Outcomes for Statewide General Education Steering Committee
Skills and Content Teams
September 8, 2016

Page 3, 4   **Lab Science: Dan Howard, Lead**

Team member	Email	Institution
Dan Howard	provost@nmsu.edu	NMSU
Stu Munson-McGee	smunsonm@nmsu.edu	NMSU
Michael Ottinger	ottingerm@sanjuancollege.edu	SJC

Page 5, 6   **Communication: Chuck Paine, Lead**

Team member	Email	Institution
Chuck Paine	cpaine@unm.edu	UNM
Mickey Marsee	mickeyL@unm.edu	UNM-Los Alamos
Pierre Laroche	pierre.laroche@enmu.edu	ENMU-Ruidoso
Steve Simpson	ssimpson@nmt.edu	NMTech
Julia Deisler	julia.deisler@sfcc.edu	SFCC
Pamela Cheek	pcheek@unm.edu	UNM
Patti Wojahn	pwojahn@nmsu.edu	NMSU

Page 7, 8, 9   **Information Literacy: Mark Emmons, Lead**

Team member	Email	Institution
Mark Emmons	emmons@unm.edu	UNM
Theresa Westbrock	tvalko@nmsu.edu	NMSU
Peg Johnson	peg.johnson@sfcc.edu	SFCC
Joel Dykstra	dykstra@nmmi.edu	NMMI
Nathan Saline	nsaline@cnm.edu	CNM
Lori Townsend	lt@unm.edu	UNM
Bill Stone	wdstone@nmt.edu	NMTech
Janet Peterson	petersonj@sanjuancollege.edu	SJC

Page 10, 11   **Critical Thinking: Mark Walker, Lead**

Team member	Email	Institution
Mark Walker	mwalker@nmsu.edu	NMSU
Annemarie Oldfield	annemarie.oldfield@roswell.enmu.edu	ENMU-Roswell
Jennifer Noonan	jnoonan@nmsu.edu	NMSU
Kevin Wedeward	wedeward@ee.nmt.edu	NMTech

Page 12   **Quantitative Skills: David Smith, Lead**

Team member	Email	Institution
David Valdes	dvaldes1@cnm.edu	CNM
Michael Ottinger	ottingerm@sanjuancollege.edu	SJC
Nicole Benton	Robin.Benton@BIE.EDU	SIPI
Lisa Majkowski	lisamt@nmt.edu	NMTech
Colleen Lynch	colleen.lynch@sfcc.edu	SFCC
David Smith	davsmith@nmsu.edu	NMSU

Page 13, 14, 15   **Mathematics: David Valdes, Lead**

Team member	Email	Institution
David Valdes	dvaldes1@cnm.edu	CNM
Alicia O'Brien	obriena@sanjuancollege.edu	SJC
Nicole Benton	Robin.Benton@BIE.EDU	NMSU
Pat Morandi	pamorand@nmsu.edu	NMSU
Brian Borchers	borchers@nmt.edu	NMTech

Page 16, 17   **Personal and Social Responsibility: Julie Deisler Lead**

Team member	Email	Institution
Julia Deisler	julia.deisler@sfcc.edu	SFCC
Herman Garcia	hgarcia@ad.nmsu.edu	NMSU
Suzanne Balch-Lindsay	suzanne.balch@enmu.edu	ENMU
Regina Carlow	rcarlow@unm.edu	UNM
Andrew Lovato	Andrew.lovato@sfcc.edu	SFCC
Val Montoya	Valerie.Montoya@BIE.EDU	SIPI
Jill Carlson	Jill.Carlson@sfcc.edu	SFCC

Page 18   **Humanities: Annemarie Oldfield, Lead**

Team member	Email	Institution
Annemarie Oldfield	annemarie.oldfield@roswell.enmu.edu	ENMU-Roswell
Suzanne Balch-Lindsay	suzanne.balch@enmu.edu	ENMU
Erica Volkers	evolkers@cnm.edu	CNM
Pamela Cheek	pcheek@unm.edu	UNM
Jamie Bronstein	jbronste@nmsu.edu	NMSU

Page 19   **Fine and Creative Arts: Regina Carlow, Lead**

Team member	Email	Institution
Regina Carlow	rcarlow@unm.edu	UNM
Herman Garcia	hgarcia@ad.nmsu.edu	NMSU
Joel Dykstra	dykstra@nmmi.edu	NMMI
John Boyce	JOHN.BOYCE@sfcc.edu	SFCC

Page 20, 21, 22   **Human and Behavioral Sciences: Suzanne Balch, Lead**

Team member	Email	Institution
Suzanne Balch-Lindsay	suzanne.balch@enmu.edu	ENMU
Tim Ketelaar	ketelaar@nmsu.edu	NMSU
William Walker	wiwalker@nmsu.edu	NMSU

Draft Outcomes, Content Area: Science

The terms in parenthesis at the top of each column are the levels of the revised Bloom's cognitive development[1], outcomes have been written using the "action verbs" of the revised Bloom taxonomy[2].

