

**NM HED Area I: Communications Competencies**  
**UNM Core Area 1: Writing and Speaking**

<b>Core Competency</b>	<b>Rationale</b>	<b>Assessment Suggestions</b>
<i>Students will:</i>	<i>Students should:</i>	
1. Analyze and evaluate oral and written communication in terms of situation, audience, purpose, aesthetics, and diverse points of view.	Understand, appreciate, and critically evaluate a variety of written and spoken messages in order to make informed decisions	<ul style="list-style-type: none"> <li>• rubric-based (e.g., holistic, criteria-based, skills assessments) evaluation of student written and oral discourse</li> <li>• portfolio (e.g., paper, digital, recorded performance) evaluations</li> <li>• journals</li> <li>• self-review</li> <li>• peer review</li> <li>• pre/post tests</li> <li>• capstone projects</li> <li>• skills tests</li> <li>• exit exams</li> <li>• core competency panel assessments</li> </ul>
2. Express a primary purpose in a compelling statement and order supporting points logically and convincingly.	Organize their thinking to express their viewpoints clearly, concisely, and effectively	
3. Use effective rhetorical strategies to persuade, inform, and engage.	Select and use the best means to deliver a particular message to a particular audience. Rhetorical strategies include but are not limited to modes (such as narration, description, and persuasion), genres (essays, web pages, reports, proposals), media and technology (PowerPoint™, electronic writing), and graphics (charts, diagrams, formats).	
4. Employ writing and/or speaking processes such as planning, collaborating, organizing, composing, revising, and editing to create presentations using correct diction, syntax, grammar, and mechanics.	Use standard processes for generating documents or oral presentations independently and in groups.	
5. Integrate research correctly and ethically from credible sources to support the primary purpose of a communication.	Gather legitimate information to support their ideas without plagiarizing, misinforming, or distorting.	
6. Engage in reasoned civic discourse while recognizing the distinctions among opinions, facts, and inferences.	Negotiate civilly with others to accomplish their goals and to function as responsible citizens	

**NM HED Area II: Mathematics (Algebra Competencies)**  
**UNM Core Area 2: Mathematics**

<b>Core Competency</b> <i>Students will:</i>	<b>Rationale/Elaboration</b> <i>Students should:</i>	<b>Assessment Suggestions</b>
1. Graph functions.	<ol style="list-style-type: none"> <li>1. Sketch the graphs of linear, higher-order polynomial, rational, absolute value, exponential, logarithmic, and radical functions.</li> <li>2. Sketch a graph using point plotting and analysis techniques, including basic transformations of functions such as horizontal and vertical shifts, reflections, stretches, and compressions.</li> </ol> <ul style="list-style-type: none"> <li>• Determine the vertex, axis of symmetry, maximum or minimum, and intercepts of a quadratic function.</li> </ul>	<ul style="list-style-type: none"> <li>• Pre/post tests</li> <li>• Test/quiz questions</li> <li>• Routine use of an accepted Classroom Assessment Technique (CAT)</li> <li>• Oral presentations</li> <li>• Written presentations</li> <li>• Student-created portfolios</li> <li>• Capstone projects</li> <li>• Peer review</li> <li>• Student self-assessments</li> <li>• Group research and presentations on real-life problems analyzed/solved by using algebra</li> </ul>
2. Solve various kinds of equations.	<ul style="list-style-type: none"> <li>• Solve quadratic equations using factoring, completing the square, the square root method, and the quadratic formula.</li> <li>• Solve exponential and logarithmic equations.</li> <li>• Solve systems of two or three linear equations.</li> </ul>	
3. Demonstrate the use of function notation and perform operations on functions.	<ul style="list-style-type: none"> <li>• Find the value of a function for a given domain value.</li> <li>• Add, subtract, multiply, divide and compose functions.</li> <li>• Determine the inverse of a function.</li> <li>• Compute the difference quotient for a function.</li> <li>• Correctly use function notation and vocabulary related to functions, i.e. domain, range, independent variable, odd, even, symmetry, etc.</li> </ul>	
4. Model/solve real-world problems.	<ul style="list-style-type: none"> <li>• Use and understand slope as a rate of change.</li> <li>• Use equations and systems of equations to solve application problems.</li> <li>• Apply knowledge of functions to solve specific application problems.</li> <li>• Solve compound interest problems.</li> <li>• Solve application problems involving maximization or minimization of a quadratic function.</li> <li>• Solve exponential growth &amp; decay problems.</li> </ul>	

