

Assessment Tools for General Education Outcomes
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Using “Assessment Tools for General Education Outcomes”

This collection of rubrics, outcomes statements, and assessment plans was made with the intent of stimulating the reader’s “assessment imagination” for learning outcomes that are common to general education on many campuses. Assessments that are locally developed have an improved chance of being aligned with local goals and curricula. Barriers to development of local assessments often include vague goals or lack of agreement thereon, beliefs that assessment must be objective and/or quantitative, and fears of misuse of the results of assessment. All three barriers can be overcome through professional conversations among faculty and administrators.

Many of the goals of learning in higher education are called “ineffable.” This may be true, in part, because *we talk too little together* about our highest aspirations for student learning and it is hard to find the words to match our ambitions. One way to begin the process is to describe what we want students “to know and be able to do.” That approach, taken through cycles of revision and further discussion, helps to develop clear language for learning outcomes.

The assessment tools in this packet, at the very least, can serve to start conversations among faculty in programs and across institutions about important outcomes of student learning that general education and study in the major often hold in common. One can start by looking at the tools and asking, “Is this a reasonable way to find out whether students (insert outcome)?” Then you can follow up with “how could or must we do it differently because of our mission or program goals?” Because the outcomes are complex and likely achieved over time, discussions should identify the multiple experiences that will contribute progressively to the development of the outcomes, both in general education and in the majors.

While goals are a logical place to begin a discussion of teaching, learning, and assessment, looking at assessment tools will reveal *someone else’s decisions about goals and evidence of learning*. This information can jump-start local conversations about goals and assessments and help to speed up the process, perhaps avoiding “reinventing the wheel.”

Over the last couple of years, many more examples of assessment have been posted on the internet and can be viewed with a bit of creative Google searching and snooping. From simple rubrics to institutional assessment plans, information is available that can help inspire and direct local conversations about student learning and assessment. I have included active Web links, where they still exist, for the materials in the packet. Where links are missing, searching the institution’s Web site for “assessment” or similar terms can often turn up new and improved materials.

Finally, AAC&U’s VALUE project has collected rubrics in nearly all of the AAC&U Essential Learning Outcomes. Most of those rubric collections have been posted (with the remainder to be completed soon) at <http://openedpractices.org/resources>. The VALUE project is analyzing these collections to find common criteria among the rubrics and will soon offer “metarubrics” that represent shared understandings of criteria and levels of the essential learning outcomes. Such metarubrics will be of particular value in assessing examples of student work that travels with the student from one setting to another, e.g., during college transfer or job searches.

Ross Miller
AAC&U

Written Communication

The Writing Proficiency Exam (WPE) Scoring Guide – California Polytechnic State University
<http://www.calpoly.edu/~wrtskills/gwr/score.htm>

6: Exemplary Paper

Comprehension:

Demonstrates a thorough understanding of the article in developing an insightful response.

Organization:

Answers all parts of the question thoroughly; demonstrates strong essay and paragraph organization.

Development:

Strongly develops the topic through specific and appropriate detail; logical, intelligent, and thoughtful; may be creative or imaginative.

Expression:

Exhibits proficient sentence structure and usage but may have a few minor slips (e.g. an occasional misused or misspelled word, or comma fault); may show stylistic flair.

5: Proficient Paper

Comprehension:

Demonstrates a sound understanding of the article in developing a well-reasoned response.

Organization:

Displays effective paragraph and essay organization and answers all parts of the question.

Development:

Skillfully and logically employs specific and appropriate details but may lack the level of insight or intelligence found in an exemplary paper.

Expression:

Structures sentences effectively but may lack stylistic flair; keeps diction appropriate but may waver in tone; maintains sound grammar though may err occasionally.

4: Acceptable Paper (competent but flawed)

Comprehension:

Demonstrates (sometimes by implication) a generally accurate understanding of the article in developing a sensible response.

Organization:

Shows adequate paragraphing and essay organization but may give disproportionate attention to some parts of the question.

Development:

Shows adequate logical development of the topic but may not be as fully developed as a superior essay or may respond in a way which is somewhat simplistic or repetitive.

Expression:

Shows adequate command of sentence structure, using appropriate diction but may contain some minor problems in grammar, punctuation, or usage (problems which might annoy a reader but will not lead to confusion or misunderstanding).

3: Failing Paper (clearly inadequate in one of the following categories or marginally inadequate in more than one of the following categories)

Comprehension:

Demonstrates some understanding of the article but may misconstrue parts of it or make limited use of it in developing a weak response.

Organization:

Does not address major aspects of the topic; presents a predominantly narrative response; is deficient in organization at the essay or paragraph level; lacks focus or wanders from the controlling idea.

Development:

Consistently generalizes without adequate support; presents conclusions which do not logically follow from the premises or the evidence or consistently repeats rather than explores ideas.

Expression:

Shows deficient sentence structure; uses a primer (grade school) style, or contains errors in mechanics (including spelling) which are serious or frequent enough to affect understanding.

N.B.: Two additional lower levels are included in the complete scoring guide

Written Communication

FIVE CHARACTERISTICS OF AN “A” PAPER

Created by: Dr. Carolyn Sigler (1990s), English Department, Kansas State University

1. Interesting Thesis

- Clearly stated as an assertion in one sentence
- Opinionated (the produce of thought and judgment)
- Makes connections or distinctions beyond the obvious and superficial. – it’s not immediately apparent to the casual reader
- Provides a purpose for the paper: a reason to write and read it

2. Useful Organization

- Provides a method or plan for proving the thesis
- Serves the interests of the paper as expressed in the thesis
- Should be a set of related ideas rather than a list of examples
- Should be generalizations relating to the main idea of the thesis

3. Rich Detail

- Specific and concrete to add weight and authority to your argument
- Relevant to the thesis’s purpose
- Organized logically within each part
- Colorful sensory detail and examples
- Expressed as part of a critical comment, rather than simply thrown in to the essay

4. Helpful Paragraphing

- Each paragraph supports one major idea
- Key idea is placed at the beginning of the paragraph
- Bulk of each paragraph should be illustration, detail, examples, or a logical progression of ideas
- Introductory paragraph engages the reader’s interest and narrows to the thesis
- Concluding paragraph synthesizes (pulls together) argument and takes it one step further

5. Polished Mechanics

- Effective wording, sentences smoothly connecting, logically constructed using coordination and subordination to emphasize the most important ideas in the sentence
- Spelling and punctuation standard and “invisible”

WHAT GRADES MEAN

“A” work is work that is exceptional. “A” work looks both at details and at the larger context, and it synthesizes material to come up with something that is new and original. “A” work has a goal, reaches it, and comes up with something new. “A” work is organized, accurate, and free of mechanical errors.

