thing about this project may be that there are really no right or wrong answers; instead, you will be graded on how well you make your case and how well you present and explain the evidence that supports your conclusion. The careful use of illustrations, especially detail views comparing specific parts of the painted designs on both vessels, can help you prove your point. Illustrations can be in black and white, but should be clear so that we can see what parts of the painted designs you are talking about.

Please come to our office hours as soon as possible if you have any questions about this project. Also, CAPS in Zimmerman Library has writing tutors available to help you with your assignments.

Your grade will be based on the following criteria:

1) 5 points - Paper is the proper length, proofread with no errors in spelling or grammar.

2) 5 points - You have clearly stated whether you think the works are by the same artist or not, specifically in the introductory sentences or paragraph.

3) 10 points - You have written a coherent argument for your position that clearly compares details of both vessels and demonstrates your own observations.

4) 10 points - Your argument is fully supported by references to numerous specific details of both objects, and your descriptions of those are clear and understandable.

5) 5 points - You did not try to interpret meaning or get distracted by content, but stayed focused on the visual details that support your position.

6) 5 points - Your paper demonstrates your basic ability to use this art historical technique.

CHOOSE ONE PAIR OF IMAGES from the following pages. Do not mix and match!

IMAGE PAIR #1 – Both of these vessels are from Ancient Greece, and were made between 500 to 475 BCE. They are referred to as “red figure ware” due to the way that the designs were created. This vessel shape is called a kylix, and the painted designs take up a small part of the interior of the bowl, as seen in these diagrams:

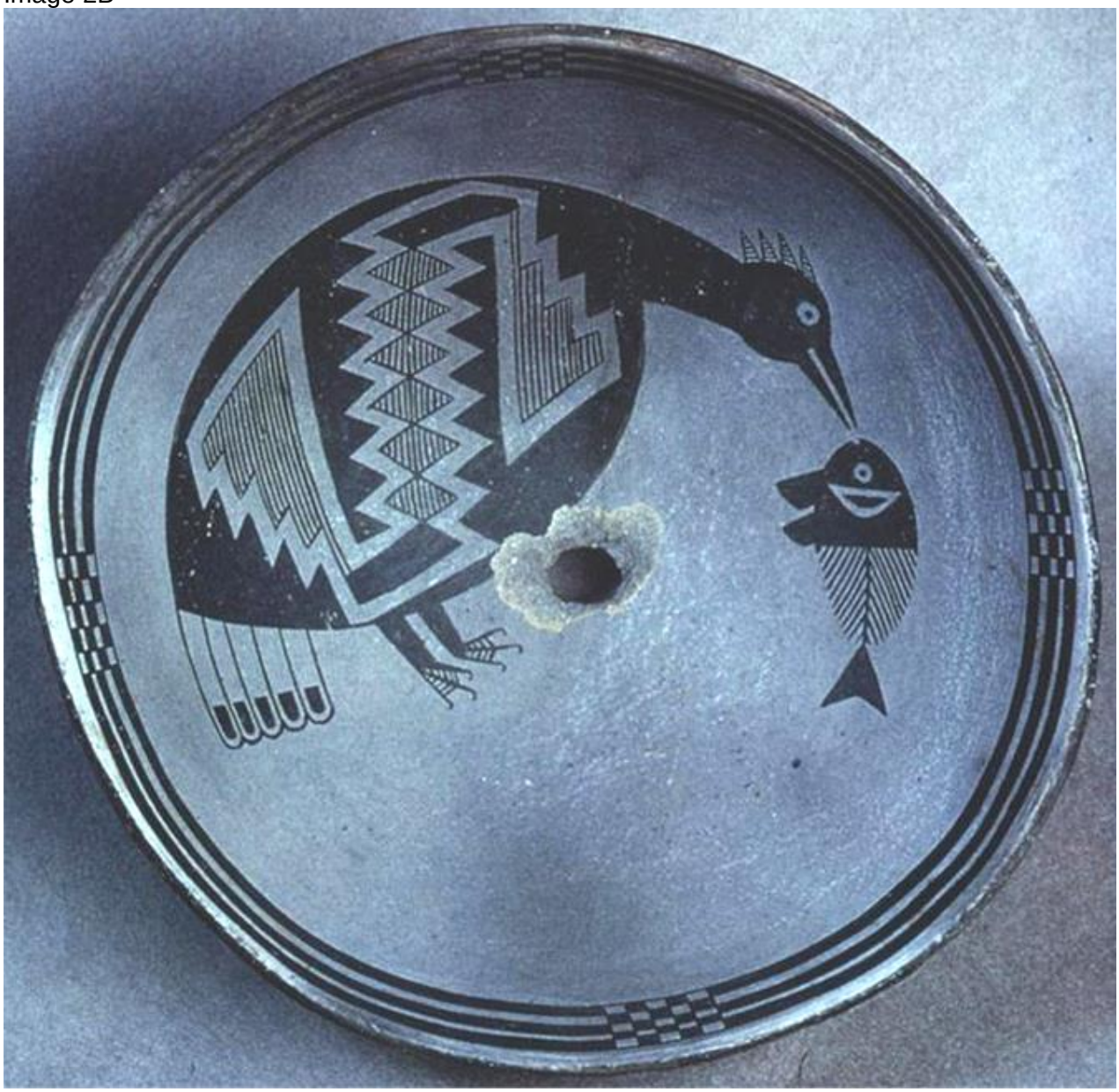
Image 1A

Image 1B

IMAGE PAIR #2 – These two bowls were made by Ancestral Pueblo people in the Mimbres River valley of southwestern New Mexico, between about 1000-1150 CE. They are known as “Mimbres black-on-white” ceramics, based on the color of the painted designs. These bowls were often hemispheric in shape, and the painted designs covered the interior surface. These had holes punched in the bottoms when they were buried with their owners.

Image 2A

Image 2B



NAME:

Philosophy 201: Greek Thought
FINAL EXAMINATION
December 8, 2015

Exam is closed note, closed book. Time = 2 hours.

1. Fill in the Blanks: Please fill in the word or phrase that completes the sentence. (20% - 4 points each)

1. _____was probably the first to teach the doctrine of transmigration of souls: that souls are reborn and pass through a variety of bodies.

2. One of the inscriptions inside the temple at Delphi read "_____ thyself."

3._____ is said to have predicted an eclipse in 585 BC.

4. According to Aristotle, most of the pre-Socratic philosophers considered only _____ causes.

5. _____is the branch of philosophy that asks the questions: What can I know, and how do I know it?

6. _____ was the founder of ontology and the first to expound logic.

7. According to Plato, as the sun is to the visible realm, _____ is to the intelligible realm.

8. According to Aristotle, "_____ is potentiality and form is actuality."

9. According to _____, it is impossible to speak or write about what is not.

10. In the *Phaedo*, _____ challenges Socrates to show that the soul does not "dissolve" or get "dispersed" at death.

2. Quote IDs: IF the quotation is from a pre-Socratic philosopher or sophist, identify the philosopher or sophist. IF the quotation is from PLATO or ARISTOTLE, please identify the specific TEXT in which it appears. (20% - 4 points each)

1. "A human being is the measure of all things …"

_____

2. "All human beings by nature desire to know."

_____

3. "…You should also say that not only do the objects of knowledge owe their being known to the good, but their being is also due to it…"

_____

4. "Listening not to me but to the *logos* it is wise to agree that all things are one."

_____

5. "First, if you want the virtue of a man…a man's virtue consists of being able to manage public affairs and in so doing to benefit his friends and harm his enemies… if you want the virtue of a woman…she must manage the home well, preserve its possessions, and be submissive to her husband; the virtue of a child, whether male or female, is different again, and so is that of an elderly man, if you want that, or if you want that of a free man or a slave…"

_____

6. "But the decision about these matters lies in this: it is or it is not."

_____

7. If happiness, then, is activity expressing virtue, it is reasonable for it to express the supreme virtue, which will be the virtue of the best thing."

_____

8. "But again, if I say it's the greatest good for a man to discuss virtue every day, and the other things you've heard me discussing and examining myself and others about, on the grounds that the unexamined life isn't worth living for a human being, you'll believe me even less if I say that."

_____

9. "Intelligence is a state grasping the truth, involving reason, concerned with action about what is good or bad for a human being."

_____

10. "It really has been shown to us that, if we are ever to have pure knowledge, we must escape from the body and observe things in themselves with the soul by itself."

_____

3. Term IDs: Please identify *in 1-3 sentences* **10** of the following **14** terms. For the ID, explain the term or who the person was, with relevance to the ideas and topics we have discussed in class. Please try to be as complete as possible, including the context in which the term or name appears. If you answer more than 10, please circle the ones you'd like us to grade (30% - 6 points each).

1. Argument from recollection:

2. Slave boy:

3. Nutritive Soul:

4. Second sailing:

5. Divine Commandment Theory:

6. Philosopher-kings:

7. Effective Cause:

8. Pythia:

9. Eudaimonism:

10. Way of non-being:

11. Meno's Paradox:

12. Table of opposites:

13. Ship of the State:

14. Paradox of Divisibility:

4. Short Answers: Please answer **four** out of the following **six** short answer questions in a paragraph (about 3-5 sentences). If you answer more than four, please circle the numbers of the ones you would like us to grade. (30% - 15 points each).

1. Please explain the "chicken and egg problem." Who is it a problem for, and why? How does Socrates invoke criteria for a good definition in responding to it?

2. Please explain the distinction Aristotle draws in *Nichomachean Ethics* between intelligence and wisdom. Which of these is more closely connected to the highest good for a human being, and why? What is this highest good, and why?

3. According to Parmenides, "…neither may you know that which is not … nor may you declare it." What does this mean? How can we argue for this conclusion?

4. According to Socrates in the Republic, true education involves "turning" the soul around "until it is able to study that which is and the brightest thing that is …" What does this mean and what is this "brightest thing"? How does philosophy help to accomplish this "turning around"?

5. What is the main difference between the way that Aristotle understands the nature of forms and the way that Plato does? How does Aristotle's distinction between potentiality and actuality support his distinction between form and matter?

6. How does Parmenides define the One, or the ultimate reality of "what is"? Would Plato agree with this definition of the One? Why or why not?

General Education Course NMHED Recertification Form

This form has been designed to guide you through the recertification process for the UNM General Education course in question. Please fill out your contact information below, and then review the information about the course provided to us by the New Mexico Department of Higher Education *(*NMHED*). After this, you will be instructed to fill out three separate narratives concerning the course and its relevance to NMHED's area and skills associated with the course.*

UNM Course Information

Prefix	**CHEM**
Number	**1120C**
Name	**Introduction to Chemistry for Non-Majors**

Contact Information

Name	Alisha Ray
Title	Principal Lecturer II
Phone	505-277-3094
Email	adray@unm.edu

NMHED's Description and Outcomes for the Common Course

The description and student learning outcomes below come from NMHED's Common Course Catalog*, which can be found here, and is meant to designate standard descriptions and outcomes of courses registered as a NMHED* Common Course.

