<table>
<thead>
<tr>
<th>Competency [Year(s) Assessed]</th>
<th>Definition (Student Learning Objectives)</th>
<th>Standards</th>
<th>Description of Methodology</th>
</tr>
</thead>
</table>
| Information Literacy [Assessed: Annually; Reported: 2013-2014] | - Determine when information is needed and find it efficiently using a variety of reference sources.  
- Evaluate the quality of the information.  
- Use the information effectively for an appropriate purpose.  
- Employ appropriate technologies to create an information-based product.  
- Use information ethically and legally. | Standards on the ISST, Word, and Powerpoint tests were set in the fall of 1999 by groups of 8-12 faculty who taught a variety of Cluster 1 courses. They reached a recommended standard using the Bookmark procedure developed by psychometricians at CTB/McGraw-Hill. The standards were subsequently approved by the GenEd Council. Similar procedures were followed when Excel was added to the requirements.  
Standards: Excel 12/20; Powerpoint 15/20; Word 16/20; ISST 513 (norming group in 1998-1999 had mean = 500, sd=100). | JMU uses four tests to assess information literacy: ISST (Information Seeking Skills Test), Word Processing, Presentations, and Spreadsheets (these last three are collectively labeled the Tech 1 tests). All students at JMU are required to complete and pass the tests prior to registering for courses as a sophomore. This results in a census of all students. Students complete the assessments on a walk-in basis in the University’s assessment computer lab. |
| Writing [Assessed: Annually; Reported: 2013-2014] | - Develop and support a relevant and informed thesis, or point of view, that is appropriate for its audience, purpose, and occasion.  
- Analyze and evaluate information to identify its argumentative, credible, and ethical elements.  
- Reflect on civic responsibility as it relates to written discourse (critical thinking. | The writing rubric assesses students’ writing on five traits (Usage & Mechanics, Purpose, Organization, Style, and Complexity) which are evaluated at 4 different levels (Beginning, Developing, Competent, and Advanced). The percentage of students falling into each level will be reported. | To demonstrate competency James Madison University uses a pre-post value added analytic approach. JMU’s Assessment Day data collection strategy has been in place for over 20 years and provides data on entering students (fall) and those that have completed 45 to 70 credit hours (spring).  
[1] |
• Demonstrate effective writing skills and processes by employing invention, research, critical analysis and evaluation, and revision for audience, purpose, and occasion.
• Effectively incorporate and document appropriate sources to support a thesis and effectively utilize the conventions of syntax, grammar, punctuation, and spelling.

Oral Communication [Assessed: Annually; Reported: 2013-2014]

• Understand and apply the fundamentals of audience analysis, message construction, development, organization, and presentation.
• Deliver effective oral presentations in a variety of contexts
• Identify, evaluate and employ critical and sensitive listening behaviors.
• Identify and manage the verbal and nonverbal dimensions of communication in a variety of contexts.
• Recognize and apply the influences of self-concept perception and culture on communication.
• Identify, evaluate and utilize the nature and functions of power and the strategies of conflict negotiation.

The GCOM test provides JMU competency information on its students while the Oral Communications test provides a means by which to examine value-added longitudinal growth. After two standard setting experiences, a community GCOM standard was identified. The content of this test changes each year, so the cut score is determined using a standardized procedure. The student performances are then interpreted in light of the prescribed cut-score.

JMU uses two tests to assess communication: GCOM final exams and the Oral Communications test administered on assessment day.

GCOM final: Students completing GCOM 121, 122, and 123 complete the course-embedded final examination. The three versions of the examination (121, 122, and 123) have been equated using item response theory.

Oral Communications test: To demonstrate competency James Madison University uses a pre-post value added analytic approach. JMU’s Assessment Day data collection strategy has been in place for over 20 years and provides data on entering students (fall) and those that have completed 45 to 70 credit hours (spring).
| Scientific Reasoning [Assessed: Annually; Reported: 2015-2016] | • Describe the methods of inquiry that lead to mathematical truth and scientific knowledge and be able to distinguish science from pseudoscience.  
• Use theories and models as unifying principles that help us understand natural phenomena and make predictions.  
• Recognize the interdependence of applied research, basic research, and technology, and how they affect society.  
• Illustrate the interdependence between developments in science and social and ethical issues.  
• Use graphical, symbolic, and numerical methods to analyze, organize, and interpret natural phenomena.  
• Discriminate between association and causation, and identify the types of evidence used to establish causation.  
• Formulate hypotheses, identify relevant variables, and design experiments to test hypotheses.  
• Evaluate the credibility, use, and misuse of scientific and mathematical information in scientific developments and public-policy issues. | JMU will report the percentage of students meeting faculty expectations for acceptable student performance. The standard setting methodology for the 9th version of the Scientific Reasoning assessment was the Angoff method, and faculty judgments were collected from over 30 faculty members over the 2007-2008 academic year. We now have faculty expectations for student performances at the test and item level. We are using these values to look for gains in student achievement of faculty expectations via exposure to related course work.  
Standard: 50.4 out 66 of items | To demonstrate competency James Madison University uses a pre-post value added analytic approach. JMU’s Assessment Day data collection strategy has been in place for over 20 years and provides data on entering students (fall) and those that have completed 45 to 70 credit hours (spring).  

