Framingham
State University

General Education Assessment Report

2014-2015

Assessment Advisory Group

And

Office of Assessment

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Introduction

The assessment of general education objectives is a critical aspect of our work to continuously improve student learning at our institution. In addition, assessment of FSU's general education program is required by the New England Association Schools and Colleges (NEASC). The Office of Assessment has general oversight of the general education assessment process, and the Assessment Advisory Group (AAG) provides input and a faculty voice to this process.

"The general education program at FSU is intended to provide breadth in the baccalaureate degree program to foster student learning beyond a single, narrow discipline or field. General education is designed to facilitate the increase of knowledge, an appreciation for learning in a broad context, the ability to relate new information to what one has learned previously, the capacity to judge information rather than to simply accept it, and the facility to use what one learns in a realistic and logical manner. More specifically, the general education requirement is designed to help students to acquire the following learning objectives:

- Overarching Objective: Solve Problems Using Critical Thinking *(All General Education courses should meet this objective.)*
1. Communicate Effectively Orally
2. Communicate Effectively in Writing
3. Solve Problems Using Quantitative Thinking
4. Demonstrate a Critical Understanding of Human Diversity
5. Demonstrate Civic Literacy
6. Recognize Ethical and Social Responsibilities
7. Locate, Evaluate, and Apply Information

8. Solve Problems Using Creative Thinking

9. Demonstrate Technological Competency

10. Work Collaboratively and Independently" (Undergraduate Student Catalog 2012-13) " (FSU Catalog)

Specific courses in the general education curriculum are designated as focusing on each of the above outcomes. More information on the general education curriculum at FSU can be found at http://www.framingham.edu/undergraduate-catalogs/documents/1314/8a-gen-ed-requirements.pdf.

In 2014-15, FSU completed its third year of assessment of the general education curriculum, a course embedded assessment model. Recommendations from the 2012-13 and 2013-14 report guided the implementation of several changes to both the assessment process and how results were reported. This year we assessed Overarching Objective: Critical Thinking (CT) and Objective 2: Written Communication (WC), and we developed a rubric for assessing Objective 4: Human Diversity.

In 2014-15 FSU participated in the Multi-State Collaborative in which several colleges and universities nationwide collectively assessed CT and WC learning objectives. This provided us a unique opportunity to compare CT and WC artifacts from the GE program with work produced by students that had already completed 75% of their degree. The artifacts collected as a part of the Multi State Collaborative Pilot study (MSC) were also rated by FSU faculty using the FSU rubrics for CT and WC. This report also presents results that compare student performance in general education courses with those sampled from the MSC pilot study.

Closing the Loop from the Assessment Process in AY2014-15

The Overarching Objective: Critical Thinking and Objective 2: Written Communication were first assessed during AY 2012-13. Since then, the Office of Assessment has modified several aspects of the GE assessment process in response to past experience, faculty input, and feedback from the AAG.

Since 2012, the Office of Assessment has focused on increasing the number of artifacts used to assess each objective. This was accomplished by providing more explicit and user-friendly instructions for artifact submission to faculty teaching GE courses, by providing more thorough norming sessions for faculty raters and by offering faculty development workshops on assignment design for CT and WC. After two years of instituting these changes, the sample size for both CT and WC increased 6-fold (Table 1).

	Critical Thinking	Written Communication
Year	N	N
AY2012-13	18	24
AY2014-15	122	193

Table 1. Sample size for critical thinking and written communication assessment for AY2012-13 and AY2014-15.

This year, The Office of Assessment also addressed two major points of feedback from the faulty raters and AAG members that participated in the assessment process in AY2013-14. These points are discussed in detail below.

#1: Existing rubrics for CT and WC are difficult to use when scoring student work.

In order to address this concern, 1) faculty were hired to revise the CT and WC rubrics, 2) the norming sessions focused on applying rubrics to student work, and 3) the Director of

Assessment, engaged the University Curriculum Committee (UCC) about the formal definitions of the GE objectives.

Raters that assessed the CT and WC objectives for the GE program from previous years indicated that the rubrics were not comprehensive enough and were difficult to use. In response to these concerns, the Office of Assessment hired two faculty to modify each rubric. Rubric revisions were based on the expertise of the hired faculty as well as rater feedback. Specifically, the WC rubric was modified to encompass a broader range of writing styles across many disciplines. Similarly, the CT rubric was modified such that it could accommodate the multi-disciplinary interpretations of critical thinking. Once initial changes were made, the faculty worked closely with the Office of Assessment to create final drafts of each rubric (Appendix A).