“B” work is work that is good. “B” work is on the right track to “A” work, but it isn’t as fully articulated and well thought out as “A” work. Too many signs of carelessness (i.e., mechanical errors, inaccurate citation, etc.) may return an “A” paper into a “B” paper.

“C” work is average work. It communicates what has been said in class and makes correct points, but it doesn’t take things any farther. It uses standard structures to say unoriginal things. Or it may say original things, but in such a way to make the reader confused about how the point is being made, or what it is. (Excessive mechanical errors can make a “B” paper a “C” paper because the reader has to spend so much time figuring out what is being said.)

(Comments on D and F work included in the original along with additional author advice.)

Note: In a somewhat similar vein, the State of Maryland developed a description of a “C” paper in an attempt to establish a common approach to the assessment of writing.

Oral Communication
COMPETENT SPEAKER ASSESSMENT
University of Alaska Southeast

<http://www.uas.alaska.edu/humanities/documents/i-spkr-comp-assess.pdf>

Speaker's Name: _____ Date: _____

EIGHT PUBLIC SPEAKING COMPETENCIES

SPEAKING PERFORMANCE RATINGS

Unsatisfactory Satisfactory Excellent

Competency One: Chooses and narrows a topic appropriately for the audience & occasion

COMMENTS:

Competency Two: Communicates the thesis/specific purpose in a manner appropriate for audience & occasion.

COMMENTS:

Competency Three: Provides appropriate supporting material based on the audience and occasion.

COMMENTS:

Competency Four: Uses an organizational pattern appropriate to topic, audience, occasion, & purpose.

COMMENTS:

Competency Five: Uses language that is appropriate to the audience, occasion, & purpose and demonstrates an ability to insert spontaneous comments in adapting ideas to the specific audience.

COMMENTS:

Competency Six: Uses vocal variety in rate, pitch & intensity to heighten and maintain interest. Uses pronunciation, grammar, & articulation appropriate to designated audience.

COMMENTS:

Competency Seven: Uses physical behaviors that support the verbal message & communicates engagement with audience through confidence, sincerity & enthusiasm for the topic.

COMMENTS:

Competency Eight: Uses visual aids appropriate to audience, occasion & purpose.

COMMENTS:

This form can be used to assess eight specific public speaker competencies, relevant to both speech preparation and delivery. Performance standards for three different levels of performance -- unsatisfactory, satisfactory, and excellent -- are provided.

Oral Communication
Effective Speaker Evaluation Form
Southeast Missouri State University

Introduction	poor	fair	good	excellent	superior
Caught the audience's attention					
Stated the thesis of the presentation					
Provided a preview statement					

Body	poor	fair	good	excellent	superior
Each point was well developed					
Each point was clearly supported					
There was an internal logic to the points					
Transition statements were used					

Conclusion	poor	fair	good	excellent	superior
Summarized all main points					
Had a clear ending					

Delivery	poor	fair	good	excellent	superior
Had no difficulty with pronunciation					
Was articulate					
Used an appropriate rate					
Used an appropriate volume					
Used appropriate eye contact					
Used an appropriate amount of gestures					
Kept vocalized pauses to a minimum (e.g., "um")					
Adequately controlled his/her apprehension					

Style	poor	fair	good	excellent	superior
Used appropriate language					
Used vivid language					

Audience Analysis	poor	fair	good	excellent	superior
Delivered a speech appropriate for the audience					
Narrowed the topic sufficiently enough					
Paid attention to the needs of this specific audience					

Overall Impression	poor	fair	good	excellent	superior
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COMMENTS:

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(This form was used for pre- and post testing of first year and senior students.)

Holistic Critical Thinking Scoring Rubric

Facione and Facione

- 4** Consistently does all or almost all of the following:
- Accurately interprets evidence, statements, graphics, questions, etc.
 - Identifies the salient arguments (reasons and claims) pro and con.
 - Thoughtfully analyzes and evaluates major alternative points of view.
 - Draws warranted, judicious, non-fallacious conclusions.
 - Justifies key results and procedures, explains assumptions and reasons.
 - Fair-mindedly follows where evidence and reasons lead.
-

- 3** Does most or many of the following:
- Accurately interprets evidence, statements, graphics, questions, etc.
 - Identifies relevant arguments (reasons and claims) pro and con.
 - Offers analyses and evaluations of obvious alternative points of view.
 - Draws warranted, non-fallacious conclusions.
 - Justifies some results or procedures, explains reasons.
 - Fair-mindedly follows where evidence and reasons lead.
-

- 2** Does most or many of the following:
- Misinterprets evidence, statements, graphics, questions, etc.
 - Fails to identify strong, relevant counter-arguments.
 - Ignores or superficially evaluates obvious alternative points of view.
 - Draws unwarranted or fallacious conclusions.
 - Justifies few results or procedures, seldom explains reasons.
 - Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions.
-

- 1** Consistently does all or almost all of the following:
- Offers biased interpretations of evidence, statements, graphics, questions, information, or the points of view of others.
 - Fails to identify or hastily dismisses strong, relevant counter-arguments.
 - Ignores or superficially evaluates obvious alternative points of view.
 - Argues using fallacious or irrelevant reasons, and unwarranted claims.
 - Does not justify results or procedures, nor explain reasons.
 - Regardless of the evidence or reasons, maintains or defends views based on self-interest or preconceptions.
 - Exhibits close-mindedness or hostility to reason.

(c) 1994, Peter A. Facione, Noreen C. Facione, and The California Academic Press. (See cover page for conditional permission to duplicate.)