CHEM 1120C: Introduction to Chemistry for Non-Majors Lecture and Laboratory

One-semester course in general chemistry, especially for non-science majors in the health sciences except premedicine and medical technology. Three lectures, 3 hours demo lab/recitation.

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 propertiesÍ¾ 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.

Institution-specific Student Learning Outcomes

Please add additional SLOs of the general education course to the ones provided by NMHED, or if no SLOs are provided by NMHED, input the SLOs used in assessment for the course.

Area and Essential Skills

Below gives information concerning the area and associated skills of the course to be re-certified. The area here matches the General Education Area of UNM; the "Essential Skills" and their respective Component Skills are characterizations of the area determined by NMHED. You will use this information to fill out the narratives below.

Area in which *CHEM 1120C* resides: Science

Essential Skills in the Area:

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.

Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.

Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.

Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well-reasoned evaluation.

Personal and Social Responsibility

Intercultural reasoning and intercultural competence

Sustainability and the natural and human worlds

Ethical Reasoning

Collaboration skills, teamwork and value systems

Civic discourse, civic knowledge and engagement -- local and global

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.

Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.

Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

Narrative Input

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Explain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking: *Problem Setting; Evidence Acquisition; Evidence Evaluation; Reasoning/Conclusion.*

Narrative

One of the major skills that students develop in Introduction to Chemistry is problem setting and solving. In a variety of different contexts, students are given quantitative and qualitative information describing a problem and must identify the problem type given the question and information provided in order to solve the problem (**problem setting**). The student learns to characterize the problem by listing all the available information, sorting through relevant and irrelevant information, identifying any additional information needed (**evidence acquisition and evaluation**) and applying it to their existing and expanding conceptual framework. Once solved, they are trained to evaluate whether their solution makes sense, or to compare and contrast different approaches of solving the problem to recommend the optimum path (**reasoning and conclusion**).

The course explicitly introduces problem solving strategies, and students practice these for most of the content related learning outcomes. This course is a particularly good one to learn this skill because very similar prompts and information can lead to very different problem types and solutions, and without learning to pay attention to detail and having the discipline of the problem framing approach, students do not correctly solve the problem.

To achieve this outcome, students are introduced to a problem-solving framework in the textbook reading, lecture and recitation throughout the semester. The content area of acids and bases provides their final practice in application. In-class clicker questions and recitation worksheets require students to not only solve the problem but first to set up a plan, and so students practice, and instructors get feedback on how students are framing the problem. The foundation for this is prepared starting the first week of class with the content area of dimensional analysis. Students then grow that foundational knowledge for the content area of stoichiometry which challenges students to do multi-step problems, in which problem setting and planning is essential. Again, clicker questions and recitation worksheets prompt students to first write down the plan as an explicit and graded step before solving the problem. In all content areas, this multi-step problem solving is practiced, usually with recitation worksheets and after-class homework, and then assessed in quizzes and exams. A student's ability to perform a multistep problem in any one of the content areas is excellent evidence that they have mastered the

problem setting and framing. On examinations, we frequently set multiple choice alternatives that show us if and specifically how the student is misframing the problem and this provides evidence whether the student is misframing the problem, or just making an error in the computation of it.

Personal and Social Responsibility: *Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical Reasoning; Collaboration skills, teamwork and value systems; Civic discourse, civic knowledge and engagement -- local and global.*

Narrative

Sustainability and the natural and human worlds

The course introduces the foundation of an understanding of the natural and human worlds at a molecular level. A critical issue facing humanity is how to provide energy for our growing needs in a way that is sustainable, as well as not exacerbating global warming due to rising levels of carbon dioxide. Introduction to Chemistry introduces the concepts of energy that form the fundamental basis for understanding how energy is obtained from chemical reactions. Students will explain how energy is produced from or absorbed into chemical reactions by the balance of bond-breaking and bond-forming processes. *Students learn about traditional sources of energy such as coal and oil and renewable sources of energy such as biofuels.* They will relate energy produced from a certain amount of fuel to carbon dioxide created using reaction stoichiometry. In addition, the concepts of oxidation and reduction are introduced, which provide the basis for understanding the alternative energy source - fuel cells, as well as the scientific foundation of how batteries work to store energy – an essential combination with solar power as an alternative energy solution. To develop these skills, students complete in-class clicker questions and solve problems on worksheets in recitation to test their understanding in a formative environment where they are interacting with peers and their instructor. Homework problems further reinforce the learning, and the concepts are tested on quizzes and exams.

Collaboration skills, teamwork and value systems

Students regularly work in groups during recitation, learning collaboration skills and teamwork to solve problems.

Assessed through end of course survey.

Quantitative Reasoning: *Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; Application of Quantitative Models.*

Narrative

The course focuses strongly on the **application of quantitative models** to the physical world we experience every day. Students begin with a review of some mathematical concepts and terminology and then consider physical and chemical properties of everyday objects, like density, mass, and volume and performing simple calculations involving these types of concepts. Having been introduced to atomic theory, the idea that every physical object we are likely to encounter is made of atoms, students learn chemical formulas and the mole concept. Knowing the chemical formula of a substance, we can count the number of each type of atom present in a sample of that substance simply by weighing it. This idea is important for stoichiometry, a methodology that uses principles of dimensional analysis to determine how much of each reactant must be used to produce a desired amount of product without waste. We can also quantitate the efficiency of our chemical reaction when we determine percent yield, based on the ratio of what we actually obtain (actual yield) to what we calculate that we should obtain (theoretical yield). For solutions, we can use volume and molar concentration to count moles rather than mass and molar mass. Using similar methodology, students practice determination of the amount of energy produced or consumed by a chemical reaction (thermochemistry). Students also learn the quantitative interdependence of the volume, temperature pressure, and amount of a gas (gas laws). For each of these skills, students begin by reading the relevant section in the lecture slides before we go over it in class. Students then come to class and answer clicker questions that require them to perform some of the simple skills covered in the reading and to reflect on their understanding. In class, the material is presented in interactive lecture format, where students are encouraged to ask questions. In recitation, students may work together in small groups to complete worksheets that contain questions for which the students must synthesize the various skills and concepts learned in class that week. Homework problems provide further opportunity to hone these skills and quizzes and exams assess students' degree of mastery.

Additional Information

Course Materials

NMHED requires that both a syllabus and a sample course assignment (project, paper, exam,etc.) from the course in question to be attached to the recertification form. Be sure and pick an assignment that correlates with the descriptions provided in the narratives above.

Attachments:

- *Course syllabus for CHEM 1120C*
- *A sample course assignment (take home quiz)*

Assessment Plan

When it is submitted to NMHED, each general education course will also have attached the assessment plan that is used for General Education Assessment at UNM. For more information on this process, please visit this page from UNM's Office of Assessment. http://assessment.unm.edu/gened-assessment/index.html

CHEMISTRY 1120C **Introductory Chemistry for Non-Majors** **Sem YEAR**

001 (CRN 64752) 002 (CRN 64755) 003 (CRN 64753)

4 credit hour course meeting MWF 10-10:50 am (lecture) in Educ 103 with 75 min recitation in DSH 224

Instructor: Alisha Ray **Office:** Room 203B, Clark Hall **Email:** adray@unm.edu

If you have a question, come to my office ANYTIME. Help sessions posted in Learn

Essential Resources:

1. iclicker student remote (any version of iclicker will work, used or new)
2. Inclusive access (this will include the ebook and MasteringChemistry)
3. Internet access (for MasteringChemistry, UNM email and Blackboard Learn)
4. Scientific calculator (non-programmable for exams) to bring to each class

Note: An optional upgrade to the print version of the book is available for $40

Course Prerequisite: Math 103 or 121

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, molecular structure, the periodic table, acids and bases, mass relationships, and solutions.

This course is ***NOT*** a "remedial course" or "Chemistry for Poets" course. The course is **required** for students majoring in pre-nursing, pre-dental hygiene and other health sciences areas except pre-medicine, exercise science and medical technology. It is also suited as a preparatory course for CHEM 1215.

UNM will NOT grant course credit for BOTH Chem 1120C and Chem 1215.

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 propertiesÍ¾ 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.

Quick overview of course structure

The course consists of three 50-minute lectures per week and one 75-minute recitation (laboratory) per week. During the recitation (lab) sessions, students will have the opportunity to ask questions about the lecture material and MasteringChemistry assignments and participate in group exercises. Quizzes will also be administered in recitation.

MasteringChemistry is a web-based system that will be used to administer practice problems (ungraded) and homework problems (graded) that will be used in CHEM 1120C. **Student participation in MasteringChemistry is required and included with the ebook via inclusive access**. You will gain access to the system starting the first day of class via the inclusive access. **MasteringChemistry homework deadlines must be met and will NOT be extended. Do NOT ask for extensions!**

Students must attend the recitation section for which they are registered.

		Day	Time	CRN #	Location
Sections	001	Tues	8-9:15	64752	DSH 224
	002	Thurs	8-9:15	64755	DSH 224
	003	Tues	3:30-4:45	64753	DSH 224

Grading:

The course grade will be based on the scores earned from exams, MasteringChemistry homework (HW) assignments, iclicker responses in lecture, and quizzes in recitation. The hourly exams will be 50-minutes in length and will be held during the lecture period. All tests are cumulative; however, the first three exams will focus many on material covered during that exam block/unit. The 4th exam will focus mainly on material from the second half of the course.

Students can drop the lowest exam score for exams #1-3. If a grading mistake has been made on a quiz or exam, students have 1 week from the day the exam/quiz was returned to turn in your quiz or exam so that it can be regraded. **Students who earn less than 70% in the course will not pass the class with a C or better.**

There will be no make-up iclicker questions. There will no make-up exams. If you know that you are going to need to miss an exam and you would like to take the exam early, please notify me a minimum of 2 weeks before the exam is scheduled. If my schedule permits, I am happy to let you take the exam early.

iClicker Use: We will make use of "clicker" technology in lecture. A personal iclicker transmitter must be purchased and its use will be required at every class meeting. Any version of the clicker transmitter will work. The clicker will be used in class to monitor attendance, pose graded questions and provide feedback to the students and instructor. **Register your clicker** in Learn as soon as possible (even if you registered your clicker last year) and clicker point collection will start September 4th. To register your iclicker, login to the CHEM 1120C course in Learn and select the iclicker registration link on the left navigation menu. The **clicker ID** can be found on the back of the clicker on the bar code sticker (8 characters).

If you lose your clicker you will need to notify your instructor when a new clicker is acquired. It is the students' responsibility to register their clicker, bring the clicker to class and be prepared to use it during each class although some class session may not be appropriate for clicker use. Students who do not have their clicker in class cannot be awarded ANY clicker points for that class. **Answers to clicker questions written down on a piece of paper will NOT be accepted. Points missed due to class absence, forgotten or malfunctioning clickers cannot be made up.** Instead, I will drop the 6 lowest clicker scores. You will earn 1 point for each question you answer.