Component Knowledge &/or Skill[3]	Emerging (Remember)	Developing (Understand)	Proficiency (Apply, analyze, evaluate, & create)	Assessment
Scientific Literacy[4]	Recognizes the difference between scientific and non-scientific concepts and processes. Describes appropriate application of the scientific method in arguments.	Interprets scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity. Reads articles about science in the popular press and engages in social conversation about the validity of the conclusions.	Asks, finds, or determines valid answers to scientific questions derived from curiosity about everyday experiences. Analyzes relevant scientific issues underlying national and local decisions and expresses positions that are scientifically and technologically informed. Evaluates the quality of scientific information on the basis of its source and the methods used to generate it. Poses and evaluates arguments based on evidence and applies conclusions from such arguments appropriately.	• Written lecture summaries • Short-answer exams • Essay exams • Research/term paper • Pre-lab reports • Lab notebooks • Lab reports • Presentations

---

[1] David R. Krathwohl, "A Revision of Bloom's Taxonomy: An Overview," *Theory Into Practice*, **41**(4), 2002, Copyright © 2002 College of Education, The Ohio State University, from http://www.unco.edu/cetl/sir/stating_outcome/documents/Krathwohl.pdf, retrieved August 3, 2016.

[2] Taken from http://www.apu.edu/live_data/files/333/blooms_taxonomy_action_verbs.pdf, retrieved August 3, 2016.

[3] Based, in part, on the categories presented by Norman Herr, California State University Northridge, https://www.csun.edu/science/ref/plans/learning-objectives.html, retrieved August 3, 2016.

[4] Adapted, in part, from http://www.literacynet.org/science/scientificliteracy.html.

Component Knowledge &/or Skill[3]	Emerging (Remember)	Developing (Understand)	Proficiency (Apply, analyze, evaluate, & create)	Assessment
Scientific Reasoning	Recalls the steps in the scientific method and provides definitions and examples of each.	Contrasts scientific explanations for natural phenomena versus those that invoke supernatural explanations. Explains how the scientific method is implemented; formulates questions about nature and generates hypotheses. Explains that scientific understanding is tentative and subject to falsification.	Applies the scientific method by formulating questions about nature, generating hypotheses, and testing hypotheses using experiments and comparisons. Differentiates between a theory and a hypothesis.	• Written lecture summaries • Short-answer exams • Essay exams • Research/term paper • Pre-lab reports • Lab notebooks • Lab reports • Presentations
Scientific Problem Solving Skills	Recognizes that observation, measurement, and experimentation play roles in the scientific approach to knowledge.	Explains the importance of observation, measurement, and experimentation in the scientific method.	Creates and executes appropriate experimental designs. Generates and analyzes data; uses the results to evaluate hypotheses. Creates the appropriate visual/tabular representation of data.	• Written lecture summaries • Short-answer exams • Essay exams • Research/term paper • Pre-lab reports • Lab notebooks • Lab reports • Presentations

Team members:

Dan Howard	provost@nmsu.edu	NMSU
Stu Munson-McGee	smunsonm@nmsu.edu	NMSU
Michael Ottinger	ottingerm@sanjuancollege.edu	SJC

Draft Outcomes, Essential Skill: Communication

Component Skill	Emerging	Developing	Proficient	Assessment
1. Application of rhetorical knowledge: Chooses and applies oral (or signed) and written strategies that are appropriate to a rhetorical situation attending to audience, purpose, context	Shows awareness of why different strategies have different effects	Can choose among strategies and can use some strategies effectively	Can use strategies effectively and appropriately	Any: portfolio, Presentation, writing assignment, digital assignment
2. Communicative Range: Develops communications in a variety of genres and/or mediums (written, oral (or signed), visual, electronic)	Can communicate in more than one genre and/or medium	Can communicate in several genres and/or mediums with understanding of different effects of these communications	Can communicate effectively in several genres and/or mediums with understanding of different effects of these communications	Any: portfolio, Presentation, writing assignment, digital assignment
3. Reception and Response Strategies: Uses flexible reading, listening (or signing) strategies to understand and evaluate a communication's message.	Can use more than one reception strategy and understands central idea in a message	Can use several reception strategies and can evaluate many messages and identify context.	Can use a range of reception strategies effectively and can evaluate messages and context effectively	Any: portfolio, Presentation, writing assignment, digital assignment
4. Critical Reception and Response: differentiates between supported and unsupported arguments, evaluates authority of sources in reception, integrates sources critically in response to a communication	Understands that there is a difference between supported and unsupported arguments, can identify different sources	Identifies and often develops a supported argument, often evaluates sources and often integrates them	Identifies and develops supported arguments, evaluates and integrates sources critically	Any: portfolio, Presentation, writing assignment, digital assignment
*. Second language competency: shows familiarity with distribution of multiple languages in the world, understands the advantages of communicating in more than one language, and can identify some cultural reactions to different languages and registers. OR, interacts and negotiates meaning in a language other than English through spoken, written or signed communication	*Committee agrees that Second Language Competency is a distinguishing skill that will allow undergraduates in the State of New Mexico to excel and to differentiate themselves with respect to other undergraduates nationally. Determination of appropriate place for Second Language Competency in the General Education curriculum is challenging (given traditional disciplinary organizations and the predilection to map these on a one-to-one basis to essential skills). Yet this does not mean that we should exclude a skill that is part of our state identity, in which our students are predisposed to achieve, and that is featured on national standards such as LEAP.*			

NOTE: AAC&U VALUE Rubric Framing Language

This writing rubric is designed for use in a wide variety of educational institutions. The most clear finding to emerge from decades of research on writing assessment is that the best writing assessments are locally determined and sensitive to local context and mission. Users of this rubric should, in the end, consider making adaptations and additions that clearly link the language of the rubric to individual campus contexts.