Full rubric packet also contains cover page, class rating form, and instructions for use.
See: http://www.insightassessment.com/pdf_files/rubric.pdf

SCORING RUBRIC FOR CRITICAL THINKING

University of Michigan Flint

<http://assessment.umflint.edu/GeneralEducation/documents/Critical%20Thinking2.pdf>

Essay # _____
 Reader: _____

3.1 Students will demonstrate the ability to take reasoned positions on issues of importance and support those position with evidence.

Unacceptable Adequate Good Outstanding

3.1a The student has a clearly stated conclusion as to the reasonableness of the argument in the author's essay

1 2 3 4

3.1b The student provided reasons to support their conclusion.

1 2 3 4

3.1c The reason(s) provided give relevant support for the student's conclusion.

1 2 3 4

3.1d The reason(s) provided give adequate support for the student's conclusion

1 2 3 4

3.2 Students will demonstrate the ability to apply reasoning to solve authentic problems through experimentation, data collection, and induction of principles.

3.2a The student has accurately interpreted statistical data in charts and/or tables.

1 2 3 4

3.2b The student has drawn appropriate conclusions from the statistical data in charts and/or tables

1 2 3 4

3.3 Students will demonstrate the ability to apply quantitative reasoning to problem-solving.

3.3a The student demonstrates an understanding of what role the statistical (quantitative) evidence plays in the author's argument.

1 2 3 4

3.3b The student demonstrates an ability to critically assess the relevance of the quantitative evidence.

1 2 3 4

3.3c The student demonstrates an ability to critically assess the accuracy of the quantitative evidence.

1 2 3 4

3.4 Students will demonstrate the ability to critically examine issues that affect their world.

3.4a The student identified the conclusion (the main point) of the author's essay.

1 2 3 4

3.4b The student identified the reason(s) (the evidence) offered by the author in support of that conclusion.

1 2 3 4

3.4c The student identified an implication (or implications) of accepting the author's proposal.

1 2 3 4

3.4d The student evaluated the implications of accepting the author's proposal.

1 2 3 4

3.4e The student provided reason(s) to support their assessment of the implication of the author's proposal.

1 2 3 4

Integration of Learning

Levels of Connection

Bowling Green State University

“Connecting” is the essence of creative problem solving, shown in synthesizing knowledge within and across courses, integrating theory and practice, linking academic and life experiences, and relating one’s self and culture to diverse cultures within the U.S. and globally. The quality of connections made in course assignments will be evaluated using the features defining the four levels shown below.

Level 1 Connection (Beginner)

- Describe similarities and differences in a collection or set of items
- Categorize items or observations into groups
- Recognize simple links among topics or concepts in a course
- Offer accurate definitions of terms and concepts
- Describe the setting (e.g., context, environment, culture, domain) in which connections are being made

Level 2 Connection (Novice)

- Organize groups of items into ordered collections and specify the organizing principle(s)
- Recognize links among topics and concepts presented in different courses
- Relate and use information from other courses or experiences in the current setting
- Formulate generalizations about collections or sets of items
- Distinguish concrete and abstract representations
- Identify disciplinary concepts (theories, frameworks) and instances of their application

Level 3 Connection (Proficient)

- Use disciplinary frameworks and concepts to illuminate relationships among apparently diverse items
- Examine phenomena from multiple viewpoints, both concretely and abstractly
- Specify the limits or boundaries within which generalizations apply
- Apply abstract academic knowledge to solve concrete practical problems

Level 4 Connection (Advanced)

- Identify ways to reconcile diverse or conflicting priorities, viewpoints, or options.
- Call attention to something that has not been adequately noticed by others (e.g., a subtle or deep relationship, novel findings or interpretations, the context or frame of reference)
- Apply frameworks from multiple domains of knowledge and practice to create something (e.g., business plan, musical composition, thesis, capstone paper, research project)
- Integrate diverse elements into a product, performance or artifact that fits its context coherently

It appears that this rubric may no longer be used at BGSU. However, rubrics for several other outcomes appear at this Web address:

<http://www.bgsu.edu/offices/assessment/page31439.html>

General Education Scoring Guide for Integrative Science (IB)

Scoring Level	Science and Society	Basic Concepts and Fundamental Principles	Scientific Approach	Nature of Science
4 - Accomplished	Develops and defends an informed position, integrating values, science, and technology.	Integrates and applies basic scientific concepts and principles.	Demonstrates comprehension of the scientific approach; illustrates with examples	Demonstrates scientific reasoning across multiple disciplines.
3 - Competent	Correctly describes perspectives concerning the scientific aspects of a societal issue.	Shows clear comprehension of basic scientific concepts and principles.	Accurately expresses concepts relating to the scientific approach	Interprets and relates scientific results in a way that shows a clear recognition of the nature of science.
2 - Developing	Recognizes the place of science in human affairs, but is unable to communicate its roles.	Able to state basic scientific concepts and principles.	Uses vocabulary related to scientific methods in a rote manner or showing simple conceptualization	Provides simplistic or incomplete explanations of the nature of science.
1 - Beginning	Does not visualize a role or need for science in human affairs.	Lacks understanding of basic scientific concepts and principles.	Shows minimal understanding of scientific methods	Does not distinguish between scientific, political, religious, or ethical statements.

Also see:

[Journal of Higher Education](#), 01-MAR-07, Authors: Mansilla, Veronica Boix ; Duraising, Elizabeth Dawes for an analysis of criteria important to quality in integrative or interdisciplinary work.

Information Literacy

University of South Dakota's Information Technology Literacy (ITL) Requirement

see: http://www.usd.edu/library/assessment_gateway/assessment/Literacy_Initiative/page1.htm

Graduates will be prepared to deal intelligently both with the rapid increase in information and with the constantly evolving technologies that allow us to create, store, access, manipulate, and transmit that information, and to use information and current information technology in thoughtful, creative, and responsible ways.

Students demonstrate achievement of the goal through mastery of the following competencies:

Competency 1: Graduates will be able to analyze critically information sources and the information they provide.

Competency 2: Graduates will have developed skills in using contemporary technologies.

Competency 3: Graduates will be able to communicate effectively using contemporary technologies.

Competency 4: Graduates will understand and respect the ethical and legal aspects of information and information technology.

Competency 5: Graduates will understand information technology literacy as an essential component of lifelong learning.

USD's Information Technology Literacy requirement has two components: (1) Information Technology and (2) Information Literacy.