Grading:

Exams 1-3 (lowest score dropped):	40% (each exam 20%)
Exam 4 (last day of class):	20%
MC homework (with lowest 4 scores dropped):	20%
iClicker (lowest 6 scores dropped):	10%
Quizzes (lowest score dropped):	10%

Based on the grading scheme above, your final grade will be assigned as follows: > 90% = A, 80-89% = B, 70-79% = C, 60-69% = D, < 60% = F

Exam Schedule:

50-minute exams during class on: Exam 1: Friday, Sept. 20, 2019
Exam 2: Friday, Oct. 18, 2019
Exam 3: Friday, Nov. 15, 2019
Exam 4: Friday, Dec. 6, 2019

All exams are cumulative.

Course Policies

Drop Policy: All regulations regarding a course drop are those outlined in the UNM catalog and the Fall 2018 Schedule of Classes. The instructor **WILL DROP** students who are not attending class.

Last day to add or change sections: Aug. 30, 2019
*Last day to drop without a grade: Sept. 6, 2019
Last day to change grading option without form: Sept. 6, 2019
**Last day to drop without Dean's approval with W: Nov. 8, 2019
If you do decide that you'd like to drop the class after November 8th, the instructor can withdraw you from the course without you needing to fill out any paperwork. All you need to do is not take exam #4 and you will receive a W as your grade (this does not affect your *grade* point average nor is credit earned).

Accommodation Statement: Students needing assistance with quiz/test taking **MUST** contact Accessibility Services (located at 2021 Mesa Vista Hall) at 277-3506. Accessibility Resources Center (Mesa Vista Hall 2021, 277-3506) provides academic support to students who have disabilities. If you think you need alternative accessible formats for undertaking and completing coursework, you should contact this service right away to assure your needs are met in a timely manner.

Quiet classroom policy: In lecture, please turn off cell phones, computers, pagers, iPods, iPads, and PDA's of any type. Text-messaging is not permitted. If you wish to take notes using your laptop, please come and see me to discuss where you can sit for minimum disruption. Respect the learning environment and restrict your talking to the opportunities I provide to discuss the course material. If you are observed using an unapproved electronic device or are disrupting class, the instructor will dismiss you from the class.

Email Policy: When contacting me other members of your "learning team" via email, type "Intro Chem-00X" or "CHEM 1120C-00X" in the subject line. Be sure to include the appropriate section (e.g. Intro Chem-001). During the week, you can expect a response to your email within 24 hours. If you send an email after 4 pm Friday

afternoon or anytime over the weekend you can expect a response on following Monday. If you don't receive a response from me within the time frames mentioned above, please resend the email.

Study Hints: This course is **very demanding**. Be prepared to spend at least 12-16 hours a week studying, (outside of class). You may find that your work on MasteringChemistry requires half, if not more, of that time. If you are struggling with the material **get help immediately**. Most students find it useful to print the lecture slides before they come to class (with 3-4 slides per page, as a handout) and write additional notes/worked examples in the margins.

Academic Dishonesty (see: https://pathfinder.unm.edu/campus-policies/academic-dishonesty.html)

Class structure

1. Before each class, scan through the textbook, work the problems embedded in the chapter, checking your answers, and write down your questions to prepare for class. Look through the lecture slides provided in Learn and work any questions embedded within the slides.
2. In-class exercises and clicker questions: Many class periods will include small group in-class exercises designed to develop deeper understanding of concepts introduced in the reading and lectures. In addition to me, **PLF(s) and an SI leader** will be available during in-class exercises for questions you might have. These are students who have previously taken the class (or general chemistry) that are paid to help with in-class work. They are NOT experts in the material. They should be prepared for the exercises but may not be able to answer every question you have. If they cannot answer a question, it is expected that they will get back to you with an answer after researching the question.
In-class exercises will be assessed using iclickers. Clickers will also be used frequently in class to assess understanding of a topic before we move on. Clicker questions will constitute 10% of your final grade.
3. Homework: MasteringChemistry will be the online learning system we will use. It will account for 20% of your grade in the class. Expect weekly deadlines – *usually* 11:59 pm on Sundays (the last assignment is due on Friday, 12/6/19).
4. Recitation: Come to recitation prepared to ask questions. You are encouraged to ask questions regarding the MasteringChemistry homework. In recitation you will have assigned seating and will usually be working problems in a group. Since groups work best when all members are present, students are expected to come to recitation each week, even if a quiz is not being given.

Be prepared to work in groups in class. During lecture, find people that you *work* well with. You will be assigned to a group in recitation and the groups will change several times during the semester. Discussing your ideas, hearing and evaluating others will make your learning more effective and deeper. Don't be afraid of giving a wrong answer if you have a reason for selecting it. Every wrong answer that has a reason behind it is a useful opportunity for learning.

This class has an SI leader provided through the Center for Academic Program Support (CAPS). Over the course of the semester, SI session attendance data is automatically shared with the instructor. This attendance data is de-identified – it has no names or student ID numbers attached to it. However, in the case that an instructor would request more specifics, CAPS would provide it unless you take steps to opt out of sharing your visit history. CAPS respects the right to student privacy. If you do not want your visit history shared with your instructor, please email CAPS at caps@unm.edu.

Title IX: As a UNM faculty member, I am required to inform the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu) of any report I receive of gender discrimination which includes sexual harassment, sexual misconduct, and/or sexual violence. You can read the full campus policy regarding sexual misconduct at https://policy.unm.edu/universitypolicies/2000/2740.html. If you have experienced sexual violence or sexual misconduct, please ask a faculty or staff member for help or contact the LoboRESPECT Advocacy Center.

Tentative Schedule for Fall 2019

Date	Lecture Schedule	Recitation Schedule
8/19-8/23	Syllabus, Chapter 1: Matter & Measurements	Course intro, Ch 1
8/26-8/30	Ch 2: Atoms & Periodic Table	**Quiz 1**
9/2-9/6*	**No classes on Mon** 9/2 – Labor Day, Ch 3: Ionic cmpds	**Quiz 2**
9/9-9/13	Ch 4: Molecular Compounds	**Quiz 3**
9/16-9/20 **Fri 9/20**	Ch 5: Classification and Balancing of Chemical Rxns **Exam 1**	Exam review
9/23-9/27	Ch 5 and 6	Exam autopsy, **Quiz 4**
9/30-10/4	Ch 6: Chemical rxns: Mole and Mass Relationships	**Quiz 5**
10/7-	Ch 7: Chem rxns: Energy, Rates and Equilibrium	Tues review; no Thurs

10/11	**Fall break Thurs & Fri – no class**	recitation
10/14- 10/18 **Fri 10/18**	Ch 7: Chem rxns: Energy, Rates and Equilibrium **Exam 2**	Exam review
10/21- 10/25	Ch 8: Gases, Liquids & Solids	Exam autopsy, **Quiz 6**
10/28- 11/1	Ch 9: Solutions	**Quiz 7**
11/4- 11/8**	Ch 10: Acids & Bases	**Quiz 8**
11/11- 11/15 **Fri 11/15**	Ch 11: Nuclear Chemistry **Exam 3**	Exam review
11/18- 11/22	Ch 11: Nuclear Chemistry	**Quiz 9**
11/25- 11/29	**No class Thurs & Fri (Thanksgiving holiday)**	No recitation ☺
12/2-12/6 **Fri 12/6**	Review **Exam 4**	Exam review
Finals week	**NO** CHEM 1120 **final exam** Final grade will be posted by Fri, Dec 13th	No recitation

Name: _____

CHEM 1120C Quiz 9 Take Home Fall 2019

The following is a take-home quiz. It is open note, open book and open to YOUR brain only. You are NOT permitted to discuss the content of this quiz to anyone (including Google). The quiz is due at the beginning of class on Monday, December 2nd. Quizzes must be received by emailed or turned in by hand before 10:05 am in order to be accepted and graded. NO LATE QUIZZES WILL BE ACCEPTED. If you need more space to show your work, you may staple your work to the quiz.

By signing here, you are binding yourself to the terms described above.

Signature: _____ date: _____

1. (1pt) Which of the following are true statements? **CIRCLE TWO CHOICES**.
   a. Weak acids are weak electrolytes.
   b. An example of a weak acid is HBr.
   c. Weak acids dissociate to a great extent when dissolved in water.
   d. Weak acids have small Ka values.
   e. Weak acids are substances that produce OH^- when dissolved in water.

2. (1pt) Identify the **reactant** acting as a **Bronsted-Lowry base** in the reaction below.

$$HSO_4^-(aq) + NH_3(aq) \rightleftarrows SO_4^{-2}(aq) + NH_4^+(aq)$$

   a. HSO_4^-
   b. NH_3
   c. SO_4^{-2}
   d. NH_4^+

3. (2 pt) Fill in the missing species for an aqueous solution at 25°C. **Watch your sig figs!**

   pOH= 2.03

   pH =

   $[H^+]$ = M

   $[OH^-]$ = M

4. For the aqueous solution described in Problem 3, is the solution **acidic, basic, or neutral** (circle one)? (1/2 pt)

   Provide a BRIEF – one sentence or less- explanation of how you reached that conclusion. (1/2 pt)

5. (1pt) Which of the following is the strongest acid?
   a. $HClO_2$; $K_a = 1.1 \times 10^{-2}$
   b. HF; $K_a = 7.2 \times 10^{-4}$
   c. HNO_2; $K_a = 4.0 \times 10^{-4}$
   d. HI; $K_a = 3.2 \times 10^{9}$

6. (1pt) On a separate piece of paper that you will staple to your quiz, write a set of instructions that would allow you to solve the problem below, step by step.
   The equilibrium constant for the ionization of hydrosulfuric acid (H_2S) is 1.1×10^{-7}. Estimate the $[OH^-]$ of a 0.23 M hydrosulfuric aqueous solution at 25°C.

7. (1pt) The equilibrium constant for the ionization of hydrosulfuric acid (H_2S) is 1.1×10^{-7}. Estimate the $[OH^-]$ of a 0.23 M hydrosulfuric aqueous solution at 25°C.
   You must show ALL your work to receive credit. Put a box around your answer. Be sure to include appropriate unit(s) and report your answer with the correct number of significant figures.

8. (1pt) On the lines provided, clearly write the formulas (including charges) of the conjugate acids of the following bases:

NH_3 _____ NO_2^- _____

9. (1pt) On a separate piece of paper that you will staple to your quiz, write a set of instructions that would allow you to solve the problem below, step by step:
   How many milliliters of 0.500 M aqueous H_2SO_4 are required to react completely with (neutralize) 0.0400 L of 0.120 M aqueous NaOH, according to the balanced chemical equation below?

$$2\ NaOH\ (aq)\ +\ H_2SO_4 \rightarrow\ 2\ H_2O\ (l)\ +\ Na_2SO_4\ (aq)$$

MUSC 1130 Music Appreciation
Period Identification portion from Midterm (Critical Thinking)

Period Identification: (Medieval, Renaissance, Baroque, Classical)---5 points each

The following examples are pieces we have not heard in class but were written in one of the four periods we have studied so far. Carefully listen to each example and tell me what period each example belongs in. You need to be as specific as possible. You should write down any of the things we have gone over that indicate a specific period of music.

