

Core Competencies Assessment 2008-2009: Area I Courses

The University of New Mexico-Valencia

Communications Competencies

<u>State Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	How Results Will Be Used To Make Improvements	(Optional) Recommendations/Goals/ Priorities
<p>1. Students will analyze and evaluate oral and written communication in terms of situation, audience, purpose, aesthetics, and diverse points of view. Students should: Understand, appreciate, and critically evaluate a variety of written and spoken messages in order to make informed decisions.</p>	<p>A.1. ENGL 101 Composition I (NMCCN=ENGL 1113) Fall 08 Piloted multiple choice (M-C) Grammar Competency test to assess seven subskills. Spring 09 Revised M-C Grammar Competency test administered pre/post to all 101 students (N=212) in first and last week of term, machine scored. All seven subskills assessed address Competency #4.</p>	<p>A.1. Not measured in this cycle. A.2. Not measured in this cycle.</p>	<p>A.1. Based on Fall 08 pilot, English faculty committee reviewed and revised the questions to strengthen the test validity re-administering the test Spring 09. A.2. Based on Spring 2009 pilot, revised sections of the test, eliminated a section, and moved administration from Scantron to WebCT. The faculty also will use an Essay Competency Portfolio to be scored by a panel using a rubric measuring nine criteria.</p>	<p>A.1. Will use “Essay Competency Portfolio” to assess fragments subskill in future.</p>
		<p>A.1. Not measured in this cycle. A.2. Not measured in this cycle.</p>		
<p>2. Students will express a primary purpose in a compelling statement and order supporting points logically and convincingly. Students should: Organize their thinking to express their viewpoints clearly, concisely, and effectively.</p>	<p>A.2. ENGL 102 Composition II: Analysis and Argumentation (NMCCN=ENGL 1123) Spring 09 piloted Grammar Competency Exam to measure sentence fragments to assess improvement over Engl 101 outcomes.</p>	<p>A.1. Not measured in this cycle. A.2. Not measured in this cycle.</p>		
<p>3. Students will use effective rhetorical strategies to persuade, inform, and engage. Students should: 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 (Continued)</p>		<p>A.1. Not measured in this cycle. A.2. Not measured in this cycle.</p>		

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(essays, web pages, reports, proposals), media and technology (PowerPoint™, electronic writing), and graphics (charts, diagrams, formats).				
<p>4. Students will 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. Students should: Use standard processes for generating documents or oral presentations independently and in groups.</p>		<p>A.1. Pretest: 58.3% of students scored adequate or better on Competency #4. Post-test: 66.5% of students scored adequate or better on Competency #4.</p> <p>A.2. Results not made available.</p>		
<p>5. Students will integrate research correctly and ethically from credible sources to support the primary purpose of a communication. Students should: Gather legitimate information to support ideas without plagiarizing, misinforming or distorting. (Continued)</p>		<p>A.1. Not measured in this cycle</p> <p>A.2. Not measured in this cycle.</p>		

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<p>6. Students will engage in reasoned civic discourse while recognizing the distinctions among opinions, facts, and inferences. Students should: Negotiate civilly with others to accomplish goals and to function as responsible citizens. End -- Area I</p>		<p>A.1. Not measured in this cycle. A.2. Not measured in this cycle.</p>		

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Core Competencies Assessment 2007-2008: Area II Courses

The University of New Mexico-Valencia

Mathematics - Algebra Competencies

<u>State Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	How Results Will Be <u>Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
<p>1. Students will graph functions Students should:</p> <p>a. Sketch the graphs of linear, higher-order polynomial, rational, absolute value, exponential, logarithmic, and radical functions.</p> <p>b. Sketch a graph using point plotting and analysis techniques, including basic transformations of functions such as horizontal and vertical shifts, reflections, stretches, and compressions.</p> <p>c. Determine the vertex, axis of symmetry, maximum or minimum, and intercepts of a quadratic equation.</p>	<p>A.1. Math 121 College Algebra (NMCCN=MATH 1113) Ten matching questions on final exam were scored for all students in all face-to-face sections of the course (N=61) in Spring and Summer 2009 to measure knowledge of appropriate math vocabulary addressing Competency #3.</p>	<p>A.1. Not measured in this cycle.</p>	<p>A.1. Two faculty members added conceptually-based questions into homework assignments in the Fall 2009 term. They will repeat the assessment at the end of Fall 2009 term to assess the impact of this instructional change.</p>	
<p>2. Students will solve various kinds of equations. Students should:</p> <p>a. Solve quadratic equations using factoring, completing the squares, the square root method, and quadratic formula.</p> <p>b. Solve exponential and logarithmic equations.</p> <p>c. Solve systems of two or three linear equations.</p>		<p>A.1. Not measured in this cycle.</p>		
<p>3. Students will demonstrate the use of function notation and perform operations on functions. Students should:</p> <p>a. Find the value of a function</p>		<p>A.1. 52% scored at acceptable or better level ($\geq 70\%$ correct) on this measure.</p>		