The Office of Assessment also modified the norming sessions to focus more on the use of the CT and WC rubrics. The duration of the norming sessions was extended to four hours to allow more time for raters to practice scoring artifacts with the rubrics and engage in detailed discussions about their experience. These changes were modeled after the MSC norming sessions, organized by the American Associate of Colleges and Universities, that the Director of Assessment and the Faculty Fellow of Assessment attended in Spring 2015.

Raters from previous years also commented that challenges using the rubrics may be due to the fact that the GE objectives do not have formal definitions, thereby making it difficult to create rubrics that are well aligned with the objectives. In AY2014-15, Dr. Nicholas informed the UCC of the importance of developing definitions for GE learning objectives. The UCC decided to undertake the project of developing broad definitions for general education learning objectives.

 # 2: Assignments do not align with the rubrics used to assess the GE learning objectives.

The Office of Assessment addressed this concern by 1) offering faculty development opportunities in assignment design, 2) screening assignments to determine if they address the CT and/or CT objectives prior to assessment, and 3) including a focused discussion on the assignment prompts and rubrics during the norming sessions for raters.

Dr. Mark Nicholas ran faculty development workshops for CT and WC (President's Initiative Workshops in Critical Thinking and Written Communication) during the summers of 2014 and 2015. These workshops were funded by a grant from the Davis Educational Foundation and provided faculty an opportunity to develop assignments that were well aligned with CT and WC course objectives and assessment strategies. The workshops introduced faculty to the GE rubrics for CT and WC and emphasized the value of rubrics when grading student work. Faculty that participated in the President's Initiative workshops were required to use their new/revised assignments in their course(s) and submit their students' work for GE assessment. Of the 151 CT artifacts submitted for assessment, 40 were products of the President's Initiative Workshop in Critical Thinking, and 95 of the 193 artifacts submitted for WC were from the President's Initiative Workshop in Written Communication.

To further improve assignment/rubric alignment, the Office of Assessment hired two faculty to review every assignment submitted for assessment of the CT and WC objectives. Without reading the student work, these faculty read through each assignment prompt to determine if the assignments were well suited for assessment using the GE rubrics for CT and WC. Only assignments that were deemed as aligned with the rubrics were used for scoring.

Lastly, the norming sessions included ample time for raters to read sample assignments, practice scoring sample artifacts, and engage in meaningful conversations about the scoring

process. This training was designed to help raters become more comfortable determining if an assignment was appropriate for scoring using the GE rubrics.

Methods

Artifact Collection

At the beginning of Fall 2014 and Spring 2015 semesters, the Office of Assessment requested student work from all faculty teaching general education courses associated with the CT and WC objectives. Student work associated with GE courses from faculty that participated in the President's Initiative Workshops in CT and WC were also collected for assessment. In total, the Office of Assessment received 744 samples of student work, 447 of which were submitted electronically and 297 that were submitted as hard copies.

Artifact Preparation

Once artifacts were submitted to the Office of Assessment, two faculty reviewed the assignment prompts to determine if the prompts were appropriate for the assessment of CT and WC. Following this screening process, artifacts were scrubbed of all identifying information and coded to maintain student and instructor anonymity.

Norming Raters

Raters for each objective attended a 4-hour norming session. During each session, raters applied the revised rubric on three sample artifacts and then discussed their individual scores and how they used the rubric. During the discussions, raters explained their rationale for the scores

they chose and came to a consensus on how to interpret the language of the rubric. The norming session also included a discussion on how to use the NA option.

Scoring Process

Following the norming sessions, raters were placed into teams of two, and each team was given a set of artifacts that raters would score independently. Once both team members scored the first 10 artifacts, raters discussed their scores. If scores diverged by more than a point, or either rater scored an NA, raters discussed why the scoring discrepancies existed. Following this discussion, each rater scored the remainder of their assigned artifacts independently, without consultation.

Upon completion, raters submitted their independent scores to the Faculty Fellow of Assessment, and the Faculty Fellow reviewed the scores. All NA scores and any numerical scores that differed by more than one point between the two raters were returned to the rater team. The raters discussed each of these scores and attempted to reach a consensus. If a consensus could not be reached, a third faculty rater provided an additional score.