Draft Outcomes, Essential Skill: Information Literacy

Component Skill	Emerging	Developing	Proficiency	Assessment
Student will determine the purpose of information and select the most authoritative source based upon both the context of its creation and the appropriateness of its intended use.	Recognizes that information is produced by someone who may or may not be reliable and who may or may not have a particular point of view.	Uses established criteria for a variety of sources in order to differentiate between reliable and convenient information, and explains why the authority of a source matters and why it is important for a specific need.	Evaluates types of authorities and integrates new perspectives and alternative authoritative voices.	Apply rubric to assignments that require students to select and evaluate authoritative sources such as: identifying an author's credentials, analyzing the authority of a source, citing an author's credentials in an annotated bibliography or research paper, differentiating between sources for authority and context, evaluating and integrating alternate authorities into in an annotated bibliography or research paper.
Student will seek out scholarly conversations taking place in their research area and contribute to the conversation at appropriate level.	Identifies a variety of venues within which ongoing scholarly conversations take place.	Identifies the variety of ways to participate, as new scholars, in ongoing scholarly conversations.	Finds and incorporates information that exists in various relevant venues and contributes to the scholarly conversation at appropriate level.	Apply rubric to assignments that require students to engage scholarly conversation such as: finding evidence to support their ideas for a debate, reviewing critical reception of a work, tracking cited references, compiling a reading list or an anthology, examining research trends in a journal or database, showing relationships between primary and secondary sources, or producing annotated bibliographies or literature reviews that specifically show the connections between scholars' work.

Component Skill	Emerging	Developing	Proficiency	Assessment
Student will recognize that research is a creative, iterative, non-linear process that requires curiosity, reflection, critical thinking, and persistence, leading to new ideas and information.	Defines an appropriate scope of investigation through the trial and error of the research process.	Formulates and reframes research questions based on research available and gaps in information.	Analyzes and synthesizes research to form own ideas.	Apply rubric to assignments that require students to formulate research strategies and to analyze and synthesize research such as: formulating a research question or a thesis statement, crafting a search statement, developing search vocabulary, drawing concept maps, mapping the information cycle, identifying suitability of an information source, analyzing search results, reading critically. Keeping a research journal while formulating research strategies is a particularly useful practice.
Student will recognize that information is created for a purpose and is communicated using distinct formats that reflect the creation process. Student will select, use, and produce information formats that will best serve the needs of audience, context, and purpose (e.g., answer a question, solve a problem, provide evidence for an argument).	Recognizes formats, including scholarly formats.	Articulates purpose, process, and characteristics of formats. Selects and uses relevant information sources that serve needs of audience, context, and purpose	Assesses constraints of formats. Analyzes unfamiliar formats to detect the purpose and process. Creates information products in appropriate format that serves needs of audience, context, and purpose.	Apply rubric to assignments that require students to recognize, select, use, and create formats such as: close reading of a format, comparing formats, identifying the purpose and characteristics or format, distinguishing between primary and secondary sources, making speeches, and writing in formats that might include essays, lab reports, web sites, blogs, news articles, critiques, business reports, and literature reviews and research papers.

Component Skill	Emerging	Developing	Proficiency	Assessment
Student will understand that information is arranged into collections that are structured into meaningful organizing systems. Student will efficiently and effectively retrieve relevant information from these systems.	Recognizes that search engines are organizing systems with bounded collections. Distinguishes between a variety of information sources including scholarly collections.	Selects scholarly collections that best match information need. Uses keywords, controlled vocabulary, and simple search strategies. Recognizes that information is identified with structured and descriptive metadata.	Formulates iterative search strategies that take full advantage of structure, metadata, and logic in order to retrieve information that meets their needs. Organizes personal information for efficient retrieval and sharing.	Apply rubric to assignments that require students to recognize, use, search, and create organizing systems such as building a simple relational database, comparing databases and academic collections, selecting relevant specialized academic collections, and creating personal information systems such as file systems, calendars, contacts, and citation management systems. Keeping a research journal while searching organizing systems is a particularly useful practice.
Student will create and use information with the understanding that information has multifaceted value.	Understands the importance of not plagiarizing and gives credit through proper attribution and citation; recognizes that the online environment is not private.	Identifies and properly cites information from non-traditionally published sources; participates in discussions about privacy issues in the Information Age.	Recognizes that new knowledge builds upon existing knowledge; exhibits full awareness of issues related to privacy and the commodification of personal information, consistently making informed choices regarding online actions.	Apply rubric to assignments that require students to cite resources and to make decisions about privacy such as: constructing citations, producing bibliographies, quoting, paraphrasing, and summarizing to avoid plagiarism, applying fair use in presentations, investigating the privacy of online social media, making personal information private,

Team members: Mark Emmons (team leader), Joel Dykstra, David Hurley, Andrew Johnson, Peg Johnson, Alyssa Russo, Nathan Saline, Bill Stone, Lori Townsend, Theresa Westbrock

The information literacy skills are adapted from the Association of College & Research Libraries (ACRL) *Framework for Information Literacy for Higher Education* – see http://www.ala.org/acrl/standards/ilframework. The *Framework* consists of six frames or interrelated ideas that were built on threshold concepts "that organize many other concepts and ideas about information, research, and scholarship into a coherent whole." The *Framework* does not list outcomes, but instead lists *knowledge practices* that show how learners can demonstrate understanding and *dispositions* that describe the affective dimensions of learning. The Information Literacy team used each of the six frames as the basis to develop the emerging, developing, and proficiency outcomes along with possible assignments on which to apply the rubric as a means of assessment.