1. **Period of composition:**

Why does this composition belong in this period?

2. **Period of composition:**

Why does this composition belong in this period?

3. **Period of composition:**

Why does this composition belong in this period?

4. **Period of composition:**

Why does this composition belong in this period?

General Education Course NMHED Recertification Form

This form has been designed to guide you through the recertification process for the UNM General Education course in question. Please fill out your contact information below, and then review the information about the course provided to us by the New Mexico Department of Higher Education *(*NMHED*). After this, you will be instructed to fill out three separate narratives concerning the course and its relevance to NMHED's area and skills associated with the course.*

UNM Course Information

Prefix	**PHYS**
Number	**1230L**
Name	**Algebra-based Physics I Lab**

Contact Information

Name	
Title	
Phone	
Email	

NMHED's Description and Outcomes for the Common Course

The description and student learning outcomes below come from NMHED's Common Course Catalog, *which can be found here, and is meant to designate standard descriptions and outcomes of courses registered as a NMHED* Common Course.

PHYS 1230L: Algebra-based Physics I Lab

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.

Institution-specific Student Learning Outcomes

Please add additional SLOs of the general education course to the ones provided by NMHED, or if no SLOs are provided by NMHED, input the SLOs used in assessment for the course.

Area and Essential Skills

Below gives information concerning the area and associated skills of the course to be re-certified. The area here matches the General Education Area of UNM; the "Essential Skills" and their respective Component Skills are characterizations of the area determined by NMHED. You will use this information to fill out the narratives below.

Area in which *PHYS 1230L* resides: Science

Essential Skills in the Area:

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.

Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.

Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.

Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well-reasoned evaluation.

Personal and Social Responsibility

Intercultural reasoning and intercultural competence

Sustainability and the natural and human worlds

Ethical Reasoning

Collaboration skills, teamwork and value systems

Civic discourse, civic knowledge and engagement -- local and global

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.

Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.

Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

Narrative Input

In the boxes provided, write a short (~300 words) narrative explaining how the course weaves the essential skills associated with the content area throughout the course. Explain what students are going to do to develop the essential skills and how you will assess their learning. The narrative should be written with a general audience in mind and avoid discipline specific jargon as much as possible.

Be sure to address the component skills listed next to each essential skills. The number of component skills that must be addressed by your narrative is listed.

Critical Thinking: *Problem Setting; Evidence Acquisition; Evidence Evaluation; Reasoning/Conclusion.*

Personal and Social Responsibility: *Intercultural reasoning and intercultural competence; Sustainability and the natural and human worlds; Ethical Reasoning; Collaboration skills, teamwork and value systems; Civic discourse, civic knowledge and engagement -- local and global.*

Quantitative Reasoning: *Communication/Representation of Quantitative Information; Analysis of Quantitative Arguments; Application of Quantitative Models.*

Additional Information

Course Materials

NMHED requires that both a syllabus and a sample course assignment (project, paper, exam,etc.) from the course in question to be attached to the recertification form. Be sure and pick an assignment that correlates with the descriptions provided in the narratives above.

Assessment Plan

When it is submitted to NMHED, each general education course will also have attached the assessment plan that is used for General Education Assessment at UNM. For more information on this process, please visit this page from UNM's Office of Assessment.

Physics 1230L Syllabus – Fall 2019

TA:
email:

Welcome to Physics 1230L! I am here to help you do your labs and learn some physics that may help you in your lecture and future courses. Always feel free to ask questions or make suggestions. Also, feel free to talk to the Lab Director in room RH 113, phone 277-2751.

Description

Physics 1230L is a companion course to Physics 1230 covering topics in mechanics, heat and waves at the algebra level. Lab experiments mirror and enhance lecture topics: motion (kinematics), interactions between objects and the resulting effects on their motions (dynamics), the effects of forces acting over displacements (work and energy), the effects of forces acting over time (impulse and momentum), thermal energy (first law of thermodynamics), and the physical nature of waves. Real time experiments involving computer assisted data acquisition and analysis give a better conceptual framework for understanding physics.
(Pre- or co-requisite: Physics 1230)

Objectives

This course serves to reinforce concepts presented in lecture, to give you experience working as a member of a team and to familiarize you with various experimental techniques.
Lab students will:

- Communicate and cooperate as a team to accomplish technical goals
- Read and interpret procedural instructions
- Gather and analyze data using computers interfaced to various probes
- Interpret graphical data
- Estimate uncertainties in measurements
- Use basic laboratory equipment (e.g., timer, balance, rods, clamps, etc.)

List of Experiments – schedule is posted http://regenerlab.unm.edu/

- Uncertainty in Measurement
- Introduction to Motion
- Vector Addition
- Changing Motion
- Force and Motion
- More on Forces
- Impulse – Momentum
- Work and Energy
- Collisions in One Dimension
- Collision!
- Torque
- Periodic Motion
- Thermal Energy
- Introduction to Waves

Materials

Lab workbooks are available at the UNM Copy Center in Dane Smith Hall. Every student is required to purchase one before the second week of lab. No copies will be provided.

Students with Disabilities

Qualified students with disabilities needing appropriate academic adjustments should contact me as soon as possible to ensure your needs are met. Handouts are available in alternative accessible formats upon request.

Attendance

Lab attendance is mandatory. You are responsible to perform all experiments.

- **Tardiness**
  You are expected to arrive on time to lab. If you are late, you will still be required to do the entire lab but your grade may be diminished at my discretion.
- **Excused absences**
  - If you cannot make it to lab and know in advance, contact me and we will arrange a time for you to do the lab.
  - If something comes up unexpectedly (sudden illness, accident, family emergency, etc.) contact me as soon as possible. Unscheduled absences WITH A VAILD EXCUSE must be made up. Contact me to arrange a mutually convenient time.
  - Missed labs must be made up promptly. If you do not make up a missed lab within one week, your grade may be diminished at my discretion.
- **Unexcused absences**
  One unexcused absence will reduce your final grade by one letter grade. Two unexcused absences will cause you to fail the class.

Conduct:

UNM has strict guidelines for both student and TA conduct, which are outlined in the University catalogue. Both the students and the instructor are expected to adhere to these policies. In particular:

- **Please do not answer cell phones, texts, or tweets in the lab room!! If urgent,** Calls may be taken in the hallway so long as classes are not disturbed.
- **Drinks must be in a container with twist cap or other sealed top and kept on the floor or at the front of the room.** Food in the lab is not allowed without special permission from the instructor.

Grading

Each week, you will receive a grade with two components: one for attendance/participation, and one for the physics and other details in the lab report. Attendance and participation will count for 1/3 of your semester grade. Lab report grades and quizzes which may be given at announced times will count for 2/3 of your semester grade.

Attendance/Participation Guidelines

A	Active Participation	Example behaviors: helps with set up, participates in data taking, asks questions, participates in discussions, etc.
B	Passive Participation	Example behaviors: is tardy to lab, merely records data, does not help with set up, does not participate in discussions, copies partners, etc.
C	Poor Participation	Example behaviors: Reads newspaper, does homework, antagonizes lab partners, etc.
0	No Participation	Not present in your section. Attendance in another section not verified by TA.

Lab Report Guidelines

A	Standard	The report is everything I would expect. All entries are complete, all questions meaningfully answered, data record including graphs is clear and correct, all calculations and units are correct. The report is organized and legible.
A-	Good	Report has minor error(s).
B	Acceptable	Report is OK, but there are errors and/or missing entries.
C	Unacceptable	Report has significant errors, unanswered questions, missing data, etc.
0	No Report	No report is turned in. Authorship not verified by TA.

UNM Academic Dishonesty Policy:

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and

including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Title IX

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see pg 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). If you want to retain anonymity, instead report the incident to other units on campus, namely Student Health and Counseling (SHAC), Counseling and Resource Center (CARS), a licensed medical practitioner on campus, or off campus to the Rape Crisis Center of Central New Mexico, or a sexual assault nurse examiner. If you report the incident to the LoboRESPECT advocacy center, Women's Resource Center, or the LGBTQ Resource Center, you retain anonymity but an anonymous record is made for statistical purposes. See more information at https://policy.unm.edu/university-policies/2000/2740.html#_Toc414642678.

Critical Thinking

Problem Setting: Delineate a problem or question. Students state problem/question appropriate to the context.
Evidence Acquisition: Identify and gather the information/data necessary to address the problem or question.
Evidence Evaluation: Evaluate evidence/data for credibility (e.g. bias, reliability, and validity), probable truth, and relevance to a situation.
Reasoning/Conclusion: Develop conclusions, solutions, and outcomes that reflect an informed, well reasoned evaluation.

Sample Assessment Questions (These questions are all taken directly from the lab manual and could be used an embedded assessment. More traditional assessments such as the Force Concept Inventory could also be used here.):

1. From the "Force and Motion" lab: Check the calibration. First **Zero** the force probe. Then **Collect** data, and pull on the force probe with the spring scale with several different forces, each 2.0 N or smaller. Use the **Examine** tool to record the force probe readings and corresponding spring scale readings in the table below. How well do your force probe readings correspond to your spring scale readings?
2. From the "More on Forces" lab: You have a tug-of-war with someone who is much smaller and lighter than you are, but stronger. You both pull as hard as you can, and it's a tie. One of you might move a little in one direction or the other, but mostly you are both at rest. Predict the relative magnitudes of the forces between person 1 and person 2. Place a check next to your prediction.
   ____ Person 1 exerts a larger force on Person 2. ___ The people exert equal forces on each other ____ Person 2 exerts a larger force on Person 1.
3. From the "More on Forces" lab: Can an astronaut experience weightlessness? Masslessness? Explain.

Personal and Social Responsibility - Address 2 of the 5 component skills

Intercultural reasoning and intercultural competence
Sustainability and the natural and human worlds
Ethical Reasoning
Collaboration skills, teamwork and value systems
Civic discourse, civic knowledge and engagement -- local and global

These post-lab questions come from the "Work and Energy" lab and could be used to evaluate the Sustainability and the natural and human worlds component skill**.**

A glance at an old bill from PNM shows that I was charged for electrical energy in units of kilowatt-hours.

1 kilowatt-hour = (1,000 watts) x (3,600 seconds) = 3,600,000 J

I was charged $57.97 for 589 kWH of energy. This works out to a little more than 9.8 ¢ per kWH including tax and other charges. For the following estimations, use 10¢ as the cost per kWH.