CT raters scored 119 artifacts each and WC raters scored 78 artifacts each. Student work collected as part of the MSC pilot study were included in the pool of artifacts the FSU faculty raters scored for GE assessment. As such, GE and MSC artifacts were scored by the same set of raters using FSU rubrics.

Rater Score Correlation

Rater score correlations were calculated for each rater pair prior to and after the raters discussed their individual scores and attempted to reach consensus (Table 2). Score correlation increased for each rater pair following consensus (Table 2).

Rater Pairs	N	Correlation before consensus	Correlation after consensus
CT Pair 1	43	0.622	0.889
CT Pair 2	79	0.705	0.754
WC Pair 1	78	0.573	0.805
WC Pair 2	77	0.343	0.624
WC Pair 3	37	0.114	0.452

Table 2. Rater score correlation prior to and following consensus for CT and WC.

Data Analysis

Rater scores were compiled to determine the average sub-scores for each component of the CT and WC rubrics, as well as the average overall scores for the CT and WC learning objectives. Average scores for GE artifacts and MSC artifacts were calculated separately.

Critical Thinking and Written Communication Artifacts

After sampling limitations and removing assignment prompts that were not applicable for assessment, 124 of the 355 CT artifacts and 193 of the 389 WC artifacts were scored. Of the scored artifacts, 122 scores contributed to the analysis for CT, and 100% of the WC scores were used in the analysis of the WC objective. The CT artifacts used for assessment came from 13 courses within the GE program, and 13 additional GE courses contributed artifacts for assessing the WC objective. The majority of these courses were taught by full time faculty (Table 3).

	# artifacts collected	# of artifacts scored	# of artifacts used	# of artifacts from PIWS*	# of courses contributing to GE assessment	# full time faculty/visiting lecturers
CT	355	124	122	40	13	13/3
WC	389	193	193	95	13	11/3

Table 3. Breakdown of the number and types of artifacts collected. *President's Initiative Workshops in Critical Thinking and Written Communication.

Results

Overarching Objective: Critical Thinking

The overall general education mean score for CT was 2.03 with a SD of 0.25. The scores were normally distributed (Figure 1) with 50% of the data falling between 1.5 and 2.5 (median=2.0; Figure 2). Comparisons of the sub-component scores show that students, on average, perform better at explaining the problem than either evaluating evidence or arriving at conclusions (Table 3). The overall mean score for the MSC artifacts (mean = 2.7) was higher than that for the GE artifacts (Figure 2).
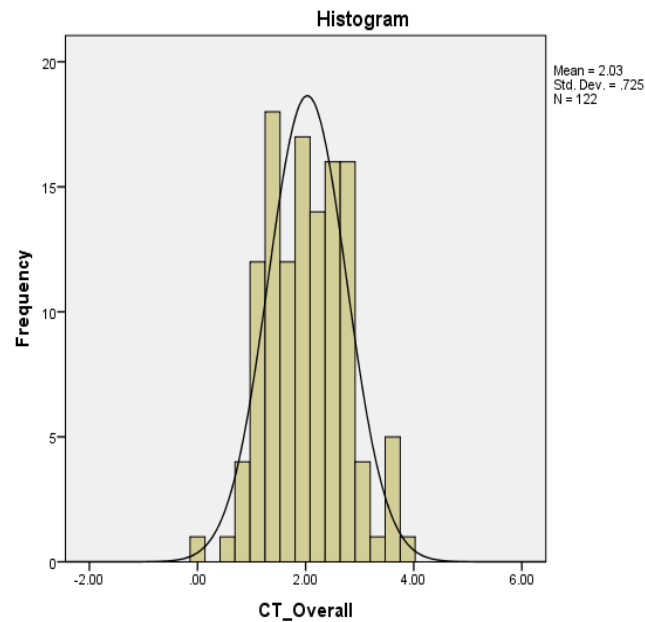

Figure 1. Frequency distribution for Overarching Objective: Critical Thinking

Descriptive Statistics (N=122)		
	Mean	Std. Deviation
CT_Explains_Problem	2.4754	.73689
CT_Eval_Evidence	1.7746	.90629
CT_Arrives_Conclusion	1.8456	.85366