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The University of New Mexico-Valencia

Mathematics - Algebra Competencies

<u>State Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	How Results Will Be <u>Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
for a given domain value b. Add, subtract, multiply, divide and compose functions. c. Determine the inverse of a function. d. Compute the difference quotient for a function. e. Correctly use function notation and vocabulary related to functions, i.e. domain, range, independent variable, of, even symmetry, etc.				
4. Students will model/solve real-world problems. Students should: a. Use and understand slope as a rate of change. b. Use equations and systems of equations to solve application problems. c. Apply knowledge of functions to solve specific application problems. d. Solve compound interest problems. e. Solve application problems involving maximization or minimization of a quadratic function. f. Solve exponential growth and decay problems. End – Area II - Algebra		A.1. Not measured in this cycle.		

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Core Competencies Assessment 2007-2008: Area II Courses

The University of New Mexico-Valencia

Mathematics - Calculus I Competencies

<u>State Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	How Results Will Be Used <u>To Make</u> <u>Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
<p>1. Students will demonstrate an understanding of the theoretical, geometrical underpinnings of the calculus. Students should: Algebraically and graphically demonstrate an understanding of: a. Limit b. Tangent line c. Difference quotient d. Fundamental theorem of calculus e. Riemann sums</p>	<p>A.1. Math 162 Calculus I (NMCCN= Math 1614) Two questions on the final exam administered to all students (N=25) in one section measured students' ability to find limits graphically and algebraically, addressing competencies #1 and #2.</p>	<p>A.1. 77% of students scored at an acceptable level or better on competency #1.</p>	<p>A.1. Based on previous assessments, explanations of limits were done in a slower, more measured way, with increased discussion and interaction. Faculty will attempt to determine across multiple assessments of this competency whether this instructional change results in a measurable improvement in learning of this objective.</p>	
<p>2. Students will use concepts of function, limit, continuity, derivative, and integral. Students should: Apply the theory of calculus through manipulations involving: a. The finding of limits. b. Using differentiation techniques. c. Working with transcendental & trigonometric functions. d. Determining points of discontinuity and intervals of continuity.</p> <p style="text-align: center;">(Continued)</p>		<p>A.1. 77% of students scored at an acceptable level or better on competency #2.</p>	<p>A.1. See immediately above.</p>	

Core Competencies Assessment 2007-2008: Area II Courses

The University of New Mexico-Valencia

Mathematics - Calculus I Competencies

<u>State Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	<u>How Results Will Be Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
<p>3. Students will apply methods of calculus to optimization, graphing, and approximation. Students should be able to:</p> <ul style="list-style-type: none"> a. Find extreme points. b. Understand the graphs of a function and its 1st and 2nd derivatives and how they relate. c. Apply Newton’s method. d. Use differentials to approximate functions. 		A.1. Not measured in this cycle.		
<p>4. Students will apply differential and integral calculus to problems in geometry, physics, and other fields. Students should:</p> <ul style="list-style-type: none"> a. Understand that calculus has many uses in science, business, and other fields. b. Students should be able to solve application problems involving rates of change, optimization, related rates, and acceleration/velocity. <p>End Area II – Calculus I</p>		A.1. Not measured in this cycle.		

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Core Competencies Assessment 2008-2009: Area II Courses