Information Technology involves the use of computers to manipulate data and files via applications such as Microsoft Word, Excel, and PowerPoint. Students fulfill the Information Technology component of the ITL graduation requirement by completing Computer Science (CSCI) 105 with a grade of "C" or better, or by passing three online tests covering Word, Excel, and PowerPoint....

Information Literacy involves the acquisition, critical evaluation, and use of information from both online and paper sources. The information literate person knows how to access and evaluate information from all relevant sources; the computer literate person is not necessarily information literate. The Association of College and Research Libraries has defined Information Literacy as the ability to: (1) identify a need for information; (2) locate information using contemporary technologies; (3) analyze the credibility and validity of information; and (4) use information effectively in oral and written communication.

Students fulfill the Information Literacy component of the graduation requirement by successfully passing an online information literacy examination. This requirement should be completed prior to the end of the sophomore year. Contact the Office of Academic Affairs at <http://www.usd.edu/acadaffairs/acadAssessment/itl.cfm> to sign up for the ITL examination.

What does the assessment cover?

The exam covers the five competencies that USD has determined to be our institutional goals for information literacy. The exam tests a student's competency in 1) the critical analysis of information sources and the information they provide [8 questions], 2) skills in using contemporary information technologies [8 questions], 3) communicating effectively using contemporary technologies [2 questions], and 4) understanding and respecting the ethical and legal aspects of information technology [2 questions].

How is the assessment structured?

The assessment consists of 25 multiple choice questions. Questions are drawn from a bank of questions, chosen randomly by the WebCT software. Because it is designed to assess your skills in accessing, evaluating, and using information, you may search for answers to the questions on line during the exam.

Information Literacy

On-line Assessments: James Madison University and ETS

Information Seeking Skills Test (ISST): James Madison University, Harrisonburg, VA

James Madison University believes that the fundamental knowledge and skills you need to find good information are necessary both for successful completion of your university classes and for life after graduation. The ISST requirement helps to ensure that all students develop the necessary knowledge and skills early in their university career. All students enrolled in General Education Cluster One are required to pass the Information-Seeking Skills Test (ISST) during the freshman year.

Information-Seeking Competencies

Students are required to demonstrate the following competencies by passing the ISST:

- Identify and locate library services and collections.
- Formulate and conduct an information search that includes a variety of reference sources, such as encyclopedias, library catalogs, indexes, bibliographies, statistics sources, government publications, and resources available on the Internet.
- Evaluate information in terms of accuracy, authority, bias, and relevance.
- Employ efficient database searching techniques, such as use of Boolean operators, truncation, phrase searching, nesting, and field-specific searching.
- Identify the bibliographic elements essentials for properly citing an information source.
- Apply appropriate ethical guidelines to the use of information.

Information-seeking skills are taught in Cluster One courses. Students will learn these skills by completing:

1. **Go for the Gold**, a web-based instruction program consisting of eight self-instruction modules with online exercises. (<http://www.lib.jmu.edu/library/gold/modules.htm>) The Go for the Gold exercises are **not** the ISST.
2. **Course-related assignments** that require students to find information.

Passing the ISST

After you have completed Go for the Gold, you must go to Ashby Lab L7 to take the ISST. It is a web-based test that is composed of 53 questions. The standards for passing are:

- *Advanced*: a score of 595-800
- *Meets Standard*: a score of 513-594

Successful passing of the ISST will be noted on your transcript. Students who fail may study Go for the Gold or attend a library workshop and then retake the test. Students who do not pass by the deadline will have a registration hold placed on their academic record.

Information and Communication Technology (ICT) Literacy Assessment from ETS

The ICT Literacy Assessment is a comprehensive test of Information and Communication Technology proficiency that uses scenario-based tasks to measure both cognitive and technical skills. The assessment provides support for institutional ICT literacy initiatives, guides curricula innovations, informs articulation and progress standings, and assesses individual student proficiency.

Individual score reports for the ICT Literacy Assessment will provide students with overall scaled scores and percentile rankings that identify and compare their performance to those of other test takers from the same test administration. Performance feedback is also provided, by subproficiency, to identify strengths and weaknesses for each subproficiency area.

Institutional data files are provided to allow institutions to aggregate data according to their own analysis needs. Test results help administrators and faculty determine and describe the strengths and weaknesses of individual students, the entire student body, or the group.

Information and sample test items are available: see www.ets.org and click on ICT Literacy Assessment.

Teamwork

Groupwork Assessment

Southern Illinois University Edwardsville

see: <http://www.siu.edu/~deder/assess/cats/grp13.html>

Groupwork is a fact of life in the corporate work force. As faculty members become increasingly aware of external expectations and more interested in active learning, the need for **Groupwork Assessment** grows. We all remember the high school version of groupwork where students who were regarded as less motivated parasitized the efforts of those who were more motivated. Groupwork Assessment makes performance expectations visible to all. By reducing the threshold for expressing opinions, it allows students more readily to state the concerns ---and recognize the strengths--- that they collectively bring to a group.

This assessment should really be used in the early-middle of a project and again at the end. All groups have their disagreements; early assessment can help make real problems visible before they fester into disasters. This technique requests positive as well as negative feedback; it is not a mechanism for producing blame. A negative assessment without a cogent answer to Question 6 has not addressed what this assessment is really about.

Even if a group is having trouble, Groupwork Assessment works best when trust is high, confidentiality is assured, honesty is respected, and courtesy is maintained.

---T.A. Angelo and K. P. Cross, 1993. *Classroom Assessment Techniques*, 2nd ed. San Francisco: Jossey-Bass., p. 349-51.



Groupwork Assessment

Sample Form: Groupwork Assessment

1. How many of the group members participated actively most of the time?

5	4	3	2	1	0
---	---	---	---	---	---

2. How many of the group members were fully prepared for groupwork most of the time?

5	4	3	2	1	0
---	---	---	---	---	---

3. Overall, how effectively did your group work together on this assignment?

Extremely Well	Well	Adequately	Inadequately	Poorly	Not At All
----------------	------	------------	--------------	--------	------------

4. Give one specific example of something you learned from the group that you probably wouldn't have learned on your own.

5. Give one specific example of something that other group members learned from you that they probably wouldn't have learned without you.