Q10 How much would I pay to operate a 100-watt light bulb for one hour?
cost: _____

Q11 Looked at another way, according to the Energy Information Agency, the average monthly residential electric energy use in the United States in 2009 was 908 kWH. Suppose that lifting 16 tons through a height of one meter represents the amount of work a strong person can do in one day. If that person worked 365 days per year, how many years would it take to produce the electric energy used in one month in one household?

This activity comes from the "More on Forces" lab and could be used to evaluate the students' ability to work collaboratively.

Activity 2 Tutorial

Counterintuitive Ideas: Newton's Third Law

A. Newton's Third Law and Common Sense

Often, Newton's Third law just makes sense. But in some cases, it seems not to. Consider a heavy truck ramming into a parked, unoccupied car.

1. (*Work together*) According to *common sense*, which force (if either) is larger during the collision: the force exerted by the truck on the car, or the force exerted by the car on the truck? Explain the intuitive reasoning.

2. (*Work together*) We've asked this question of many students, and a typical response goes like this:

Intuitively, the car reacts more during the collision. (You'd rather be riding in the truck!)
So the car feels the bigger force.

Is your group's explanation in part A similar to or different from this? Explain.

3. (*Work together*) According to Newton's third law, which of those forces (if

either) is bigger?

4. *Experiment.* Is this a case where Newton's third law doesn't apply? At the front of the room, the TA has set up an experiment that simulates a truck ramming a car. Go do the experiment and record the results here. You can also test whether Newton's third law holds for other collisions.

B. What to do with the contradiction between common sense and Newton's 3rd Law

Let's consider the contradiction we just found between physics and common sense.

1. (*Work individually*) For most people, Newton's third law contradicts the common-sense intuition that the car reacts more during the collision. Which one of the following best expresses your attitude toward this contradiction?

a. We shouldn't dwell on these kinds of contradictions and should instead focus on learning exactly when Newton's third law does and doesn't apply.

b. There's probably some way to reconcile common sense with Newton's third law, though I don't see how.

c. Although physics usually can be reconciled with common sense, here the contradiction between physics and common sense is so blatant that we have to accept it.

Briefly explain why you chose the answer you chose.

2. Discuss your answer in your group. Is there a consensus or disagreement? If there was disagreement explain how you group decided to deal with this disagreement.

Quantitative Reasoning

Communication/Representation of Quantitative Information: Express quantitative information symbolically, graphically, and in written or oral language.
Analysis of Quantitative Arguments: Interpret, analyze and critique information or a line of reasoning presented by others.
Application of Quantitative Models: Apply appropriate quantitative models to real world or other contextual problems.

The following activity from the "Changing Motion" lab is just one of many that could be used to gather assessment data for quantitative reasoning. Given that this lab is very early in the semester, it could even be thought of as a pre-test of their ability to express quantitative information graphically.

Activity 2 Speeding Up "Away"

In this activity you will look at the motion of a cart when its speed is changing.
1. Set up the cart, ramp, pulley, and motion detector as illustrated below. Make sure that the end stop catches the cart before the hanging mass reaches the ground. If the cart has a friction pad, make sure that it does not drag. The cart should never get closer than 0.15 m to the detector.
2. **Prediction** What will the position and velocity graphs look like? *Ignore the acceleration graph for now.* Sketch predictions with **d-a-s-h-e-d---l-i-n-e-s**.
3. Test your predictions.
a. Open **L02A1-1(Speeding Up).cmbl.** Before releasing the cart, click **Collect** and move the cart with your hand to make sure that the detector can "see" the cart all the way to the end of the board. You may need to make adjustments.
b. Hang 50g from the end of the string. This will cause the cart to speed up when released. Hold the front of the cart until you are ready to graph. Hold it in such a way that *the motion detector does not see your hand*.
c. **Collect** data, and when you hear the clicks of the motion detector, release the cart from rest. Repeat, if necessary, until you get a nice set of graphs.
d. Change the position and velocity scales if necessary so that the graphs fill the axes. Save your data for Activity 6. Select **Save as . . .** from the **File** Menu, give your file a new name such as **SPEEDUP** __ __ __**.cmbl**, where are your initials, then click on **Save**.
e. Sketch your position and velocity graphs neatly on the previous axes with a solid line.

One of the final labs of the semester is a lab on thermal energy. This post-lab question could be used as a post-test.

Describe what happens to the temperature of a water-ice mixture originally at 0°C when heat energy is transferred to it at a constant rate. Sketch a temperature history on the axes below. Indicate on your graph where the ice disappears.

FILM HX Mid-Term
Frazier
25 Points Total: 5 points per question

1 Think about two films—Rescued by Rover and Rebecca. Use the first as an example of narrative filmmaking at the dawn of filmmaking, and the second as an example of "mature" studio filmmaking. What are the major differences, i.e., what are the significant advancements that you notice? Use specific details from the films to make your points.

Assessment: This question addresses communication by requiring an explanation of film history vocabulary.

2 Based on the chapter in our textbook and your viewing of Citizen Kane, provide a full discussion of the use of sound and music to support, contrast, and otherwise moderate the impact of the film's visual information.

Assessment: This question requires critical thinking, beyond the "I liked it." response. Students use their writing skills to describe a scene, then critical thinking to assess why it was memorable.

3 In the infamous Shower Scene in Hitchcock's PSYCHO, Hitchcock employed 78 camera setups, and 52 cuts in the final 45 second edit. Everything that follows in the movie hinges on that scene. Briefly explain the reasoning behind Hitchcock's obsession with this scene.

Assessment: Requires quantitative reasoning: time, effort, and resources required for complicated camera shots never before seen at this point in

cinema's history.

4 At the end of Spike Lee's DO THE RIGHT THING, Mookie demands to be paid his wages, despite the chaos of the preceding night's events. Sal attempts to pay him more than he's owed, Mookie refuses and leaves the money on the ground, but then returns to scoop it up. Briefly discuss Mookie's rationale in the context of tragedy.

Assessment - Personal and Social Responsibility: Requires students to consider the underpinnings of racial injustice and how they relate to economic injustice.

5 In THE SOCIAL NETWORK, Mark Zuckerberg's character is ironically portrayed as socially inept, and ultimately lonely and longing for human connection. How do you think this characterization of Zuckerberg contrasts with societies infatuation with, and concurrent aversion to, an increasingly socio-digital world?

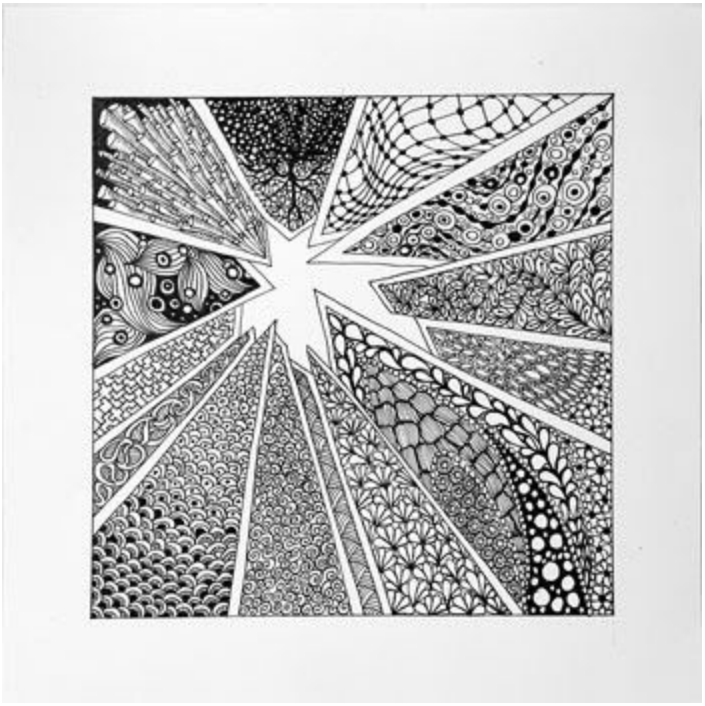
Assessment - Information and Digital Literacy: The question requires students to explore the paradox of cyber/analog-social connection.

ARTS - INTRODUCTION TO ART 101
FALL SEMESTER 20XX

IIUNA COMMUNITY COLLEGE

Assignment 1 - Focal Point Design: Line Tangles

Learning Objectives:



- **Use of Line as a focus Element of Art**
- **Principle of Design: Emphasis**
- **Abstract thinking**
- **Critical thinking**
- **Contrast**
- **Emphasis**
- **Repetition/Patterns**
- **Eye-hand coordination**

What can you use?

- lines

What kinds of lines?

- solid
- interrupted
- thin, thick, combined
- curved and organic, and/or straight

What medium?

- Ultra Fine Sharpie
- and/or black ball pen for details

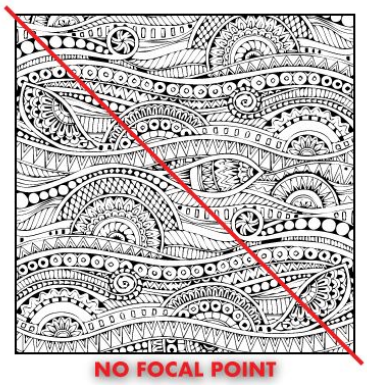
For this assignment, you will be creating a free-form design using only lines.

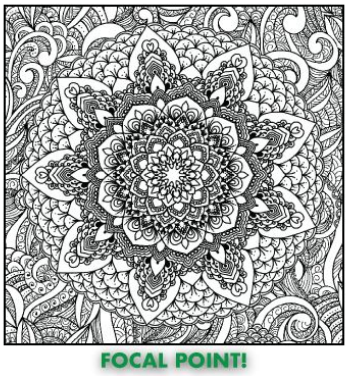
Things that should be included in your design are: Emphasis & Focal Point of Composition. Be sure to use contrast by making it lighter or darker, more simplistic or more complex. You may also use different types of lines and shapes than the rest of the design.