The University of New Mexico-Valencia

Mathematics – Other College-Level Mathematics Competencies

<u>State Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	<u>How Results Will Be Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
<p>1. Students will display, analyze, and interpret data. Students should:</p> <ol style="list-style-type: none"> a. Discriminate among different types of data displays for the most effective presentation. b. Draw conclusions from the data presented. c. Analyze the implication of the conclusion to real life situations. 	<p>A.1 Math 215 Math for Elem. and Mid Schl Teachers III (NMCCN=N/A) One multiple part short answer question on the final exam was used to measure competencies 1 and 5 and two multi-part questions were used to assess competencies 2 and 3 for all students (N=13).</p> <p>A.2 Math 145 Intro to Statistics (NMCCN=2113) Three questions on a the final exam were used to assess Competency #1 and one multipart question on the final exam was used to assess performance on Competencies #2 and #3 for all students. (N=24)</p>	<p>A.1. 81% of students performed at an acceptable or better level on Competency #1.</p> <p>A.2. 90% of students performed at an acceptable or better level on Competency #1 in this course.</p>	<p>A.1 The course will be revised to focus more on interpretations (conceptual understanding) of calculation results.</p>	<p>A.2 This assessment was a pilot in one section. Faculty plan to expand the assessment to all sections of the course next year and create a rubric to normalize scoring.</p>
<p>2. Students will demonstrate knowledge of problem-solving strategies. Students should:</p> <ol style="list-style-type: none"> a. For a given problem, gather and organize relevant information. b. Choose an effective strategy to solve the problem c. Express and reflect on the reasonableness of the solution to the problem. 		<p>A.1. 90% of students performed at an acceptable level of better on Competency #2.</p> <p>A.2. 88% of students performed at an acceptable or better level on Competency #2 in this course.</p>		
<p>3. Students will construct valid mathematical</p>		<p>A.1. 90% of students performed at an acceptable level of better</p>		

Core Competencies Assessment 2008-2009: Area II Courses

The University of New Mexico-Valencia

Mathematics – Other College-Level Mathematics Competencies

<p>explanations. Students should: Use mathematics to model and explain real life problems.</p> <p style="text-align: center;">(Continued)</p>		<p>on Competency #2.</p> <p>A.2. 88% of students performed at an acceptable or better level on Competency #2 in this course.</p>		
<p>4. Students will display an understanding of the development of mathematics. Students should: Recognize that math has evolved over centuries and that our current body of knowledge has been built upon contributions of many people and cultures over time.</p>		<p>A.1. Not measured in this cycle.</p> <p>A.2. Not measured in this cycle.</p>		
<p>5. Students will demonstrate an appreciation for the extent, application, and beauty of mathematics. Students should: Recognize the inherent value of mathematical concepts, their connection to structures in nature, and their implications for everyday life.</p> <p style="text-align: center;">End – Area II Other Math</p>		<p>A.1. 81% of students performed at an acceptable or better level on Competency #5.</p> <p>A.2. Not measured in this cycle.</p>		

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Core Competencies Assessment 2008-2009: Area III Courses

The University of New Mexico-Valencia

Laboratory Science Competencies

<u>State Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	How Results Will Be Used <u>To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/Priorities
<p>1. Students will describe the process of scientific inquiry. Students should:</p> <ul style="list-style-type: none"> a. Understand that scientists rely on evidence obtained from observations rather than authority, tradition, doctrine, or intuition. b. Students should value science as a way to develop reliable knowledge about the world. 	<p>A.1. BIOL 123 Biology for Hlth-Related Sciences/Non-Majors (NMCCN=BIOL 1113) All students in two sections of the course (N=74) responded to 20 MC questions designed to assess their understanding of the mechanisms of inheritance (Competency #3) on a mid-term exam.</p>	<p>A.1. Not measured in this cycle.</p>	<p>A.1. The faculty member hypothesizes that improved results on this assessment may be due in part to a shift in the semester assessed to a more student-centered instructional design and more active student learning. Results will be shared at the next department meeting.</p>	
<p>2. Students will solve problems scientifically. Students should:</p> <ul style="list-style-type: none"> a. Be able to construct and test hypotheses using modern lab equipment (such as microscopes, scales, computer technology) and appropriate quantitative methods. (Continued) b. Be able to evaluate isolated observations about the physical universe and relate them to hierarchically organized explanatory frameworks (theories). 		<p>A.1. Not measured in this cycle.</p>		

Core Competencies Assessment 2008-2009: Area III Courses

The University of New Mexico-Valencia

Laboratory Science Competencies

<u>State Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	How Results Will Be Used <u>To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/Priorities
3. Students will communicate scientific information. Students should: Communicate effectively about science (e.g., write lab reports in standard format and explain basic scientific concepts, procedures, and results using written, oral, and graphic presentation techniques.)		A.1. 75% of responses were scored at an acceptable or better level on Competency #3.		
4. Students will apply quantitative analysis to scientific problems. Students should: a. Select and perform appropriate quantitative analyses of scientific observations. b. Show familiarity with the metric system, use a calculator to perform appropriate mathematical operations, and present results in tables and graphs. (Continued)		A.1. Not measured in this cycle.		
5. Students will apply scientific thinking to real world problems. Students should: a. Critically evaluate scientific reports or accounts presented in the popular media. b. Understand the basic		A.1. Not measured in this cycle.		