CT_Overall	2.0319	.72506

Table 3. Average su

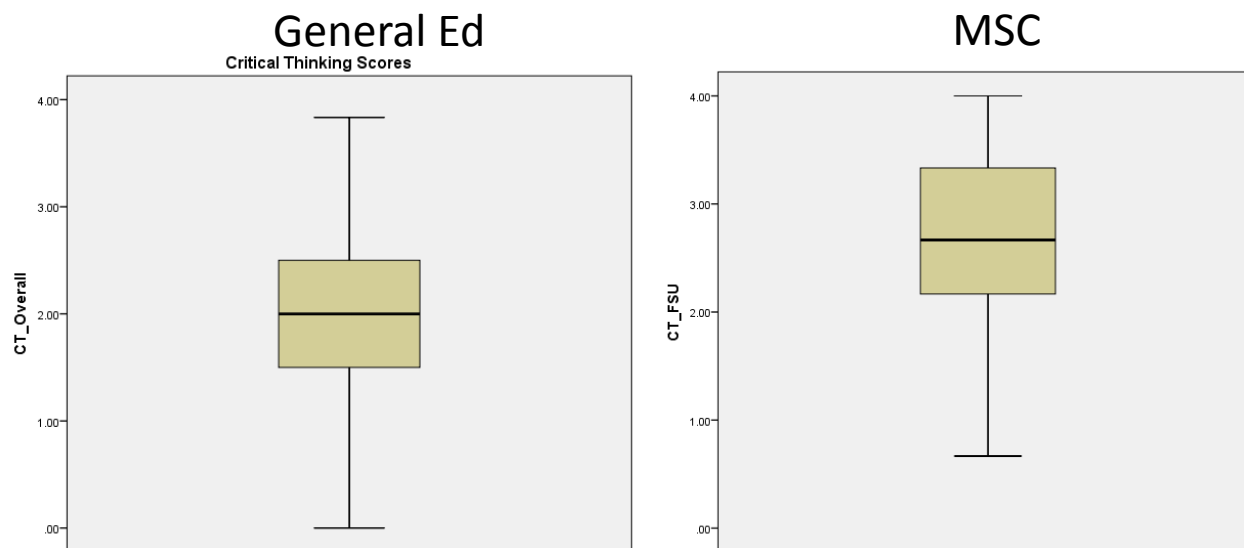b-scores for the artifacts collected for the Overarching Objective: Critical Thinking.

Figure 2. Distribution of score for Overarching Objective: Critical Thinking for General Education Assessment (left) and for the Multi-State (right). Artifacts for both GE and MSC were scored by the same set of FSU faculty raters. GE assessment: Mean = 2.0, N = 122. MSC assessment: Mean = 2.7, N=90. In both graphs, the horizontal bar in the center of the box indicates the median score.

Objective 2: Written Communication

The overall mean score for Objective 2 was 2.49 with a SD of 0.673. Comparisons of the sub-component scores show that students, on average, perform equally on explaining the purpose of the written work, development of the work, and grammar, mechanics, and style (Table 4). The frequency distribution of scores was slightly positively skewed (Figure 3) with 50% of the scores falling between a 2 and a 3 (median score 2.5; Figure 4).   The average WC score for the MSC artifacts (mean = 3.09) was higher than that for the GE artifacts (Figure 4).
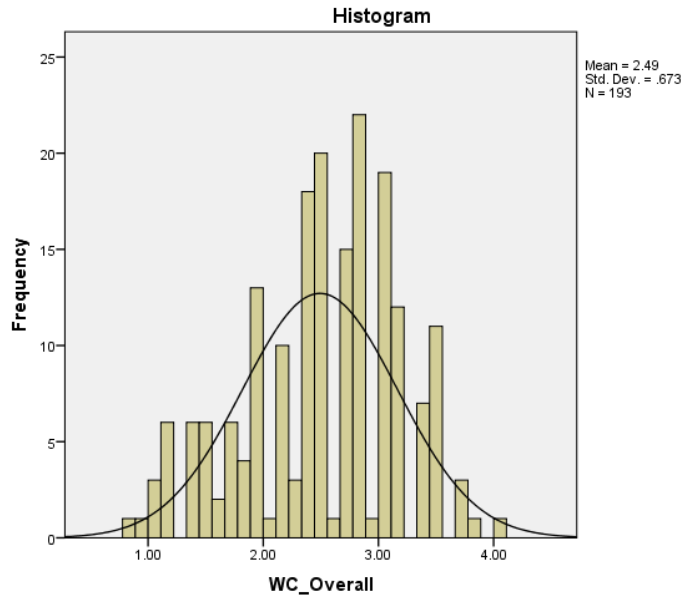
Figure 3. Frequency distribution for Objective 2: Written Communication.