6. Suggest one specific, practical change the group could make that would help to improve everyone's learning.

Teamwork Teamwork Rubric

What is this form for?

Most things about group work are enjoyable and helpful. Students who complain about group assignments feel some students fail to pull their own weight in the group. Below are examples of ways you are asked to provide assessment information so the instructor can evaluate your efforts when working in groups. By looking at this form ahead of time, you can work to receive good assessments from your peers.

You may be asked to rank and rate others in the class on the following categories.

Ranking instructions: In the categories list, place the initials of the top contributor - other than yourself - in each category. You are not required to list every group member, but fill in every category.

Rating instructions: Place every group member's initials at the "Strong, Average, or Needs work" in every category.

Strong	Average	Needs work	Categories
			Provides leadership to help us focus.
			Prepares prior to group meetings.
			Contributes creative ideas.
			Has a "can do" attitude.
			Pays attention. Responds appropriately.
			Draws others out if they are too quiet.
			Has the ability to summarize and clarify.
			Does a fair share of the groups work.

Add comments:

© Marvin Bartel, all rights reserved
 Marvin Bartel, Ed.D., Professor of Art
 Goshen College, 1700 South Main St., Goshen IN 46526
 fax: 219-535-7660
<http://www.goshen.edu/art/design/teamwork.html>

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 (Bartel has a second rubric on "group grading" on the Web page above.)

Quantitative Literacy

Quantitative Reasoning

Univ. of Arkansas, Ft. Smith

Definition: Quantitative reasoning is the ability to assign and use numbers, read and analyze numerical data, create models, draw inferences, and support conclusions.

Rationale: Quantitative reasoning is often a component of effective decision-making.

Overarching Outcome: The learner will be able to propose solutions to and solve real-world problems by applying the correct numerical data.

Student Behavior One: The student will identify appropriate mathematical formulas and principles that can be used to solve a real-world problem. **Levels of Behavior One:**

1. **Exemplary Behavior**
 - Always identifies and applies the best, most accurate mathematical formula for computation of a real-world problem.
2. **Accomplished Behavior**
 - Selects and identifies appropriate mathematical formulas to solve a real-world problem.
3. **Developing Behavior**
 - Identifies the appropriate mathematical formulas and principles and executes correct answers but does not apply the responses to solve the problem.
4. **Beginning Behavior**
 - Identifies the appropriate formula but is not able to calculate or solve the problem.

Student Behavior Two: The student will use numerical data to solve a real-world problem. **Levels of Behavior Two:**

1. **Exemplary Behavior**
 - Selects proper numerical data to solve real-world problems and applies it correctly.
2. **Accomplished Behavior**
 - Usually selects proper numerical data to solve real-world problems.
3. **Developing Behavior**
 - Often selects proper numerical data to solve real-world problems and reduces some numerical data to apply to the problem.
4. **Beginning Behavior**
 - Rarely selects proper numerical data to solve real-world problems.

Student Behavior Three: The student will analyze data for support in research. **Levels of Behavior Three:**

1. **Exemplary Behavior**
 - Analyzes and selects the most important, current, accurate, and relevant statistics/data for support in a research assignment or task.
2. **Accomplished Behavior**
 - Analyzes and selects statistics and data for support, but may not always choose the most important, current, accurate, or relevant data.
3. **Developing Behavior**
 - Selects data but does not thoroughly explain the reasoning behind its usage or inclusion in the research.
4. **Beginning Behavior**
 - May include data in research assignments but does not offer explanations or contexts for that data.

Student Behavior Four: The student will analyze and make inferences based on quantitative data expressed in charts and graphs. **Levels of Behavior Four:**

1. **Exemplary Behavior**
 - Performs advanced analysis and bases solution to problem(s) on correct solution inferred from the graphed data.
2. **Accomplished Behavior**
 - Infers the correct solution from the graphed data, and then compares data from chart with empirical calculations.
3. **Developing Behavior**
 - Infers that a solution to the question can be formulated from analysis of the quantitative data found on the chart/graph.
4. **Beginning Behavior**
 - Performs very little analysis of a plotted data other than its origin vs. the graph.

Quantitative Literacy

excerpts from Scientific and Quantitative Reasoning Skills
University of Michigan-Flint

<http://assessment.umflint.edu/GeneralEducation/documents/Quantitative%20Reasoning2.pdf>

Focus Groups (Indirect Measures): The CAS assessment coordinator will arrange to have a set of graduating senior focus groups and a faculty focus group. The students will be asked to comment on how well they have acquired scientific and quantitative reasoning skills while at the University of Michigan-Flint. In addition, faculty will be asked to indicate their perception of student ability to think scientifically and quantitatively.

Student Examination (Direct Measure): The acquisition of Scientific and Quantitative Reasoning skills occurs throughout a student's career at the University of Michigan-Flint. Accordingly, the College of Arts and Sciences (CAS) will measure student outcomes for Scientific and Quantitative Reasoning at two points of time. 1) The College of Arts and Sciences will pilot the use of the Scientific and Quantitative Reasoning examination on incoming students enrolled in CAS 101, "Introduction to the University of Michigan-Flint." 2) For exit level data, CAS will administer the examination measuring Scientific and Quantitative Reasoning on a random sample of graduating seniors who agree to participate in our assessment activity.

FEEDBACK: The assessment committee will provide all the colleges with an annual report of student success that will include specific data on each of the assessment criteria examined. Input will be sought from all colleges for improvements of the Scientific and Quantitative Reasoning component of the General Education program. CAS will then develop plans to improve less successful aspects and to replicate successful aspects as it sees appropriate.

(17 questions are included in on-line posting. Examples of four questions shown below.)

Q1. Given that the average morning temperature in degrees Fahrenheit at a certain location t hours after 2:00 a.m. on June 1 is given approximately by $F(t) = 40 + t$, the approximate temperature at 9 a.m. on June 1 should be (Multiple Choice Question, **Goal 4.2a**)

Q10. A hotel can rent 100 rooms at \$60 per night for a total revenue of \$6000, but finds that for each \$5 increase in rent, occupancy will drop by 3 units. Find the revenue when the rooms are rented for \$70 per night. (**Goal 3.3a**)

Q12. Table 1 below presents the number of fires in California in two years, 2000 and 1999. The table also reports the number of acres burned in these two years. Select an appropriate style of graph for all the data and construct the graph below Table 1.