Core Competencies Assessment 2008-2009: Area III Courses

The University of New Mexico-Valencia

Laboratory Science Competencies

<u>State Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	How Results Will Be Used To Make Improvements	<u>(Optional)</u> Recommendations/Goals/ Priorities
scientific facts related to important contemporary issues (e.g., global warming, stem cell research, cosmology), and ask informed questions about those issues. End – Laboratory Science				

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Core Competencies Assessment 2008-2009: Area IV Courses

The University of New Mexico-Valencia

Social and Behavioral Sciences Competencies

<p><u>State Competencies</u> (Learning Outcomes Being Measured)</p>	<p><u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)</p>	<p><u>Assessment Results</u></p>	<p>How Results Will Be Used <u>To Make Improvements</u></p>	<p><u>(Optional)</u> Recommendations/Goals/Priorities</p>
<p>1. Students will 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. Students should: Develop an understanding of self and the world by examining content and processes used by social and behavioral sciences to discover, describe, explain, and predict human behaviors and social systems.</p>				
<p>2. Students will articulate how beliefs, assumptions, and values are influenced by factors such as politics, geography, economics, culture, biology, history, and social institutions. Students should: Enhance knowledge of social and cultural institutions and the values of their society and other societies and cultures in the world.</p> <p align="center">(Continued)</p>				

Core Competencies Assessment 2008-2009: Area IV Courses

The University of New Mexico-Valencia

Social and Behavioral Sciences Competencies

<u>State Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	<u>How Results Will Be Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
<p>3. Students will describe ongoing reciprocal interactions among self, society, and the environment. Students should: Understand the interdependent nature of the individual, family/social group, and society in shaping human behavior and determining quality of life.</p>				
<p>4. Students will apply the knowledge base of the social and behavioral sciences to identify, describe, explain, and critically evaluate relevant issues, ethical dilemmas, and arguments. – Students should: Articulate their role in a global context and develop an awareness and appreciation for diverse value systems in order to understand how to be good citizens who can critically examine and work toward quality of life within a framework of understanding and justice.</p> <p style="text-align: center;">End – Social/Behavioral Sciences</p>				

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Core Competencies Assessment 2008-2009: Area V Courses

The University of New Mexico-Valencia

Humanities and Fine Arts Competencies

<u>State Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	<u>How Results Will Be Used To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
1. Students will analyze and critically interpret significant and primary texts and/or works of art (this includes fine art, literature, music, theatre, and film.)	A.1. ARTH 101 “Introduction to Art (NMCCN= ARTS 1013) A seven question MC quiz was used to assess one aspect of Competency #3.	A.1. Not measured in this cycle.		
2. Students will compare art forms, modes of thought and expression, and processes across a range of historical periods and/or structures (such as political, geographic, economic, social, cultural, religious, and intellectual).		A.1. Not measured in this cycle.		
3. Students will recognize and articulate the diversity of human experience across a range of historical periods and/or cultural perspectives.		A.1. 78% of responses were scored at the adequate or better level on Competency #3.	A.1. Faculty have recently modified instruction in these large lecture sections to be more interactive and are inclined to continue that trend based on sustained evidence of improved learning outcomes.	
4. Students will draw on historical and/or cultural perspectives to evaluate any or all of the following: contemporary problems/issues, contemporary modes of expression, and contemporary thought.		A.1. Not measured in this cycle.		
For all Humanities and Fine Arts Competencies, students should:				

Core Competencies Assessment 2008-2009: Area V Courses

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Humanities and Fine Arts Competencies

<u>State Competencies</u> (Learning Outcomes Being Measured)	<u>Assessment Procedures</u> Course Name and NMCCN (Process/Instrument named or described – rubric attached)	<u>Assessment Results</u>	How Results Will Be Used <u>To Make Improvements</u>	<u>(Optional)</u> Recommendations/Goals/ Priorities
<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> <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</p> <p style="text-align: center;">(Continued)</p> <p>does not include work in areas such as studio and performance courses or courses that are primarily skills-oriented. The requirements must be fulfilled by courses from two different disciplines.</p> <p>End – Humanities/Fine Arts</p>				

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