Descriptive Statistics (N=193)		
	Mean	Std. Deviation
WC_Purpose	2.5406	.76030
WC_Development	2.4603	.71898
WC_Grammar_Mech_Style	2.4767	.71090
WC_Overall	2.4925	.67303

Table 4. Average sub-scores for the artifacts collected for Objective 1: Written Communication.
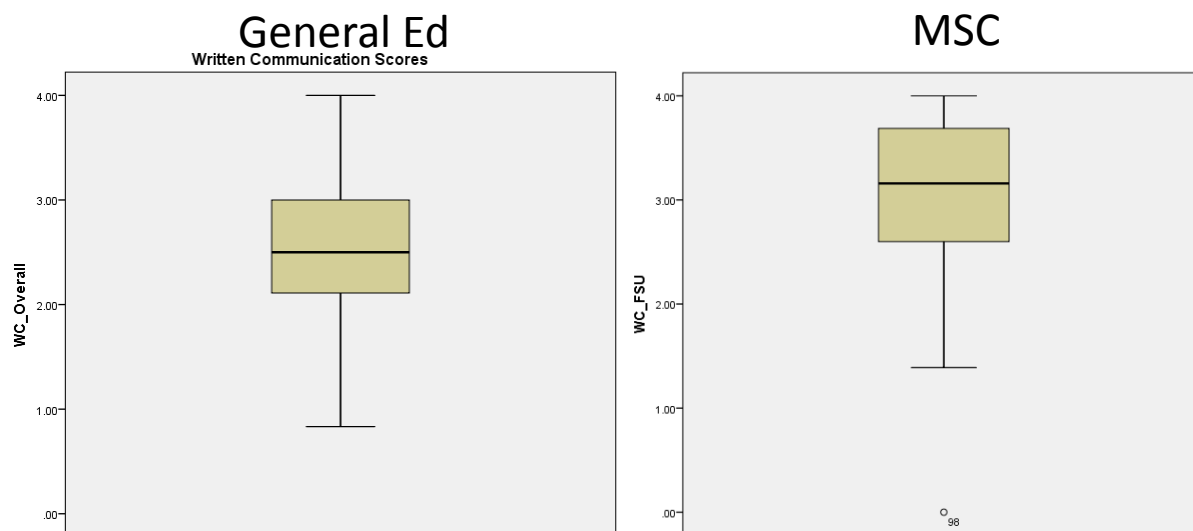
Figure 4. Distribution of score for Learning Objective: Written Communication for General Education Assessment (left) and for the Multi-State (right). Artifacts for both GE and MSC were scored by the same set of FSU faculty raters. GE assessment: Mean = 2.49, N = 193. MSC assessment: Mean = 3.09, N=100. In both graphs, the horizontal bar in the center of the box indicates the median score.

Discussion

Student Learning - Critical Thinking and Written Communication

Based on the data collected in AY 2014-15, a mean CT score of 2.03 (SD 0.75) indicates that FSU students in the GE program are still developing their CT skills, but on average have surpassed the "Beginning" benchmark of the rubric. Similarly, a mean WC score of 2.49 (SD 0.67) indicates that students' writing skills fall between "Developing" and "Proficient" on the rubric (See rubrics, Appendix A). The scores for both CT and WC are encouraging for the FSU GE program considering that the GE program is comprised of 100 and 200 level courses and is largely enrolled by underclassman.

The normal distribution of scores for both CT and WC is also encouraging for the GE program. Fifty percent of the scores fall within a single score for both WC and CT (between a 2

and 3 for WC, and between a 1.5 and 2.5 for CT). This indicates that about half of the students in the GE program are performing around the mean score for these objectives.

As previously mentioned, the Office of Assessment had a unique opportunity this year to compare student work from the GE program to artifacts collected for the MSC pilot study. Although it was not unexpected that the scores of the MSC artifacts were, on average, higher than those from GE assessment, the insights into student learning provided by such a comparison suggests that it may be beneficial to broaden our artifact sampling to include courses from all levels (100-400) for future GE assessment.