Draft Outcomes: Essential Skills: Critical Thinking Version 1

Critical Thinking Skills	Emerging	Developing	Mastering	Assessment options
Evaluation & Interpretation	Able to determine audience and purpose of information provided in small chunks of information	Able to consistently determine audience, purpose, and validity of information provided in small chunks	Able to consistently determine audience, purpose, and validity of information provided in broad proposals, plans, and arguments	Written abstracts Proposal acceptance/rejection letters Debate analysis Promotional campaign analysis Business analysis Multiple choice comprehension tests
Production and Support of Arguments	Able to determine audience and purpose in order to create communication providing needed information	Able to determine audience and purpose in order to create and support communication providing information needed to persuade	Able to determine audience and purpose in order to create supported, convincing communication to persuade resistant audiences	Argumentative essays Business plans Product analysis and comparison report Lab reports
Problem solving	Able to identify the critical components of tasks/proposals and suggest responses	Able to identify the critical components of tasks/proposals and suggest actionable solutions	Able to identify the critical components of tasks/proposals and suggest solutions that demonstrate awareness of reasonable consequences	Argumentative essays Business proposals Reorganization plans Product improvements

Draft Outcomes: Essential Skills: Critical Thinking Version 2

Critical thinking is the skill of evaluating and providing cogent reasons for one's thoughts, beliefs, values, and actions.

Components Skills for Assessing Arguments	Emerging	Developing	Mastering	Assessment
Dissecting Arguments	Able sometimes to identify stated premises, subconclusions, conclusions and logical relationships between premises and conclusions in short paragraphs.	Able consistently to identify stated premises, subconclusions, conclusions and logical relationships between premises and conclusions in short paragraphs.	Able consistently to identify stated premises, subconclusions, conclusions and logical relationships between premises and conclusions in arguments spanning at least several pages.	Cornell CT Test California Critical Thinking Skills Test
Assessing the logical cogency of arguments, and identifying common fallacies	Able sometimes to assess an argument for relevance and sufficiency of premises for the truth, or probable truth of the conclusion in short paragraphs.	Able consistently to assess an argument for relevance and sufficiency of premises for the truth, or probable truth of the conclusion in short paragraphs.	Able consistently to assess an argument for relevance and sufficiency of premises for the truth, or probable truth of the conclusion in arguments spanning at least several pages.	Cornell CT Test California Critical Thinking Skills Test
Assessing the acceptability of premises	Able sometimes to assess premises for acceptability in short paragraphs.	Able consistently to assess premises for acceptability in short paragraphs	Able to assess premises for acceptability in arguments spanning at least several pages.	Cornell CT Test California Critical Thinking Skills Test

Definition: A **dialectical argument** is an argument that (i) provides support for a thesis, and (ii) considers and responds to at least one objection to the support for the thesis.

Component Skills for Producing Dialectical Arguments	Emerging	Developing	Mastering	Assessment
Support for Thesis: Logical cogency of argument	Somewhat persuasive.	Persuasive.	Very persuasive.	Argumentative Essay
Support for Thesis: Acceptability of premises	Many premises are problematic.	Some premises are problematic.	Few or no premises are problematic.	Argumentative Essay
Objections and responses to Main Argument	No objection or weak objections to main argument. No response or week response to the objections.	Somewhat strong objections to the main argument. Somewhat strong response to the objections.	Strong objections to the main argument. Strong response to the objections.	Argumentative Essay

Draft Outcomes, Essential Skill: Quantitative Skills

This Quantitative Skills rubric defines success for each phase of the growth of the student.

Component Skill	Emerging (Basic Skills)	Developing (Intermediate Skills)	Proficiency (Capstone Skills)	Suggested Assessment
Computational Skills and Mathematical Processes. Design and follow a multi-step mathematical process through to a logical conclusion and critically evaluate the reasonableness of the result.	*Translate the terms of contextual problems into numbers and algebraic symbols. *Evaluate numeric operations. *Use estimation to assess reasonableness of results.	*Translate contextual problems into mathematical relations, such as inequalities, equations, and graphs. *Solve equations using an appropriate mathematical technique. *Use estimation to assess reasonableness of results.	*Translate contextual problems into mathematical relations, such as inequalities, equations, and graphs. *Solve equations using an appropriate mathematical technique. *Check solutions with the original mathematical construct or statement of the problem.	Exam Project
Communication of Quantitative Arguments Express quantitative information symbolically, graphically, and in written or oral language.	*Explain the meaning of graphics, numbers, and algebraic symbols in a given context.	*Translate mathematical graphics and symbolism into written and oral language. *Translate written and oral language into mathematical symbols and graphics.	*Integrate written and symbolic mathematical constructs in describing particular contexts, such as the effects of water contamination on a local population.	Report Article Project Exam
Analysis of Quantitative Arguments Select and use appropriate numeric, symbolic, graphical and statistical reasoning to interpret, analyze and critique information or a line of reasoning presented by others.	*Summarize quantitative arguments presented by others.	*Differentiate and describe the parts of a quantitative argument presented by others. *Compare the results of a quantitative argument with other reliable sources.	*Evaluate each component of an overall argument for mathematical validity. *Show that quantitative arguments are valid, invalid, or questionable using an appropriate technique of mathematical proof or statistical analysis.	Report Project Exam
Formulation of Quantitative Arguments Recognize, evaluate, and use quantitative information, quantitative reasoning and technology to support a position or line of reasoning.	*Identify mathematical or statistical terms and procedures to address contextual problems.	*Identify mathematical or statistical terms and procedures to address contextual problems. *Show the results of solving mathematical relations or carrying out operations/procedures.	*Identify mathematical or statistical terms and procedures to address contextual problems. *Show the results of solving mathematical relations or carrying out operations. *Assess the reliability of the results, and use the results to support a conclusion.	Letter Article Project Exam
Quantitative Models Create, analyze and apply appropriate quantitative models to solve quantitative theoretical and real-world problems.	*Use a quantitative model to generate numeric predictions.	*Choose an appropriate quantitative model for a specific context and use it to generate numeric predictions. *Identify unreasonable results obtained from a quantitative model.	*Create an appropriate quantitative model for a specific context and use it to generate numeric predictions. *Identify and correct unreasonable results obtained from a quantitative model. *Analyze and interpret the results of a quantitative model.	Report Project Exam