Table 1: Fires and Affected Acres in California, 2000-1999

Fires Acres

2000 5,177 72,717

1999 7,562 285,272

5 year average 6,692 157,868

Construct your graph here: (**Goal 3.3c**)

Q15. Imagine that you have data on cardiovascular risk factors as well as socioeconomic data on 184 randomly selected individuals within Genesee County. Specifically, you have data on Systolic Blood Pressure (mm hg), Total Cholesterol (mg/dl) and HDL Cholesterol (mg/dl) Age, Sex, and Income. Construct a causal hypothesis that is consistent with these variables. (**Goal 1.4a**)

NB: The Assessment of Student Learning Web site at University of Michigan - Flint is generally quite interesting. See: <http://assessment.umflint.edu/GeneralEducation/default.htm>

Intercultural Knowledge and Actions

Other World Civilizations

Buffalo State University

<http://www.buffalostate.edu/offices/assessment/gened.htm#>

I. Learning outcomes/objectives

- A. Students will know a broad outline of world history OR
 - 1. Students will critically analyze periods of historical significance
 - 2. Students will describe and explain patterns of historical change
- B. Students will understand the distinctive features of the history, institutions, economy, society, culture, etc of one non-Western civilization.
 - 1. Students will understand and identify periods of cultural development and great works.
 - 2. Students will identify distinctive features of style, events and great works

II. Student Performance

Students enrolled in courses approved for other world civilizations will either take objective examinations that demonstrate the objectives above or will produce written work (papers, essay exams) that demonstrate knowledge of the learning objectives above.

III. Assessment Criteria/Standards

Objective exam questions will be combined and computed for an overall score:

100 - 80: Exceeds the standard, 79 - 70: Meets the standard, 69 - 60: Approaches the standard, Below 60: Below the standard.

Written assignments will be evaluated according to the attached rubric. Two western civilization professors who were not instructors in the class that produced the work will read each student work product.

IV. Students Assessed: All students enrolled in classes using the objective test will be assessed. Students enrolled in classes using written work products will be randomly sampled for assessment with a target goal of 15-20% assessed.

V. Feedback: The results will be discussed at meetings of the other world civilization faculty and based upon the results, appropriate action will be taken.

OTHER WORLD CIVILIZATIONS RUBRIC

- 4** Analysis and synthesis marked by distinctive use of detail to shape the analysis
Exhibits insight as to the interactions of distinctive features of the civilization
Understands distinctive features or components of a non-western civilization within an appropriate temporal or spatial context
Recognizes salient features or components of a non-western civilization, but without context
- 3** Exhibits insight as to the interactions of distinctive features of the civilization
Understands distinctive features or components of a non-western civilization within an appropriate temporal or spatial context
Recognizes salient features or components of a non-western civilization, but without context
- 2** Understands distinctive features or component of a non-western civilization within an appropriate temporal or spatial context
Recognizes salient features or components of a non-western civilization, but without context
- 1** Recognizes salient features or components of non-western civilization, but without context

Intercultural Knowledge and Actions

Sample Global Learning Assessment Matrix

from *Assessing Global Learning: Matching good Intentions with Good Practice*

by Caryn McTighe Musil, published by AAC&U, 2006

GOALS	OUTCOMES	ASSESSMENTS
<p>To generate new knowledge about global studies</p>	<ul style="list-style-type: none"> • Students have a deeper knowledge of the historical, political, scientific, cultural, and socioeconomic interconnections between the United States and the rest of the world. • Students can identify some of the processes through which civilizations, nations, or people are defined historically and in the present. • Students can describe some of the contested assumptions and intellectual debates within global studies that are relevant to their major. • Students develop new abilities to describe the foreign country they are studying from the inside out. • Students can pose critical questions about power relations as they investigate the dynamics of global transactions as applied to a social problem important to their field. 	<ul style="list-style-type: none"> • Pre-/post-test essay requiring students to demonstrate mastery of the desired outcomes • Final exams and other writing assignments • Student portfolios that demonstrate the extent of learning across the semester • Focus group discussions • Documentation of classroom discussions
<p>To spur greater civic engagement and social responsibility</p>	<ul style="list-style-type: none"> • Students acquire a heightened sense of global interconnections and interdependencies. • Students are more likely to believe their individual intervention in a global social problem is both possible and consequential. • Students can describe a social problem requiring collective remedies that transcend national borders. • Students are able to identify some of the ethical and moral questions that underlie a given transaction between countries. • Students develop greater courage to engage in social exchanges and enterprises, even when faced with radical cultural difference. • Students identify obligations to people situated both inside and outside their own national borders. 	<ul style="list-style-type: none"> • Reflection exercises and activities about experiences in civic participation • Journal entries or writing assignments about involvement in social advocacy groups and programs • Questions and issues raised in course assignments
<p>To promote deeper knowledge of, debate about, and practice of democracy</p>	<ul style="list-style-type: none"> • Students can speak knowledgeably about fundamental principles and premises of U.S. democracy. • Students can compare features of democracy in the United States with features of democracy in another country. • Students can discuss some of the tensions inherent in democratic principles. • Students develop stronger skills to engage in deliberative dialogue, even when there might be a clash of views. • Students are more adept at establishing democratic partnerships with people or groups that do not begin sharing power equally. • Students develop an experiential understanding of systemic constraints on the development of human potential as well as community-based efforts to articulate principles of justice, expand opportunity, and redress inequities. 	<ul style="list-style-type: none"> • Papers and oral presentations • Semester-long involvement in local or global government action • Community-based research project on how democracy is operationalized at the local government level • Final exam questions that require evidence of knowledge about the complexity of democracy
<p>To cultivate intercultural competencies</p>	<ul style="list-style-type: none"> • Students are able to interpret aspects of other cultures and countries with greater sophistication and accuracy. • Students are able to traverse cultural borders with greater skill and comfort. • Students are able to describe their own culture with greater knowledge and awareness. • Students are able to view a single issue from multiple perspectives, and they are more comfortable with complexity and ambiguity. • Students are able to work effectively with others who are different from them. • Students are more tolerant of and curious about others' beliefs. 	<ul style="list-style-type: none"> • Intercultural competencies survey instruments • Papers, oral presentations, exams • Group community-based projects • Observation of classroom interactive dynamics • Student self-assessments collected at intervals during the course