1
| Quantitative Reasoning  
[Assessed: Annually; Reported: 2015-2016] | • Describe the methods of inquiry that lead to mathematical truth and scientific knowledge and be able to distinguish science from pseudoscience.  
• Use graphical, symbolic, and numerical methods to analyze, organize, and interpret natural phenomena.  
• Evaluate the credibility, use, and misuse of scientific and mathematical information in scientific developments and public-policy issues.  
JMU will report the percentage of students meeting faculty expectations for acceptable student performance. The standard setting methodology for the 9th version of the Quantitative Reasoning assessment was the Angoff method, and faculty judgments were collected from over 30 faculty members over the 2007-2008 academic year. We now have faculty expectations for student performances at the test and objective level. We are using these values to look for gains in student achievement of faculty expectations via exposure to related course work.  
Standard: 19.4 out of 26 items | To demonstrate competency James Madison University uses a pre-post value added analytic approach. JMU’s Assessment Day data collection strategy has been in place for over 20 years and provides data on entering students (fall) and those that have completed 45 to 70 credit hours (spring). ¹ |
| Critical Thinking [Assessed: Annually; Reported: 2018] | • Evaluate claims in terms of clarity, credibility, reliability, and accuracy  
• Demonstrate the ability to identify, analyze and generate claims, arguments, and positions  
• Identify and evaluate theses and conclusions, stated and unstated assumptions, and supporting evidence and arguments.  
• Apply these skills to one's own work and the work of others.  
Critical Thinking is assessed using multiple reasoning assessments across JMU’s general education areas (e.g. Scientific Reasoning, Quantitative Reasoning, Writing, Global Experience). Because all areas of general education are expected to contribute to students’ general critical thinking, JMU expects to see student reasoning scores increase with exposure to the University’s general education curriculum, regardless of whether students have completed specific course work in the area. For example, Global Experience scores should go up even for students who have not taken courses specific to this area because students have taken other | To demonstrate competency James Madison University will use a pre-post value added analytic approach. JMU’s Assessment Day data collection strategy has been in place for over 20 years and provides data on entering students (fall) and those that have completed 45 to 70 credit hours (spring). ¹ |
general education courses that contribute to general critical thinking. However, we also expect to see larger gains in specific reasoning scores by students who have completed course work in the specific area. For example, students who have completed coursework designed to enhance reasoning related to the Global Experience specifically, should have higher scores on the Global Experience assessments compared to students who have not completed the specific courses.

1Methodology: By assessing students as they enter the University and again after they have earned 45 to 70 credits, JMU is in the position to answer questions regarding differences in students as they enter the University (including those with transfer, Advance Placement, dual-enrollment credits). Also, given that some students in the 45 to 70 credit range have completed general education courses that map to the assessed domains and others have not, we can compare the performance of students at various stages of coursework completion. The assessment design assures that students are assigned to testing rooms on the basis of the last two digits of their student ID numbers; thus, large representative samples are generated. Because the ID numbers do not change, we can assure that students are assigned to take the same instrument again during their sophomore-junior year. This process allows JMU to examine true pre-post differences. We also incorporate AP, dual enrollment, and transfer credits into our analyses. These studies have provided rich findings concerning the quality of JMU earned credit hours in comparison to other sources.

Among the analytical methods used to examine the pre-test scores of entering students JMU employs the following as appropriate:
- Differences—Students who enter the university and are transferring in no credits, vs. those who transfer in AP credits or dual-enrollment credits.
- Competency—The percentage of the students who achieve a faculty developed expectation for student performance.

Among the analytical methods used to assess the impact (pre-post) of courses on achievement, JMU employs the following as appropriate:
- Differences—Students who have completed all general education course requirements in the area being assessed should perform better than students who have taken only one or two courses related to the area being assessed.
- Change or Value-Added—Sophomore and junior-level students should perform better on the assessment tests than entering first-year students. Further, students who have completed the general education course requirements in the area being assessed should perform better than they did as entering first-year students [Value-Added].
- Competency—The percentage of the students who have completed their Cluster coursework that achieve the standard or expectation established by JMU faculty. The performance level associated with competency was determined through either a modified Angoff standard setting procedure or the bookmark method.
JMU and CARS have spent considerable time studying examinee motivation and have now reached a point where we can incorporate scores on student perceived Importance and Effort into our analyses. These analytic techniques have enhanced the validity of the inferences we wish to make about student learning. We can clearly identify students that are not putting forth effort to perform well. We have initiated procedures for ‘filtering’ out students with low motivation. It is consoling to note that less than 1% of our students show extremely low motivation. For more information about the work conducted via the CARS Motivation Research Institute see http://www.jmu.edu/assessment/institutes/MRI_Overview.htm .