**NM HED Area II: Mathematics (Calculus Competencies)**  
**UNM Core Area 2: Mathematics**

<b>Core Competency</b> <i>Students will:</i>	<b>Rationale/Elaboration</b> <i>Students should:</i>	<b>Assessment Suggestions</b>
1. Demonstrate an understanding of the theoretical, geometrical underpinnings of the calculus.	Algebraically and graphically demonstrate an understanding of: <ul style="list-style-type: none"> <li>• Limit</li> <li>• Tangent line</li> <li>• Difference quotient</li> <li>• Fundamental theorem of calculus</li> <li>• Riemann sums</li> </ul>	<p><b>Assessment Suggestions</b></p> <ul style="list-style-type: none"> <li>• Pre/post tests</li> <li>• Test/quiz questions</li> <li>• Routine use of an accepted Classroom Assessment Technique (CAT)</li> <li>• Oral presentations</li> <li>• Written presentations</li> <li>• Student-created portfolios</li> <li>• Capstone projects</li> <li>• Peer review</li> <li>• Student self-assessments</li> <li>• Group research and presentations on real-life problems analyzed/solved by using calculus</li> </ul>
2. Use concepts of function, limit, continuity, derivative, and integral.	Apply the theory of calculus through manipulations involving: <ul style="list-style-type: none"> <li>• The finding of limits</li> <li>• Using differentiation techniques</li> <li>• Working with transcendental &amp; trigonometric functions</li> <li>• Determining points of discontinuity and intervals of continuity</li> </ul>	
3. Apply methods of calculus to optimization, graphing, and approximation.	Be able to: <ul style="list-style-type: none"> <li>• Find extreme points</li> <li>• Understand the graphs of a function and its 1<sup>st</sup> and 2<sup>nd</sup> derivatives and how they relate</li> <li>• Apply Newton's method</li> <li>• Use differentials to approximate functions</li> </ul>	
4. Apply differential and integral calculus to problems in geometry, physics, and other fields.	<ul style="list-style-type: none"> <li>• Understand that calculus has many uses in science, business, and other fields.</li> <li>• Solve application problems involving rates of change, optimization, related rates, and acceleration/velocity.</li> </ul>	

**NM HED Area II: Mathematics**  
**(Other College-Level Mathematics Competencies)**  
**UNM Core Area 2: Mathematics**

<b>Core Competency</b> <i>Students will:</i>	<b>Rationale</b> <i>Students should:</i>	<b>Assessment Suggestions</b>
1. Display, analyze, and interpret data.	Discriminate among different types of data displays for the most effective presentation, draw conclusions from the data presented, and analyze the implications of the conclusions to real life situations.	<ul style="list-style-type: none"> <li>• Pre/post tests</li> <li>• Test/quiz questions</li> <li>• Routine use of an accepted Classroom Assessment Technique (CAT)</li> <li>• Oral presentations</li> <li>• Written presentations</li> <li>• Student-created portfolios</li> <li>• Capstone projects</li> <li>• Peer review</li> <li>• Student self-assessments</li> </ul>
2. Demonstrate knowledge of problem-solving strategies.	For a given problem, gather and organize relevant information, choose an effective strategy to solve the problem, and express and reflect upon the reasonableness of the solution to the problem.	
3. Construct valid mathematical explanations.	Use mathematics to model and explain real life processes.	
4. Display an understanding of the development of mathematics.	Recognize that mathematics has evolved over centuries and that our current body of knowledge has been built upon contributions of many people and cultures over time.	
5. Demonstrate an appreciation for the extent, application, and beauty of mathematics.	Recognize the inherent value of mathematical concepts, their connection to structures in nature, and their implications for everyday life.	

**NM HED Area III: Laboratory Science Competencies**  
**UNM Core Area 3: Physical and Natural Sciences**

<b>Competency</b>	<b>Rationale</b>	<b>Assessment Suggestions</b>
<i>Students will:</i>	<i>Students should:</i>	
1. Describe the process of scientific inquiry.	Understand that scientists rely on evidence obtained from observations rather than authority, tradition, doctrine, or intuition. Students should value science as a way to develop reliable knowledge about the world.	Presentation of case studies, problems, and/or laboratory exercises that call for the student to apply the “scientific method.”
2. Solve problems scientifically.	Be able to construct and test hypotheses using modern laboratory equipment (such as microscopes, scales, and computer technology) and appropriate quantitative methods. Students should be able to evaluate isolated observations about the physical universe and relate them to hierarchically organized explanatory frameworks (theories).	Presentation of case studies, problems, and/or laboratory exercises that call for the student to construct and test hypotheses related to the scientific discipline they have elected to study.
3. Communicate scientific information.	Communicate effectively about science (e.g., write lab reports in standard format and explain basic scientific concepts, procedures, and results using written, oral, and graphic presentation techniques).	Require written and oral work to be evaluated according to college level writing criteria, as well as the standards of the field being studied.
4. Apply quantitative analysis to scientific problems.	Select and perform appropriate quantitative analyses of scientific observations. Students should show familiarity with the metric system, use a calculator to perform appropriate mathematical operations, and present results in tables and graphs.	Presentation of case studies, problems, and/or laboratory exercises that call for the student to apply appropriate quantitative techniques for the level and type of material being covered.
5. Apply scientific thinking to real world problems.	Critically evaluate scientific reports or accounts presented in the popular media, understand the basic scientific facts related to important contemporary issues (e.g., global warming, stem cell research, cosmology), and ask informed questions about those issues.	Presentation of case studies, problems, and/or laboratory exercises that call for the student to critically evaluate scientific accounts from the popular media. Exam questions should call upon higher-order thinking rather than rote knowledge.