Ethical Reasoning The Defining Issues Test

<http://www.centerforthestudyofethicaldevelopment.net/DIT%20--Sample%20Dilemma.htm>

The Defining Issues Test is a widely used exam based upon Kohlberg's moral development theory and used to determine the ethical development of the test taker. A narrative sets up a difficult ethical problem and asks the test taker to answer how important certain issues were in their decisions about actions to take in response to the given situation. The complete test has six problems. A sample problem appears below:

Sample Dilemma: Heinz and the Drug

In Europe a woman was near death from a special kind of cancer. There was one drug that doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging ten times what the drug cost to make. He paid \$200 for the radium and charged \$2,000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together about \$1,000, which is half of what it cost. He told the druggist that his wife was dying, and asked him to sell it cheaper or let him pay later. But the druggist said, "No, I discovered the drug and I'm going to make money on it." So Heinz got desperate and began to think about breaking into the man's store to steal the drug for his wife. Should Heinz steal the drug?

Please rate the following statements in terms of their importance in making a decision about what to do in the dilemma. (1=Great importance, 2=Much importance, 3=Some Importance, 4=Little importance, 5=No importance)

1. Whether a community's laws are going to be upheld.
2. Isn't it only natural for a loving husband to care so much for his wife that he'd steal?
3. Is Heinz willing to risk getting shot as a burglar or going to jail for the chance that stealing the drug might help?
4. Whether Heinz is a professional wrestler, or had considerable influence with professional wrestlers.
5. Whether Heinz is stealing for himself or doing this solely to help someone else.
6. Whether the druggist's rights to his invention have to be respected.
7. Whether the essence of living is more encompassing than the termination of dying, socially and individually.
8. What values are going to be the basis for governing how people act towards each other.
9. Whether the druggist is going to be allowed to hide behind a worthless law which only protects the rich anyhow.
10. Whether the law in the case is getting in the way of the most basic claim of any member of society.
11. Whether the druggist deserves to be robbed for being so greedy and cruel.
12. Would stealing in such a case bring about more total good for the whole society or not.

Now please rank the top four most important statements. Put the number of the statement in the blank:

- ____ Most important item
- ____ Second most important item
- ____ Third most important item
- ____ Fourth most important item

Information about the DIT 2 – a newer and slightly shorter version of the test is described at:

<http://www.centerforthestudyofethicaldevelopment.net/DIT2.htm>

Ethical Reasoning
University Studies Ethical Issues and Social Responsibility
Portland State University

Note: In this scoring guide, the phrase “ethical issues and social responsibility” refers to the impact and value of individuals and their choices on society – intellectually, socially, and personally.

Score of 6 – Consistently does all or almost all of the following:

- creatively and comprehensively articulates approaches to ethical issues and social responsibility, in a scholarly manner, citing specific evidence
- demonstrates an ability view multiple sides of these issues
- questions what is being taught
- constructs independent meaning and interpretations
- presents well-developed ideas on the role of ethical issues and social responsibility in both private and public life
- demonstrates a deep awareness of how a conceptual understanding of ethical issues and social responsibility manifests concretely in one’s own personal choices, including decisions on when and how to act

Score of 5 – Does most of the following:

- analyzes ethical issues and social responsibility in a scholarly manner
- makes thoughtful connections between this area of study and its effects on lives, ideas, and events
- discusses explicitly how a deepening understanding of ethical issues and social responsibility has influenced personal opinions, decisions, and views on the role of self in society

Score of 4 – Does most of the following:

- thoughtfully analyzes, in a scholarly manner, a situation or situations in which ethical issues and social responsibility have played an important role
- begins to investigate connections between areas of controversy and to extrapolate meaning from specific examples
- applies learning in ethical issues and social responsibility to issues that arise in everyday life
- contemplates the impact of personal ethical choices and social action in the context of interpersonal and broader societal spheres

Score of 3 – Does most or many of the following:

- exhibits a working knowledge of major themes and scholarly debates surrounding ethical issues and social responsibility
- applies understanding to some topic(s) but offers no independent analysis
- references ethical issues and social responsibility as a subject of personal inquiry
- begins to question established views
- contemplates in some way the value and impact of individual choices and personal action on one’s broader community

Score of 2 – Does most or many of the following:

- mentions some issue(s) involving ethics and/or talks about social responsibility in a general fashion, but does not discuss these areas in a meaningful way
- contains some evidence of self-reflection in the area of ethical issues and/or social responsibility, but this reflection is superficial and reveals little or no questioning of established views

Score of 1 – Consistently does all or almost all of the following:

- displays little or no engagement with the subjects of ethical issues and social responsibility
- demonstrates little or no recognition of ethical issues and social responsibility as subjects worthy of personal inquiry.

Foundation and Skills for Lifelong Learning

Assessment suggestions from engineering at San Jose State University

ABET, the accreditor for engineering programs, requires that:

Engineering programs must demonstrate that their graduates have:
... (i) a recognition of the need for, and an ability to engage in life-long learning. (from *Criteria for Accrediting Engineering Programs*. See: www.abet.org and follow the links to accreditation and then evaluation criteria)

Basically, this statement creates a requirement to assess *preparation for lifelong learning*, not a requirement to measure continuing learning among alumni or through some other longitudinal procedure. Institutions establishing an outcome for lifelong learning (or a similar concept) might consider the ABET “preparation for” approach rather than the more difficult tactic of measuring lifelong learning directly.

Mourtos (2003), professor of engineering at San Jose State University, suggests that the accreditation guideline divides neatly into “affective” and “cognitive” areas – the affective part being “recognition of need for” lifelong learning and the cognitive part the “ability to engage.”

The taxonomy of the affective domain includes five levels: receiving, responding, valuing, organization, and characterization by a value or value complex. Mourtos asserts that students must be at least at the “organization” level to meet the standard. (Organization defined by Mourtos: students balance their responsibilities effectively; begin to formulate a systematic approach to learning.)