- Focal point does not have to be in the center of the design
- Supporting elements can guide (lead) viewer's eye to that focal point - psychological lines
- Design should be intricate, detailed, and dense
- The design should fill the entire space

What will be graded:

- Use of Line Element - line quality, clean line weights, smooth, consistent lines
- Craftsmanship, details, and aesthetic quality of the design
- Clear focal point



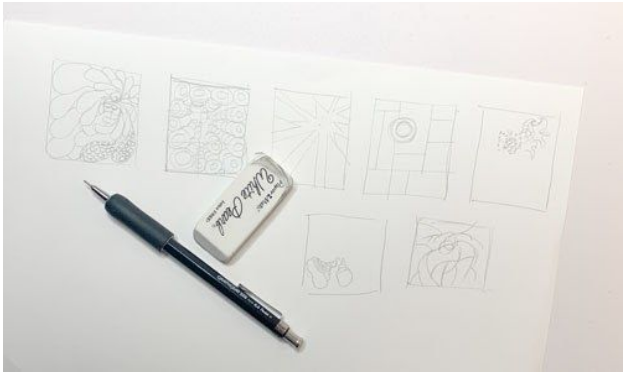


Step 1

- Begin with research.
- Explore what's out there for artistic inspiration and reference.
- Search for "zentangles" and "zentangle patterns" as a start.
- Note and copy patterns that you like. You can try to incorporate them into your future design.
- Zentangles is a fancy and relaxing form of "doodling"

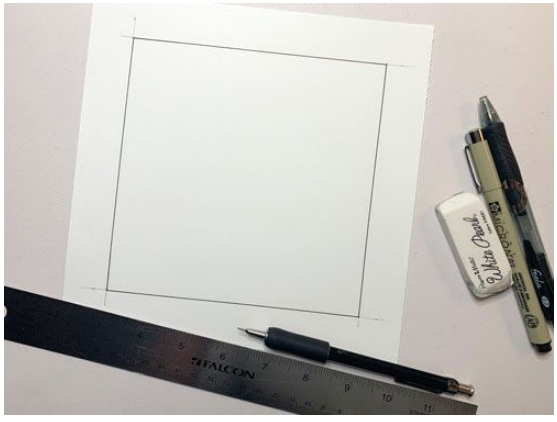
Step 2

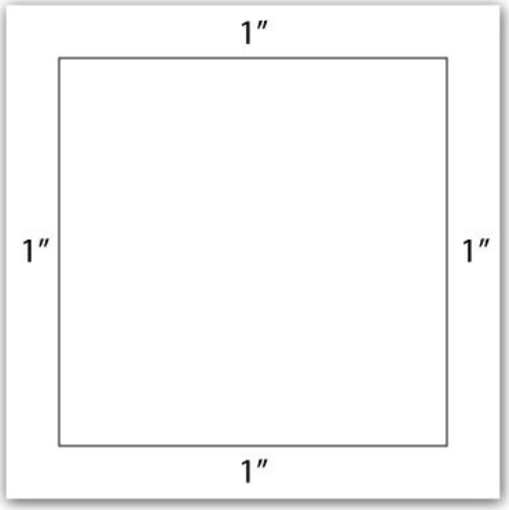
- Plan Ahead
- You don't need to sketch out the entire design, but have the main layout concept composed.
- Think of where you are going to position your focal point.



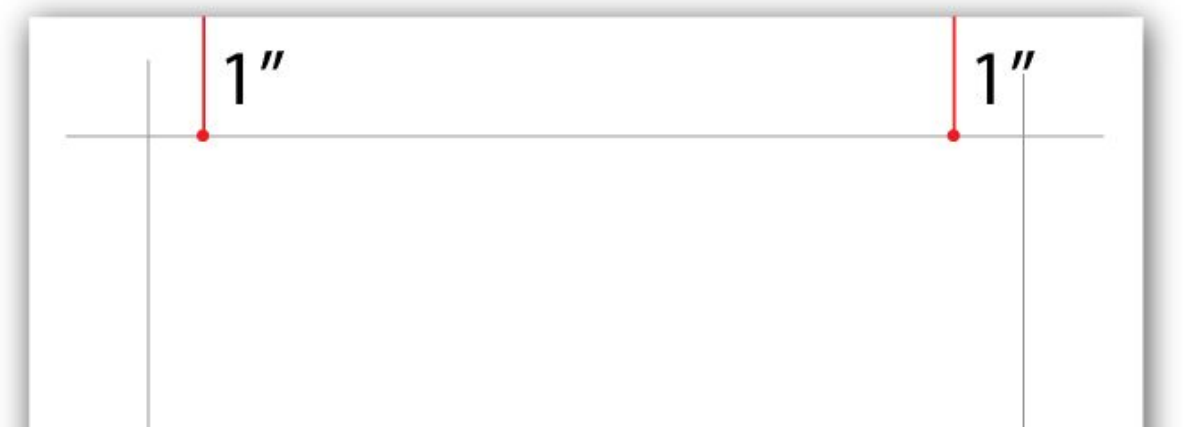
Step 3

- Use a ruler and measure a 1"" border on all 4 sides of your paper.
- Use a pencil to draw the lines.
- Outline the border with a black pen.



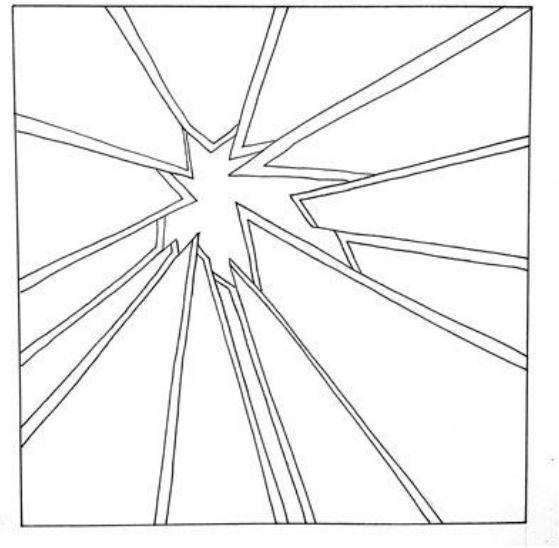


Mark 2 measurements per side before you draw a line.



Step 4

- Your focal point should be contrasted to the rest of the design and/or the rest of the design should lead the viewer's eye to it.
- Start with the focal point. It does not need to be in the center of the composition.
- Mark the main layout shapes (areas).



Step 5

- Plan for the rest of your design.
- Cautiously begin with big shapes, then fill the gaps with smaller, more detailed elements.
- Lines and shapes can be curvy, organic, angled and geometric, or a combination.
- Convey the mood and emotion you want your audience to see.

ENG 275 The Motion Picture Spring 2019

Paper 2 Director's Bio/Critical Assessment

Due Date: April 14 (Wednesday after Spring Break)

Overview: For this paper you will select one of the historically significant directors from the list provided. Choose two or more of their films to analyze in terms of stylistic elements, recurring themes, storytelling, cinematography, or other features which you consider significant and characteristic of this director's work.

Format: This paper should be at least 5 pages, typed double-spaced. Your essay must include these sections: an introduction with a clearly stated thesis, a short professional biographical section (focusing more on the person's career than their personal life – although you may include some personal information as appropriate), historical significance (where and how they fit into the evolution of cinema), analysis of selected elements in film one, analysis of selected elements in film two (and so on – if you choose to examine more than two films in detail), comparison and context-how do these two films inform each other? What do their common and disparate elements reveal about the director's style and philosophy of filmmaking? Conclusion- in this section, you may include both a summation of the director's overall impact on film as an artform and/or your personal response to the subject films you have analyzed for this paper. This is the only section of the paper where expressions of personal taste are appropriate.

Requirements: Papers will use at least three critical outside sources (not including The Film Encyclopedia or your textbook, A Short History of Film). These can certainly be sources for factual and biographical information, but they will not count towards your required critical sources; published reviews of individual films in newspapers, websites, or mass-market magazines are also not considered critical sources – unless such articles contain extensive background and analytical material. Articles from journals and publications exclusively devoted to film studies are preferred. All sources must be cited appropriately using either MLA or APA format for both in-text citations and your Works Cited/References page.

Sample Outline w/ Thesis:

Introduction: Fellini's art and impact on modern filmmaking

Thesis: In the shattered Europe of the post-war era. Fellini uses fragmented narrative and layers of often contradictory psychological impressions to tell fairly conventional coming-of-age stories and episodes of moral or spiritual awakening.

Professional Bio: Grew up in fascist Italy/worked as art director/script writer/brief stint as commercial director/early anti-fascist polemics/emergence of distinctive style and (semi-coherent) artistic vision/later era accusations of self-parody

Film One: *Amarcord*

Coming of age

Socio-Political background

Catholicism and Guilt

Emergent Sexuality

Iconic imagery

The distortion of memory

The editorial narrator (the historian)

Film Two: *8 ½*

Although this is a film about a man in the midst of a midlife and professional crisis, the emotional and motivational core are almost the same as Amarcord:

Coming of age

Socio-Political background

Catholicism and Guilt

Emergent Sexuality

Iconic imagery

The distortion of memory

The editorial narrator (the philosopher/scriptwriter) (Note to self: While the historian in Amarcord is accepted and integrated into the life of the town, the scriptwriter in 8 ½ is shown hanging in an empty theater – before being revived for the carnivalesque finale.

Comparison and Contrast

Style

Timeline/Narrative style

Color vs B/W and how this impacts cinematography and image composition

Influence of art director experience on shots and framing

Conclusion

While his work may have awoken others to the possibility of the fragmented narrative, Fellini's work is both too personal and too eccentric to ever really be imitated or emulated.

Term Paper Assignment

A **Term Paper** is required, due at the end of week 15. The Paper will cover one aspect of one religion or other concept discussed in class**. A 3-page outline or draft** is due at **Midterm**. This outline must include a one sentence thesis statement and a bibliography. The term paper must be 5 to 7 pages, not counting cover page or bibliography, double spaced, Times New Roman, 12pt font size. The textbook should be utilized as a source, as well as two or more outside sources. The sources must be reliable sources, as discussed in class, and must properly cited in MLA, APA, or Chicago style.

Timeline for term paper

Weeks 1-2: Look over key terms for each chapter in syllabus. Begin to consider possible issues to research.

Week 3: Database/sources Workshop

Weeks 4-7: Review Sources Workshop, begin research for term paper.

Week 8: **Term Paper Outline and Bibliography due**.

Weeks 9-12: Student/Instructor conferences on term paper

Weeks 13 -14 Finishing touches on paper.