QS Team: David Smith (Lead, NMSU, davsmith@nmsu.edu), David Valdes (CNM, dvaldes1@cnm.edu),
Michael Ottinger (SJC, ottingerm@sanjuancollege.edu), Colleen Lynch (SFCC, colleen.lynch@sfcc.edu), Nicole Benton (SIPI, Robin.Benton@BIE.EDU), Lisa Majkowski (NMTech, lisamt@nmt.edu).

Area II: College Algebra Competencies

Core Competency	Emerging	Developing	Proficient	Assessment Suggestions
Construct and analyze graphs and/or data sets.	Sketch the graphs of linear, quadratic, higher-order polynomial, rational, absolute value, exponential, logarithmic, and radical functions.	*Emerging skill description(s) plus* Determine the key features a function such as domain/range, intercepts, and asymptotes.	*Emerging and Developing skill descriptions plus* Construct graphs using a variety of techniques including plotting points, using properties of basic transformations of functions, and by using key characteristics of functions such as end behavior, intercepts and asymptotes.	• Pre/post test • Test/quiz questions • Routine use of an accepted Classroom Assessment Technique (CAT) • Oral presentation by student • Written presentation by student • Student-created portfolio • Capstone project • Peer review • Student self-assessment • Group research and presentation on a real-life problem analyzed/solved by using algebra
Use and solve various kinds of equations.	• Solve quadratic equations using techniques such as factoring, completing the square and the square root method, and the quadratic formula. • Solve equations algebraically to answer questions about graphs, and use graphs to estimate solutions to equations.	*Emerging skill description(s) plus* Solve equations using inverse operations for powers/roots, exponents/logarithms and other arithmetic operations.	*Emerging and Developing skill descriptions plus* Use the equation of a function to determine its domain, to perform function operations, and to find the inverse of a function.	
Understand and write mathematical explanations using appropriate definitions and symbols.		*Emerging skill description(s) plus* Communicate mathematical information using proper notation and verbal explanations.	*Emerging and Developing skill descriptions plus* Describe the implications of key features of a function with respect to its graph and/or in relation to its real world context.	
Demonstrate problem solving skills within the context of mathematical applications.	• Apply the knowledge of functions to identify an appropriate type of function to solve application problems. • Solve contextual problems by identifying the appropriate type of function given the context and creating a formula based on the information given.	*Emerging skill description(s) plus* Solve application problems including those requiring maximization or minimization of quadratic functions and exponential growth & decay problems.	*Emerging and Developing skill descriptions plus* Interpret the results of application problems in terms of their real world context.	

Area II: Liberal Arts Math Competencies

Core Competency	Emerging	Developing	Proficient	Assessment Suggestions
Construct and analyze graphs and/or data sets.	• Gather and organize information. • Understand the purpose and use of various graphical representations such as tables, line graphs, tilings, networks, bar graphs, etc.	*Emerging skill description(s) plus* Interpret results through graphs, lists, tables, sequences, etc.	*Emerging and Developing skill descriptions plus* Draw conclusions from data or various graphical representations.	• Test/quiz questions • Routine use of an accepted Classroom Assessment Technique (CAT) • Oral presentation by student • Written presentation by student • Student-created portfolio • Capstone project • Peer review • Student self-assessment • Group research and presentation on a real-life problem analyzed/solved by using mathematics • Student journal • Individual or group projects • Cooperative learning activities • Pre/post test
Use and solve various kinds of equations.	Understand the purpose of and use appropriate formulas within a mathematical application.	*Emerging skill description(s) plus* Solve equations within a mathematical application.	*Emerging and Developing skill descriptions plus* Check answers to problems and determine the reasonableness of results.	
Understand and write mathematical explanations using appropriate definitions and symbols.	Translate mathematical information into symbolic form.	*Emerging skill description(s) plus* Use basic mathematical skills to solve problems.	*Emerging and Developing skill descriptions plus* Define mathematical concepts in the student's own words.	
Demonstrate problem solving skills within the context of mathematical applications.	• Show an understanding of a mathematical application both orally and in writing. • Gather and organize relevant information for a given application.	*Emerging skill description(s) plus* Choose an effective strategy to solve a problem.	*Emerging and Developing skill descriptions plus* Draw conclusions and communicate the findings.	