**NM HED Area IV: Social and Behavioral Sciences Competencies**  
**UNM Area 4: Social and Behavioral Sciences**

<p align="center"><b>Core Competency</b></p> <p><i>Students will:</i></p>	<p align="center"><b>Rationale</b></p> <p><i>Students should:</i></p>	<p align="center"><b>Assessment Suggestions</b></p>
<p>1. Identify, describe and explain human behaviors and how they are influenced by social structures, institutions, and processes within the contexts of complex and diverse communities.</p>	<p>Develop an understanding of self and the world by examining the content and processes used by social and behavioral sciences to discover, describe, explain, and predict human behavior and social systems.</p>	<p>Essays, examinations requiring analysis of information, problem based applications, research projects, laboratory experiments.</p>
<p>2. Articulate how beliefs, assumptions, and values are influenced by factors such as politics, geography, economics, culture, biology, history, and social institutions.</p>	<p>Enhance their knowledge of social and cultural institutions and the values of their society and other societies and cultures in the world.</p>	<p>Comparative &amp; problem based essays, examinations requiring analysis of information, research projects.</p>
<p>3. Describe ongoing reciprocal interactions among self, society, and the environment.</p>	<p>Understand the interdependent nature of the individual, family/social group, and society in shaping human behavior and determining quality of life.</p>	<p>Comparative &amp; problem based essays, portfolios, research projects, laboratory experiments, fieldwork.</p>
<p>4. Apply the knowledge base of the social and behavioral sciences to identify, describe, explain, and critically evaluate relevant issues, ethical dilemmas, and arguments.</p>	<p>Articulate their role in a global context and develop an awareness and appreciation for diverse value systems in order to understand how to be good citizens who can critically examine and work toward quality of life within a framework of understanding and justice.</p>	<p>Problem based projects, research projects, essays, examinations requiring analysis of information, fieldwork.</p>

**NM HED Area V: Humanities and Fine Arts Competencies**  
**UNM Core Areas 5 & 7: Humanities, Fine Arts**

<p align="center"><b>Core Competency</b></p> <p><i>Students will:</i></p>	<p align="center"><b>Rationale</b></p> <p><i>Students should:</i></p>	<p align="center"><b>Assessment Suggestions</b></p>
<p>1. Analyze and critically interpret significant primary texts and/or works of art (this includes fine art, literature, music, theatre, &amp; film).</p>	<p>Possess an understanding of the present that is informed by an awareness of past heritages in human history, arts, philosophy, religion, and literature, including the complex and interdependent relationships among cultures.</p>	<ul style="list-style-type: none"> <li>• Pre/post tests</li> <li>• Journals</li> <li>• Portfolios</li> <li>• Public Debates</li> <li>• Essays</li> <li>• Visual / Audio Identification</li> <li>• Videos</li> <li>• Recitals</li> <li>• Performances</li> <li>• Documentation of service learning</li> <li>• Presentations: Performance, time-based</li> <li>• Final Exams</li> <li>• Log of On-line Discussions</li> <li>• Graphic Productions (charts, diagrams, timelines, etc.)</li> <li>• Peer review/self review.</li> </ul>
<p>2. Compare art forms, modes of thought and expression, and processes across a range of historical periods and/or structures (such as political, geographic, economic, social, cultural, religious, and intellectual).</p>	<p>Note: For the purposes of the Humanities and Fine Arts requirement, courses will come from the areas of History, Philosophy, Literature, Art, Dance, Music, Theatre and those offerings from other disciplines that also include, among other criteria, analytical study of primary texts and/or works of art as forms of cultural and creative expression. This requirement does not include work in areas such as studio and performance courses that are primarily skills-oriented.</p>	
<p>3. Recognize and articulate the diversity of human experience across a range of historical periods and/or cultural perspectives.</p>		
<p>4. Draw on historical and/or cultural perspectives to evaluate any or all of the following: contemporary problems/issues, contemporary modes of expression, and contemporary thought.</p>		
<p>5. <i>UNM addition:</i> Identify, analyze, and apply criteria for making aesthetic judgments in at least one field of the fine arts and in at least one field of the humanities.</p>		

**UNM Core Area 6: Non-English Language  
(No Corresponding NM HED Area)**

<b>Core Competency</b>	<b>Rationale</b>
<i>Students will:</i>	<i>Students should:</i>
1. In a language other than English, express and understand simple concepts and basic information relating to daily activities and culture.	Acquire adequate familiarity with a non-English language to communicate at a basic level, with sensitivity to social and cultural norms.
2. Demonstrate knowledge of basic cultural expressions, values, and practices.	In addition to language skills, students should become familiar with the social and cultural context of the communities where the language is practiced today.
3. Evaluate the social implications of differences within and between language communities.	Recognize and respect linguistic diversity in the target cultures.
4. Demonstrate knowledge of basic historical facts from the target culture.	Understand the broad historical background of the target language itself (its origins and its distribution) and of the cultures in which the language is spoken, in order to inform the student's understanding of the language's current cultural context.