Week 15 **Term Paper Due**

TERM PAPER RUBRIC

	10	8-9	6-7	4-5	Below 4
Thesis	Thesis is clearly stated, makes a clear easily understandable point, and relates to an issue in World Religions	Thesis is clearly understandable, but may either be slightly long, short, or over-use technical language.	Thesis phrasing too simple, lacks complexity; or not clearly worded.	Thesis lacks a clear objective and/or does not "fit" content of essay; or is not related to covered topics.	Thesis not evident
Supporting Research (x2 Weight)	Research is through, unbiased, authoritative, related to thesis, both sides are researched.	Research is less complete but still substantial and relevant	Research is adequate; Relevance to thesis is clear. Opposing opinions are researched but less so	Insufficient research; Relevance is not always made.	Research is irrelevant, missing, or relies on unsubstantiated assertions and opinions
Focus & Content (x2 Weight)	Sharp, clear focus; Balanced, substantial, specific, and/or illustrative content; Effective interaction with sources; Both sides are well represented, thesis is clearly defended.	Clear focus; specific, illustrative, and balanced content, good interaction with sources. Thesis is clearly defended	Adequate but unbalanced content; more analysis needed. Thesis is defended.	Essay contains too much research information without analysis or commentary, opposing side is only cursorily reviewed.	Absence of focus and relevant content; content is not related to thesis
Organization (x2 Weight)	Great Organization; strong topic sentences, clear transitions.	Logical and appropriate organization; clear topic sentences and transitions.	Organization attempted, but contains unclear or inappropriate topic sentences or missing transitions	Inconsistent organization, lacks consistent transitions and regularly employs unclear topic sentences.	Absence of planned organization
Style	Writer's voice is strong; precision in tone, sentence structure. Excellent word choice	Precision and variety in sentence structure and word choice. Good word choice.	Limited, mostly correct, sentence structure variety and word choice. May overuse or underuse technical language.	Several awkward and/or unclear sentences; problems with word choice. Slang or substandard English is employed once or twice	No control over sentence structure and word choice, slang and substandard English is regularly employed.
Mechanics & Usage	Free of mechanical and usage errors	Few mechanical and usage errors	Some mechanical and usage errors. These distracts reader but not significantly.	Mechanical and usage errors interfere with writer's purpose, distract reader.	Mechanical and usage errors significantly interfere with the writer's purpose, and overshadow paper's purpose

In-Text Citations and Bibliography	All sources are accurately documented in the proper format, bibliography is complete and correctly formatted.	One or two improper citations, but all sources are credited; Bibliography complete but with one or two errors in formatting	Three or more errors in citations and bibliography. All sources are still credited.	Format is not followed

WORLD RELIGION- RELG 2115
QUIZ 1

Section 4. Essay Questions

Briefly answer each question. Make sure to completely answer each question, but do not worry about being lengthy. As a rule of thumb two sentences is too few, and ten is far too many.

1. What is your Vantage Point in studying religion (Consider your background as discussed in class)? How will this affect how you view other religions? Give two specific examples from material covered in class.

Rubric for Vantage Point Essay Question

10 – Student adequately describes background and how this may affect their view of other religions. Interacts with two examples from covered material. Writes in a clear succinct manner.

8-9 – Student describes background, addresses how this will affect their interaction with other religions. Gives one example that is clearly connected or two that are less clearly connected, or two that are not from covered material.

6-7 – Student describes background shows potential misunderstanding and gives examples of other religions but these are not clearly connected. Essay may be overly wordy.

4-5 – Does not cover one aspect of the question, wording is unclear.

3 – Thoughts are not clearly expressed.

1-2 – Two sentences or less, cannot adequately answer question.

0 – Question is blank.

Production Value/Personal Value, to assess *Communication skill* and aspects of *Personal Responsibility*

Criterion	Poor	Fair	Good	Excellent
Sense of need for material organization.	Student displays little sense that planning production work is part of creating a message.	Student begins to ask, "How can I do this?" and expresses ideas about possible first steps.	Student begins sequencing the work, project managing and multi-tasking.	Student integrates production issues– positive and negative– with artistic process and content issues to create a message.
Sense of need for a personal motivation for creating a work of art or message.	Student's thoughts seem random. Even a positive energy of spontaneity is not yet in play.	Student reveals they are pondering, "What do I want to say? Why?	Student begins to outline a larger shape, structure or thesis and also asks, "Who is my audience?"	Student draws connections between what is filmed on the set with what ultimately will get expressed in the final edit. Student evaluates the whole process, wrangles intent and effect.
Sense of the relative importance of production value.	Student is unaware that any precision is necessary to avoid poor quality of sound and photography.	Student is aware that there is good and bad sound and photography which will be perceived by an audience.	Student knows to do their best with the skills they have and to learn more in the process. Student begins to concentrate more on content than skill.	Student deploys their skill level and can trace effort to a desired, quality outcome.

Sense of relative importance of emotional impact, content and personal motivation.	Student seems to think that the measure of a successful expression is only about production value.	Student considers placing a desired content outcome above production value. Let's message and/or emotion take precedence if necessary.	Student places a desired outcome above production value and begins to value their own personal reasons to power the project through.	Student is creatively resourceful and uses the material limitations and scarcity to their advantage, confident that clarity of message and/or emotion will connect to an audience.

Semester: Spring 2020 Faculty: _____

Chart for assessing the outcome of the Final Project in MUSC 1160 - Music Theory I

Critical Thinking Component	Underdeveloped	Satisfactory	Advanced
Problem Setting: Student is able to delineate a problem or question. For example: How do I write (compose) in 4-part Harmony			
Evidence Acquisition: Students are able to utilize their accumulated knowledge/ information to address the problem of Identifying Chords, Harmony, and then write for 4 Voice parts.			
Evidence Evaluation: voice ranges acknowledged, movement of notes addressed, Stem direction of Notes accurate, Rules of Part-Writing observed.			
Reasoning/Conclusion: Student can bring all the Elements of Music and Part-Writing together in a composition in 4-Part Harmony.			

CATEGORY	2 points (D)	3 points (C)	4 points (B)	5 points (A)
Assignment	Shows little or no command of the use of photographic equipment and techniques to attain a few or none of the assignment parameters. Is more of a snapshot lacks originality and shows little personal involvement in work. Shows Little creative approach to the assignment.	Shows some command of the use of photographic equipment and techniques to attain some of the assignment parameters. Photo departs from the instructions but still is a good photo - OR - Photo follows instructions but the photo does not present a good solution	Shows good command of the use of photographic equipment and techniques to attain most of the assignment parameters. Shows a good approach to the assignment.	Shows mastery in the use of photographic equipment and techniques to attain the assignment parameters. Shows creative approach to the assignment. Expansion on the basic requirements.
Technical - Shutter	Photo is snapshot quality with motion blur from holding the camera incorrectly, too low a speed, or lack of tripod Shutter speed is not a good choice for the subject or composition (too fast or too slow) Student does not understand the meaning of the numbers on the shutter speed dial and their relationship to time and motion	Shutter speed is not optimal to capture the required amount of blur or stop motion for the subject Shutter not depressed at the right time to capture the peak of action Student knows the shutter speed range needed to create the shot	Good choice of shutter speed to control the motion in the photo Photo has minor technical points that distract from the message. Blur is OK if it adds to the message but not if it distracts. Student has clear understanding of the numbers on the shutter speed dial	Excellent choice of shutter to control motion in the photo Student understands the relationship between shutter speed numbers and time/light Student has recorded the Shutter speed that was used for the shot
Technical - Aperture	Photo is snapshot quality with blur from lack of proper focus, holding the camera incorrectly, or lack of tripod F-stop is wrong choice for the subject or composition (depth of field) Student does not understand the meaning of the f-stop numbers or the relationship of the aperture to light and depth of field.	F-stop is not optimal to capture the required depth of field for the subject Student knows the f-stop range needed to create the shot	Choice of f-stop provides good depth of field for the subject Photo has minor technical points that distract from the message. Smaller or larger depth of field is needed. Student has clear understanding of the f-stop numbers and relationship of aperture to light and depth of field.	F-stop provides excellent depth of field for this subject and composition Student has solid understanding of the f-stop numbers and relationship of aperture to light and depth of field. Student knows f-stop used for the shot

Technical - ISO, Lighting, Focus	Too much noise in the photo / improper ISO Photo is underexposure or overexposed Photo is blurry or improperly focused Exposure is a problem that is something that photographer should have managed but appears to have not paid attention to problems.	Photo seems to have been set on auto where control of ISO, flash, exposure, focus and shutter or aperture are not managed. Photo could use more attention to exposure, lighting, focus or some camera adjustment that was possible at the time of the shot or after in the software.	Photo has good contrast & range of values. Good camera settings used. Focus is proper for subject/shot Lighting is adequate or has been managed using flash or fill or different camera angle	Photos that have excellent contrast & range of values. Proper camera settings used. Sharp focus on primary object or center of interest, properly exposed to reveal texture in both shadows and highlights as needed.
Composition	Photo is cluttered, No compositional concepts. No connection to the Elements and Principles of ART. Photo is a snapshot with what appears to have been little thought to subject placement. Appears to have been a reaction photo where the subject has been placed dead center. Framing needs major readjustment.	Photo is cluttered. Compositional concepts are used with minimal success. Little connection to the Elements and Principles of ART. No clear center of interest. Photo has many different eye catching elements that confuse the message of the photo. Detail errors such as a slanted horizon or not being close enough to the subject distract from impact of photo. Framing needs definite adjustments.	Simple & uncluttered. Some compositional concepts used to enhance the subject. Good connection to the Elements and Principles of ART. Photo has clear center of interest where the viewer's eye moves. Minor changes such as cropping or a slight change in camera angle would make photo better. Framing needs some slight adjustment.	Simple & uncluttered. Rule of 3rds used, other compositional concepts considered. Excellent connection to the Elements and Principles of ART. Photo has assembled elements well. Good camera angle and choice of vantage point, good selection between vertical or horizontal orientation, close enough to subject to include only necessary elements, cropped if necessary, good use of frame, placement of center of interest, rule of thirds used correctly, horizon is level. Attention to detail is obvious with few distractions from center of interest seen in photo. Photo clearly shows thought. Framing is superb.

Introduction to Photography: Self Evaluation Rubric

Assignment:_____ Date:_____

Subject Matter/Focal Point/Message	Photo is snapshot that only has a value to the person who took the photo or perhaps to those who are in the photo. Casual observers of the photo get no message or find little excitement in image. Most visual elements need to be rethought - framing needs major readjustment. Lacks originality and shows little or no evidence of trying anything unusual. Photo does not show a creative approach to the assignment.	Photo is difficult to understand why it was taken or message it wants to share. The center of interest is hard to find. Subject and photo just doesn\\'t have much impact. You might walk right past it if it was on the wall. Many visual elements need to be added, moved or removed - framing needs definite adjustments.	Photo has made an attempt at having a message but there are minor distractions in composition or technical errors A visual element needs to be added, moved or removed - framing needs some slight adjustment. The student has explored creative solutions to the assignment.	Photo has a clear message and communicates well. This photo shows emotion or tells a story or draws you into it in a way you enjoy looking at it. Looking at impact this photo attracts your attention. If you walk by it you will stop. Shows strong internal integrity of the visual elements. Nothing needs to be added or removed - framing is superb. Image demonstrates a very creative approach to the assignment: student has expanded on the basic requirements. It is clear that the student explored several choices/solutions to the assignment.
Technical Editing - Use of Adobe Bridge and PhotoShop	Shows little or no command of the use of camera and PhotoShop techniques. Photo is wrong resolution, size, and format	Shows some command of the use of camera and PhotoShop techniques. Photo is right for most categories of resolution, size, or format	Shows good command of the use of camera and PhotoShop. Photo is correct resolution, size, or format	Shows mastery in the use of camera and PhotoShop techniques. Photo is correct resolution, size, or format

Application Paper Rubric

Grading will be based on the following rubric. Each assignment will be worth 80 points (160 points total for both Assignments #1 and #2).