Area II: Statistics Competencies

Core Competency	Emerging	Developing	Proficient	Assessment Suggestions
Construct and analyze graphs and/or data sets.		*Emerging skill description(s) plus* Organize data and display in frequency distribution and find percentile points and ranks for the distribution.	*Emerging and Developing skill descriptions plus* Graph data distributions using the correct format for graphs, to include: histograms, frequency polygons, box plots and scatter plots and draw appropriate inferences.	• Pre/post test • Test/quiz questions • Routine use of an accepted Classroom Assessment Technique (CAT) • Oral presentation by student • Written presentation by student • Student-created portfolio • Capstone project • Peer review • Student self-assessment • Group research and presentation on a real-life problem analyzed/solved by using statistics
Use and solve various kinds of equations.	• Compute mean, median, mode, and standard deviation. • Determine basic probabilities and probabilities associated with the standard normal curve.	*Emerging skill description(s) plus* • Calculate and interpret the least squares regression equation and the linear correlation coefficient. • Compute sampling distributions of sample means. • Compute the mean and standard deviation of sample means. • Calculate test statistics. • Calculate probabilities using the standard normal distribution and relate them to areas under the curve.	*Emerging and Developing skill descriptions plus* • Calculate probabilities using compound probability rules and the binomial distribution and its properties. • Calculate margin of error given sample size and sample size given margin of error. • Construct confidence intervals for population means and proportions. •	
Understand and write mathematical explanations using appropriate definitions and symbols.	• Use Z-scores appropriately. • Construct probability distributions. • Write confidence intervals. • Define parameters and statistic. • Distinguish between population and samples, and parameters and statistics. • Use statistical vocabulary appropriately. • Distinguish between qualitative and quantitative data. • Give examples of independent and dependent variables. • Explain the difference between correlation and causation.	*Emerging skill description(s) plus* • Understand the Central Limit Theorem and when to apply it. • Write null and alternate hypotheses. • Understand the concept of significance level and P values. • Explain and evaluate statistics used in the real world (from a news article, research project, etc.) • Distinguish between descriptive and inferential statistics. •	*Emerging and Developing skill descriptions plus* • Apply the steps for inference/hypothesis testing. • Describe the basic elements of sampling and experimental design. • Describe the relationship between the sampling distribution and the population distribution. • Use the Central Limit Theorem to approximate the probability distribution and calculate probabilities. • Explain why a test can lead us to reject the null hypothesis.	
Demonstrate problem solving skills within the context of mathematical applications.	• Determine appropriate methods to display data. • Compare measures using Z-scores. • Identify and analyze outliers. • Determine whether a statistical test is appropriate under stated conditions.	*Emerging skill description(s) plus* • Use least-square regression equations to predict values. • Select appropriate sampling techniques. • Interpret basic probabilities. • Identify null and alternative hypothesis. • Interpret the meaning of the coefficient of determination.	*Emerging and Developing skill descriptions plus* • Determine if random variables are continuous or discrete. • Choose and construct appropriate hypothesis tests for population means and proportions. • Determine if the binomial distribution can be approximated with the normal distribution. • Perform and interpret statistical tests and determine whether data is statistically significant.	

Draft Outcomes, Essential Skills: Personal and Social Responsibility

Component Skill	Emerging	Developing	Proficient	Assessment
Intercultural reasoning/ intercultural competence	Recognize/describe the complexities and value of diverse social identities within diverse contexts	Develop strategies for working with one's own and others' positionality/ ethnocentrism	Evaluate personal and social justice issues as they relate to specific contexts and compare/contrast possible solutions that reflect the value of fair and just relationships between individuals and the society in which they live and participate	
Sustainability and the natural and human worlds	Describe/define the relationship between the natural and human worlds relative different human and natural communities/ ecosystems	Explain the impact our actions have on the natural and human world and discuss the relationship among environmental, socio-cultural, political, and economic systems as they interact with and affect the natural and human worlds	Analyze specific local and/or global issues and develop strategies for creating just, sustainable systems in the natural and human world	
Ethical reasoning	Describe the relationship between ethics/ethical systems and moral norms and recognize ethical issues in specific contexts, including the ethical use of outside sources	Explain a variety of ethical theories and place them in specific contexts	Apply ethical perspectives to an ethical situation	
Collaboration skills Teamwork/Value systems	Demonstrate personal / mutual accountability and make use of individual strengths in meeting group objectives	Demonstrate shared ethical obligations and intercultural sensitivity as they relate to teamwork	Reflect on the impact and effectiveness of teamwork with an eye toward applying what was learned to future collaborative efforts	
Civic Discourse / Civic knowledge and engagement – local and global	Describe one's own civic and cultural background, including its origins and development, assumptions and predispositions	Explain diverse positions on issues, values, or practices and present one's own position on a specific problem in which one or more of the issues, values, or practices is involved	Demonstrate the ability to participate in respectful civic discourse and dialogue that shares differing perspectives and recognizes that there are multiple valid realities/ solutions to local and global issues	

ORIGINAL NOTES (attributing sources)
Intercultural reasoning/intercultural competence
Level 1: Recognize/describe the **complexities and value of diverse social identities** within diverse contexts
Level 2: Develop strategies for working with one's own and others' positionality/ ethnocentrism (derived from WICHE "Human Society and the Individual")
Level 3: Evaluate personal and social justice issues as they relate to specific contexts and compare/contrast possible solutions that reflect the value of fair and just relationships between individuals and the society in which they live and participate

Sustainability and the natural and human worlds
Level 1: Describe/define the relationship between the natural and human worlds relative to… different human and natural communities

Personal and Social Responsibility Group: Julia Deisler (lead) with Valerie Montoya, Hermán García, Colleen Lynch, David Sicko, Emily Stern, Jill Carlson, Suzanne Balch, Regina Carlow, and Andy Lovato