The following actions are then cited by Mourtos as indicators of at least the organization level of the affective domain:

- Willingness to learn new material on their own
- Reflecting on their learning process
- Participation in professional societies’ activities
- Reading engineering articles/ books outside of class
- Attending extracurricular training or planning to attend graduate school

In the cognitive area, the expectation is to show competencies at least up to the analysis level. Sample actions related to this level are:

- Read critically and assess the quality of information available
- Synthesize new concepts by making connection, transferring prior knowledge, and generalizing
- Analyze new content by breaking it down, asking key questions, comparing and contrasting, recognizing patterns, and interpreting information.
- Reason by predicting, inferring, using inductions, questioning assumptions, using lateral thinking and inquiring.

Looking closely at this list of suggested actions suggests that the real goal is to have students analyze, synthesize, and evaluate – the top three levels of the cognitive domain.

The assessment challenge for campuses then becomes to show that students have cognitive abilities in particular content areas up to analysis, synthesis, and evaluation and an affective position of “organization” or higher. Having identified some indicators of the affective outcome desired, engineering courses at Mourtos’s campus include elements like discussions with representative from professional societies, talking about reasons for pursuing a graduate degree, and completing learning style inventories to help students remedy any weaknesses and balance their learning approaches. Cognitive outcomes are generally developed through course assignments and projects.

A three part assessment process includes a look at 1) student work, 2) student course reflections, and 3) student surveys.

Reference: Mourtos, Mikos J. 2003. Defining, Teaching and Assessing Lifelong Learning Skills. Paper presented at 33rd ASEE/IEEE Frontiers in education Conference, Boulder, CO. see: <http://fie.engrng.pitt.edu/fie2003/papers/1367.pdf>

Civic Responsibility and Engagement

Service-Learning Rubric

Service-Learning is a teaching method that combines academic instruction, meaningful service, and critical reflective thinking to enhance student learning and civic responsibility. Use this rubric to evaluate your progress of your service-learning project, and once you've completed it.

	Strong Impact	Good Impact	Some Impact	Minimal Impact
1. Meet actual community needs	Determined by current research conducted or discovered by youth with educator's assistance where appropriate	Determined by past research discovered by youth with educator's assistance where appropriate	Determined by making a guess at what community needs are	Community needs secondary to what a project the educator wants to do; project considers only student needs
2. Are coordinated in collaboration with community	Active, direct collaboration with community by the educator and/or youth	Community members act as consultants in the project development	Community members are informed of the project directly	Community members are coincidentally informed or not knowledgeable at all
3. Are integrated into curriculum	Service-learning as an Instructional strategy with content/service components integrated	Service-learning as a teaching technique with content/service components concurrent	Service-learning part of curriculum or project work but sketchy connections, with emphasis on service	A service project or good deed not tied to learning
4. Facilitate active student reflection	Youth think, share, produce reflective products individually and as group members	Youth think, share, produce group reflection	Youth share individual reflective projects	Reflection is just a summary of events
5. Use new skill/knowledge in real world settings	All youth have direct application of new skill or knowledge in community service	All youth have some active application of new skill or knowledge	Some youth more involved than others or little community service involvement	Knowledge used mostly in the classroom or project work; no active community service experience
6. Help develop sense of caring for and about others	Reflections show growth regarding self in community and the importance of service	Reflections show generic growth regarding the importance of community service	Reflections restricted to pros and cons of particular service project regarding the community	Reflections limited to self-centered pros and cons of the service project
7. Improve quality of life for person(s) served	Facilitate change or insight; solve a problem; meet a need or address an issue	Changes enhance an already good community situation	Changes mainly decorative, but new and unique benefits realized in community	Changes mainly decorative, but limited community benefit, or are not new and unique

Source: This rubric is taken from the Coverdell World Wise Schools publication, *Looking at Ourselves and Others* (Washington, DC: Peace Corps, 1998, p.6).

Civic Responsibility and Engagement

Rubric to Assess Service Learning Reflection Papers Developed by Hawai'i Campus Compact

AWARENESS OF PURPOSE OF SERVICE

NOVICE	APPRENTICE	PROFICIENT	DISTINGUISHED
Student demonstrates limited awareness of the purpose of obtaining SL credit.	Student expresses awareness of issues pertaining to one-on-one connection on the project but these are not applied.	Student expresses empathy and awareness of personal role in the solution and makes a connection to the bigger picture.	Student expresses and acts out personal role in solution.

APPLY THEORY TO SERVICE LEARNING

NOVICE	APPRENTICE	PROFICIENT	DISTINGUISHED
Student does not apply theory, or there is a limited, unclear connection of theory to service.	Student expresses some connection between theory and service.	Student develops a perspective based on both theory and service.	Student takes own perspective based on both theory and service and applies it beyond the curriculum.

RESPONSIBILITY TO COMMUNITY

NOVICE	APPRENTICE	PROFICIENT	DISTINGUISHED
Student demonstrates a limited awareness of personal responsibility to community.	Student expresses insight into community issues pertinent to the service project and integrates a personal sense of responsibility to participating in a solution but does not apply that knowledge.	Student acknowledges a responsibility to community regarding issues pertinent to the service and expresses a commitment to working towards specific solution(s).	Student acknowledges a responsibility to community regarding issues pertinent to the service and expresses a commitment to working towards a specific solutions. In addition, student gets others involved.

IMPACT ON STUDENT'S PERSONAL LIFE

NOVICE	APPRENTICE	PROFICIENT	DISTINGUISHED
Student expresses very limited or no connection between service and self.	Student expresses a connection between service and self. (For example, "I feel good about having done this good deed.")	Student expresses how she/he could change as a result of the service.	Student expresses change(s) in self because of the service.

CRITICAL THINKING

NOVICE	APPRENTICE	PROFICIENT	DISTINGUISHED
Student accepts things at face value, as if all opinions were created equal. Opinions are stated without argument.	Student begins to ask questions and tries to see different perspectives.	Student begins to argue for conclusions based on evidence but arguments remain concrete.	Student expresses abstract level of responding: requires objective evidence, demonstrates awareness of different perspectives, and weighs evidence to successfully argue for a conclusion/opinion.

Used to assess a reflection completed according to the instructions in the Service-learning reflection Guide (Kapi'olani Community College): see www.starlinktraining.org/packets2005/packet23.pdf, page 22. The whole packet focuses on service learning: why and how.