1. What is the example and concept? Include an APA-format reference citation on where you retrieved the example. You must clearly indicate where you found this material since you cannot use material that has been selected by someone else. (**20 points for example, APA reference citation, and originality/creativity of the example itself**).
2. What is the concept that this relates to? Define, describe, and explain the psychological concept that relates to your example, in your own words. Indicate where in the book you found the definition for this concept, but put the concept into your own words - you must use the book, not Wikipedia or other unreliable sources. Direct quotes are not permitted and will earn no credit. This part of the assignment shows that you can put a concept into your own words. (**20 points for correctness and completeness of the concept definition**).
3. Apply the concept to your example. Explain, IN DETAIL, how this item/example you found relates to the particular psychological concept. Are there any errors in the example (with respect to the developmental psychology concept)? Identify them and explain how they are wrong. You will be graded based on relevance of the example to the course concept, accuracy of description, depth of coverage, and writing (spelling and grammar). Assume that the course instructor doesn't know the topic. Keep in mind that your example doesn't have to be "perfect." As long as you explain any shortcomings of your example, you can still earn full credit. The goal is to show that you can see examples of course concepts in the real world, and you can assess how accurate/inaccurate they may be. **(40 points for correctness and completeness**)

Grading Rubric – Applying Developmental Psychology Concepts to Real Life

Reference and Item (20 pts)					
	Exemplary	**Adequate**	**Attempted**	**Minimal/None**	**Score:**
Item	Item posted and item clearly described in own words, with relevant detail. (10 pts)	Item posted and item briefly described in own words (lacking detail or clarity). (6-9 pts)	Item posted with no real description used or description from another source (2-5 pts)	Item used from a site that defines concept already or have already used same type of item on other Application Paper (0 pts)	
Reference	APA style with no errors (10 pts)	APA style with 2-3 errors (7-9 pts)	APA style with more than 3 errors (4-6 pts)	No reference given (0 pts)	
Content: The Concept (20 pts)					
Concept	A specific concept from the textbook was selected and clearly explained in detail. (15 pts)	A specific concept was selected but not clearly explained and/or explained in detail. (10-14 pts)	The concept cited is incomplete and/or confusing. (5-11 pts)	No specific concept listed, incorrect explanation of concept, or just a vague idea given. Or, same concept was used for both Application Papers. (0-4 pts)	
Location in text	Associated page number(s) or location from the course textbook. (5 pts)	Location information from course textbook isn't specific but location is given. (3-4 pts)	Location information from course textbook is given but is incorrect. (1-2 pts)	Location information from course textbook isn't given. (0 pts)	
The Solution (40 pts)					
	Presented clear and accurate reasons that shows the direct	Discussed but did not clearly explain why the example	Presented very weak and vague reasons and/or irrelevant or	No convincing reasons presented to support or connect the example to the	

	application of the concept to the real-world issue. (40 pts)	demonstrates the concept (30-39 pts)	confusing reasons as to why the example demonstrates the concept (20-29 pts)	concept, incorrect reason given, or NO reason given (0-10 pts)	
Points may also be REMOVED for Mechanics: Writing, grammar and fluency.					
Organization	Writing includes a strong, beginning, middle, and end with clear transitions and a focused conclusion (no points lost)	Writing includes a weak beginning, middle, and end, with some transitions and good closure (up to 2 points lost).	Writing is confused and loosely organized. Transitions are weak and closure is ineffective. (up to 4 points lost)	Writing is disorganized and underdeveloped with no transitions or closure. (up to 6 points lost)	
Sentence fluency	The sentences are clear, complete, and of varying lengths. (no points lost)	Most of the sentences are well-constructed. (up to 2 points lost for minor errors).	The sentences are sometimes awkward, and/or contain run-ons and fragments. (up to 4 points lost for moderate errors).	Many run-ons, fragments and awkward phrasings make the essay hard to read or incomplete sentences. (up to 6 points lost for significant errors).	
Grammar	Correct grammar, spelling, and punctuation used. (no points lost)	Mostly correct grammar with 1-4 errors that should have been fixed before submitting. (up to 2 points lost).	There are enough errors (5-10) in the essay to distract a reader. (up to 4 points lost).	There are numerous errors (more than 10) that make this essay hard to read. (up to 6 points lost).	
Length	Each of the sections is at	One of the sections is	All of the sections are less		

	least one complete paragraph long. Paragraphs should include a topic sentence, several supporting sentences, and possibly concluding sentences. (no points lost)	shorter than a complete paragraph. (up to 4 points lost).	than a complete paragraph. (up to 6 points lost).		

Rubric integration with essential skills outcomes.

Rubric Dimension	**Explanation**	**Essential Skills Outcome (ESO)**
Item	Selecting an example of a concept	Communication: Application and Versatility Critical Thinking: Evidence acquisition
Item Reference	Providing an APA-formatted reference	Communication: Genre and Media Awareness
Concept	Explain the related concept in your own words.	Critical Thinking: Evidence acquisition
Location in Text	Identify where in the textbook you located the concept.	Critical Thinking: Evidence acquisition
The Solution	Provide an explanation for why your example is an example of a developmental psychology concept.	Communication: Application and Versatility, evaluation and production of argument. Critical thinking: Evidence acquisition, Reasoning/conclusion
Mechanics	Organization, Sentence Fluency, Grammar, Length	Communication: Application and Versatility, Strategies for Understanding and Evaluating Messages.

Name Discussion Forum Rubric

Description

Rubric Detail

Levels of Achievement

Criteria	Excellent	Good	Average	Below Expectations	Fails to Meet Expectations
Content	**23 to 25 points** Addresses all parts of the question in detail.	**20 to 22.5 points** Covers most of the key points.	**17.5 to 19.75 points** Covers basics but has left out some parts of the questions or hasn't completely addressed some parts	**15 to 17.25 points** Has left out key parts of the questions and/or has not fully understood the questions	**0 to 14.75 points** Does not address the questions or did not complete assignment
Organization and Clarity	**23 to 25 points** Ideas are very clearly organized and expressed	**20 to 22.5 points** Ideas are reasonably well organized and expressed	**17.5 to 19.75 points** Ideas are fairly well organized and/or expressed but need some improvement	**15 to 17.25 points** Ideas are poorly organized and/or expressed	**0 to 14.75 points** Very poor organization and/or expression, or did not complete the assignment
Replies	**23 to 25 points** At least two meaningful replies of 3 or more sentences that add something new to the discussion	**20 to 22.5 points** At least two replies but shorter in length or don't add new ideas to the discussion	**17.5 to 19.75 points** Only one reply, or replies are too brief or lacking in substance	**15 to 17.25 points** No replies or only one reply that does not add to the discussion	**0 to 14.75 points** No replies or did not complete assignment
Grammar	**23 to 25 points** Almost no errors in spelling, grammar, punctuation, and capitalization. Writing style is appropriate to the assignment.	**20 to 22.5 points** A few errors but none are critical to comprehension	**17.5 to 19.75 points** Some errors that may affect comprehension or readability	**15 to 17.25 points** Many errors that affect comprehension	**0 to 14.75 points** Errors make comprehension very difficult or impossible, or did not complete assignment

Critical Thinking Rubric for MUSC 1130.

Semester: Faculty:

Use this chart to evaluate your section of Music Appreciation. This can be done during the midterm or final while grading the "period identification" section of the tests.

Critical Thinking Assessment	Failure to show appropriate ability in area	Shows adequate but not exceptional ability in area	Shows exceptional ability in area
Problem Setting Ability to form appropriate problems/questions Example: What musical characteristics belong in each period?			
Evidence Acquisition Ability to identify necessary information to address problems/questions Example: A harpsichord is playing while a vocalist sings.			
Evidence Evaluation Ability to properly examine acquired evidence. Example: This is monody in a recitative style. The vocalist is singing Italian.			
Reasoning Ability to reach conclusions that show well-reasoned appraisal of the evidence. Example: Monody and Italian recitative are both present in baroque music. The harpsichord was a staple instrument of baroque music. These three facts put this music in the Baroque period.			

Mateo Frazier

Student: _____

Rubric: Film Analysis Essay

Students view film versions of Hamlet while identifying, analyzing, and interpreting the techniques used in the film to achieve the director's purpose.

Film Analysis

Compare and Contrast Scenes talking about strategies implemented to drive the film.

	Poor Student has not achieved mastery of analysis 3 pts	Fair Student has some mastery of analysis 6 pts	Good Student has good mastery of analysis 8 pts	Excellent Student has excellent mastery of analysis 10 pts
Invention Since invention concerns finding something to say, audience and purpose are addressed her as well as your central argument (Thesis)	Poor Student has not identifed the audience and has not constructed a clear thesis or central argument.	Fair Student has identified the audience and suggested the central argument, but has not convinced the reader of the purpose.	Good Student has identified the audience and stated the central argument by giving a thesis with support.	Excellent Student has clearly identified the audience and clearly stated the central argument. Writer's purpose is clear to the reader.
Analysis of Strategies Student has chosen a selection of strategies to analyze and has given examples from the film	Poor Student has not successfully identified the strategies employed by the director.	Fair Student has identified some of the strategies employed by the director and alluded to examples of same.	Good Student has identified several of the strategies employed by the director and has given some examples.	Excellent Student has clearly identified several strategies employed by the director and has given clear examples for each.
Film techniques Student has identified film techniques and explained the purpose in the documentary	Poor Student is not aware of the film techniques employed in films.	Fair Student has some awareness of the film techniques employed in films.	Good Student has good awareness of the film techniques employed in films.	Excellent Student has excellent awareness of the film techniques employed in films.
Organization Student has effectively organized his or her ideas in a logical, persuasive manner.	Poor Student has not mastered the art of organization in the essay. Ideas are not logically presented and fluency is an issue. Topic sentences are not clear - no transitions.	Fair Student has a planned structure to the essay, hoewever, it issomewhat mechanical and lacks fluency. Needs better transition and topic sentence.	Good Student has a good structure - Topic sentences introduce main ideas and transistions serve purpose of movement from one idea to the next.	Excellent Student has an ecellent structure - Excellent fluency with creative topic sentences and meaningful transitions
Grammar, Usage and Mechanics Student has written with style and maturity, varied sentence structure, vocabulary, and effective compositional choices. Free of spelling, punctuation, and grammar errors.	Poor Student lacks style and mature prose for senior level writing. Proofread and correct spelling, punctuation and grammar errors.	Fair Student demonstrates adequate style and mature prose. Some variation in sentence structure. Mostly free of grammatical/ usage/ mechanical errors	Good Student demonstrates good style and mature prose. Good variation in sentence structure. Free of grammatical/ usage/ mechanical errors	Excellent Student demonstrates excellent style and mature prose. Excellent variation in sentence structure and a firm grasp of appropriate grammatical/ usage/ mechanical errors

Keywords: Rhetorical Strategies- Film Techniques - Central Argument

Subjects: English

Types: Writing

Rubric Code: MBC22W