Draft Outcomes, Essential Skills: Personal and Social Responsibility

Level 2: Explain the impact our actions have on the natural and human world and discuss the relationship among environmental, socio-cultural, political, and economic systems as they interact with and affect the natural and human worlds (derived from WICHE Natural Sciences).
Level 3: Analyze specific local and/or global issues and develop strategies for creating just, sustainable systems in the natural and human world

Ethical reasoning
Level 1: Describe the relationship between ethics/ethical systems and moral norms and recognize ethical issues in specific contexts, including the ethical use of outside sources
Level 2: Explain a variety of ethical theories and place them in specific contexts
Level 3: Apply ethical perspectives to an ethical situation

Collaboration skills (Teamwork/Value systems derived from WICHE)
Level 1: Demonstrate personal/mutual accountability and make use of individual strengths in meeting group objectives
Level 2: Demonstrate shared ethical obligations and intercultural sensitivity as they relate to teamwork
Level 3: Reflect on the impact and effectiveness of teamwork with an eye toward applying what was learned to future collaborative efforts

 Civic Discourse /Civic knowledge and engagement – local and global
Level 1: Describe one's own civic and cultural background, including its origins and development, assumptions and predispositions (from DQP)
Level 2: Explain diverse positions on issues, values, or practices and present one's own position on a specific problem in which one or more of the issues, values, or practices is involved (from DQP)
Level 3: Demonstrate the ability to participate respectfully in civic discourse and dialogue that shares differing perspectives (from Carnegie Foundation) and recognizes that there are multiple valid realities/solutions to local and global issues

Personal and Social Responsibility Group: Julia Deisler (lead) with Valerie Montoya, Hermán García, Colleen Lynch, David Sicko, Emily Stern, Jill Carlson, Suzanne Balch, Regina Carlow, and Andy Lovato

Draft Outcomes, Content Area: Humanities

Humanities Content Knowledge	Emerging	Developing	Proficient	Assessments
knowledge of how some practices, beliefs and cultural works have contributed to distinctive cultural identities, to relations between cultures, and to distributions of power	The students can recall, recognize, classify and explain how practices, beliefs and cultural works have contributed to distinctive cultural identities, to relations between cultures, and to distributions of power.	The student can question examine, and compare how practices, beliefs and cultural works have contributed to distinctive cultural identities, to relations between cultures, and to distributions of power	The student can justify, appraise, analyze, defend and/or critique how practices, beliefs and cultural works have contributed to distinctive cultural identities, to relations between cultures, and to distributions of power	
Broad knowledge of historical chronology and geographic specificity enabling placement of some diverse cultural practices, beliefs, and works into comparative historical and geographic context	The students can recall, recognize, classify and explain historical chronology and geographic specificity in order to place diverse cultural practices, beliefs, and works into comparative historical and geographic context	The student can question examine, and compare historical chronology and geographic specificity in order to place diverse cultural practices, beliefs, and works into comparative historical and geographic context	The student can justify, appraise, analyze, defend and/or critique historical chronology and geographic specificity in order to place diverse cultural practices, beliefs, and works into comparative historical and geographic context	
knowledge of how some cultural practices, beliefs, and works shape individual and collective experience, produce meaning, and influence interpretation of societies in the past and present	The students can recall, recognize, classify and explain how cultural practices, beliefs, and works shape individual and collective experience, produce meaning, and influence interpretation of societies in the past and present	The student can question examine, and compare how cultural practices, beliefs, and works shape individual and collective experience, produce meaning, and influence interpretation of societies in the past and present	The student can justify, appraise, analyze, defend and/or critique how cultural practices, beliefs, and works shape individual and collective experience, produce meaning, and influence interpretation of societies in the past and present	

Draft Outcomes, Content Area: Creative and Fine Arts

Component Skill	Emerging	Developing	Proficiency	Assessment
1. Students will employ best practices and medium appropriate techniques to create a work of art	Student will demonstrate and in some cases employ a basic understanding of best practices, and the use of appropriate techniques.	Students will participate in peer teaching /editing and in some cases critique to demonstrate comprehension of techniques and best practice	Student will produce a work of art either in a group or as an individual. In the form of a performance, a reading, or an exhibition	Peer and instructor critiques of works, the critical reading of notebooks and journals, and revues of performances
2. Students will learn the use of, empathy, and respect for the diversity of values, beliefs, ideas, and practices embodied in the varied human condition as they may pertain to the viewing, critiquing, and creating of works of art.	**The student will learn to recognize that theirown frame of reference in the creation of art is gender, race, economic, and culture specific.**	The student will learn to investigate other frames of reference and attempt to gain a reasonable degree of understanding of the effects of other gender, race, economic status, and culture upon their production of art.	The student will create works of art that show an awareness of the effects of the gender, race, economic, and cultural frame upon their work and the effect of the diversity of position of the viewer upon its reception.	Instructor and peer evaluation of the work created as it pertains to the understanding of diverse social positions expressed therein.
3. Students will demonstrate their understanding of the cultural, economic, and historic bases through an ongoing cycle of creation, recreation and reimagining in the arts, through written expression, performance, or visual arts.	Students will use key terminology and principles in research, writing and discussion in writing about a creative work or performance	Students will use the products of their research and discussions to critique the work	Students, either as a group, or as individuals, will use their critical research as the basis of the production of a performance, written work, or visual art piece that will highlight social relationships or the cultural impact of the fine arts experience	The evaluation of written research, Critique participation, and creative works; in terms of the social consciousness expressed Through them.

Team members: **: John Boyce, Regina Carlow, Joel Dykstra**

Draft Outcomes, Content: Human (Social) and Behavioral Sciences

Component Skill: Students will	Rationale: Students should	Content Area Suggestions:	Emerging	Developing	Proficiency	Assessment Suggestions:
Identify, describe and explain human and social behaviors and how they are influenced by social structures, institutions, and processes within the contexts of complex and diverse communities. Essential Skills measured may include: Comm, Quant, Critical Analysis/Thinking, Personal/Social Responsibility, Info Literacy	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.	ANTH GEOG ECON SOC PSY PSCI Studies (regional, ethnic, gender) CJ HIST* (currently in Area Vb as HUM)	Demonstrates ability to identify and describe human and social behaviors and to identify the appropriate theoretical bases that inform the field of study. Primarily descriptive, but student recognizes relationship between theory and analytical considerations.	Demonstrates ability to describe and explain human and social behaviors and to identify, define, and apply theoretical models that inform the field of study. Analysis references relevant theoretical and methodological constructs, displaying a working understanding of their applications in the field of study.	Demonstrates ability to describe and explain human and social behaviors, based on a thorough understanding of theoretical issues informing the field of study. Analysis is grounded in relevant theoretical and methodological constructs, displaying a thorough understanding of relevant literature and methodologies to support conclusions as appropriate to the discipline.	Essays, examinations requiring analysis of information, problem-based applications, qualitative/quantitative research projects, experiments; Oral presentations, group collaborative projects (stressing interrelated communication, skill). VALUE Rubrics, adapted for core and institutional requirements.
Articulate how beliefs, assumptions, and values are influenced by factors such as politics,	Enhance their knowledge of social and cultural institutions and the values of their society and other societies and	See above	Demonstrates ability to identify and explain interconnected relationships between human and social	Demonstrates ability to describe and explain interconnected relationships between human and social behavior	Demonstrates ability to describe and explain interconnected relationships between human and social	Comparative & problem-based essays, examinations requiring analysis of information, research projects.

geography, economics, culture, biology, history, and social institutions in the context of the self, society, and cultural and physical environments in which humans function. Essential Skills measured may include: Comm, Quant, Critical Analysis/Thinking, Personal/Social Responsibility, Info Literacy	cultures in the world. This knowledge is based on understanding the interdependent nature of the individual, family/social group, and society in shaping human behavior and determining quality of life		behavior and the influences of the communities in which those behaviors develop. Primarily descriptive, but student can accurately identify and discuss likely sources of social and cultural intersectionality.	and the influences of the communities in which those behaviors develop. Applies theoretical models that inform the field of study. Analysis references relevant theoretical and methodological constructs appropriately, displaying a working understanding of their applications in the field of study.	behavior and the influences of the communities in which those behaviors develop. Analysis is grounded in relevant theoretical and methodological constructs, displaying a thorough understanding of relevant literature and methodologies to support conclusions as appropriate to the discipline.	
Apply the knowledge base of the social and behavioral sciences to identify, describe, explain, and critically evaluate relevant issues, ethical dilemmas, and arguments. Essential Skills measured may include: Comm,	Articulate individual's role in a social, cultural and global context to develop a concept of global citizenship founded within a framework of understanding and respect.	See above	Demonstrates ability to construct a basic analysis of a relevant issue, dilemma, or argument, identifying methodologies and theories that inform the field of study. Primarily descriptive, but student can accurately	Demonstrates ability to construct a sound analysis of a relevant issue, dilemma, or argument, identifying and describing use of relevant methodologies and theories that inform the field of study. Analysis references relevant	Demonstrates ability to construct a sophisticated analysis of a relevant issue, dilemma or argument, grounded in sound and responsible application of theoretical and methodological constructs,	Problem- based projects, research projects, essays, examinations requiring analysis of information, fieldwork.

Quant, Critical Analysis/Thinking, Personal/Social Responsibility, Info Literacy			identify and discuss bases of analysis appropriate to topics under consideration.	theoretical and methodological constructs, displaying a working understanding of their applications in the field of study.	displaying a thorough understanding of relevant literature and methodologies to support conclusions as appropriate to the discipline.	

Adapted from
http://www.hed.state.nm.us/uploads/files/Policy%20and%20Programs/HED%20Gen%20Ed%20Competencies-All%20Areas.pdf

Potential Resources:

The NM HED Core (dated August 2014) listing of approved transferable courses from NM institutions:
http://www.hed.state.nm.us/uploads/files/Policy%20and%20Programs/Transfer%20Curriculum/HED_Area_IV_12-05-2012_.pdf

LEAP Essential Learning Outcomes:
https://www.aacu.org/leap/essential-learning-outcomes

LEAP Value Rubrics: https://www.aacu.org/value/rubrics

GEMS Project: https://www.aacu.org/gems

Other:

http://www.wiche.edu/passport/passport-framework

http://statecore.its.txstate.edu/

http://www.aztransfer.com/generaleducation/

http://highered.colorado.gov/academics/transfers/gtpathways/curriculum.html

Team members: Human and Behavioral Sciences: Suzanne Balch, Lead

Team member	Email	Institution
Suzanne Balch-Lindsay	suzanne.balch@enmu.edu	ENMU
Tim Ketelaar	ketelaar@nmsu.edu	NMSU
William Walker	wiwalker@nmsu.edu	NMSU