Conclusions and Suggestions

During the November 16th, 2015 meeting of the Assessment Advisory Group, the group discussed the results of this report. This discussion focused on the assessment results, rubrics, scoring process, and the feedback from faculty raters. The overall impressions of the assessment of the Overarching Objective: Critical Thinking and Objective 2: Written communications were positive, and the AAG also provided meaningful feedback for the assessment process moving forward. These recommendations of the AAG have been grouped into categories for meaningful consumption.

Data Collection.

- Increase the number of courses and scholarly disciplines that contribute artifacts in order to better reflect the breadth and totality of the GE curriculum.
- Increase student work from courses taught by part time faculty and visiting lecturers.

Norming Sessions.

- Norming sessions need to focus on how raters should use the assignment prompts associated with student artifacts.

- Norming sessions still need more emphasis on when raters should use a "0" or a "NA". Consider having raters practice determining between these two scores during these training sessions.

- Consider assigning rater pairs during the norming session so that each pair has an opportunity to work together and address any questions during the session.

Rating process.

- Consider giving raters only artifacts from within their own disciplines.

- Ask raters to include how they resolved any disagreements or discrepancies they had with their partner in the final summary report.

Faculty development.

- The AAG is still in agreement that professional development training is a very effective way to address challenges associate with assignment prompts that are not well aligned with the learning objectives.

- Consider providing opportunities for faculty, within an academic college, to discuss how to create assignments for the learning objects associated with the GE courses their departments office.

Rubric revisions.

- Rubric descriptions should not have multiple components. Descriptions with "and" are very difficult to use.

- The WC rubric was designed to accommodate any genre of writing (eg. lab report, poem). As such, the descriptions in the rubric are generalized, and the raters found them difficult to use. Consider developing different rubrics for different writing genres.

- Revise rubrics *after* the University Curriculum Committee votes the definitions for the GE learning objectives.

Future role of the AAG.

- AAG members can help disseminate the results of the annual GE assessment process by reporting back to their academic departments.

- Each semester, AAG members can remind faculty in their home departments to consider submitting artifacts for GE assessment and they can serve as a source of information and guidance for those faculty interested in participating.

Since written communication and critical thinking was last assessed in 2012-13, Framingham State University has made substantial strides in its assessment of the GE program. It remains evident that assessment is a process rather than a destination. Our task for the next cycle of assessment is clear: to continue to make improvements to our processes and rubrics while continuing to collect valid results that can inform student learning and our approach to general education at FSU.

APENDIX A: Rubrics for Critical Thinking and Written Communication

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General Education Rubric OBJECTIVE: *Solve problems using critical thinking*

COMPONENTS	RATINGS					
	4 – Exemplary	3 – Proficient	2 – Developing	1 – Beginning	0 – Absent	N/A*
Explains the problem, question, or issue	Explanation identifies relationships among all key elements that are integral to a comprehensive understanding of the problem, question or issue.	Explanation identifies relationships among most key elements that are integral to a comprehensive understanding of the problem, question or issue.	Explanation identifies relationships among some key elements that are integral to a comprehensive understanding of the problem, question or issue.	Explanation does not identify relationships among key elements of the issues that are integral to comprehensive understanding of the problem, question or issue.	Does not explain problem, question, or issue.	Not applicable to the assignment.
Evaluation of evidence	Evaluation includes a comprehensive analysis and synthesis, and viewpoints of experts are questioned thoroughly.	Evaluation includes a coherent analysis and synthesis, and viewpoints of experts are questioned.	Evaluation includes moderate analysis and synthesis, and viewpoints of experts are subject to some questioning.	Evaluation includes minimal (if any) analysis and synthesis, and viewpoints of experts are rarely (if ever) subject to questioning.	Evaluation does not interpret or evaluate source information.	Not applicable to the assignment.
Arrives at a conclusion (Conclusion may be evidenced as a solution, outcome, summary and/or point of view.)	Arrives at a conclusion(s) that is logical and reflects the thorough evaluation of all evidence (including supporting and opposing viewpoints). Evidence and perspectives placed in priority order.	Arrives at a conclusion(s) that is logically tied to a range of evidence (including supporting and opposing viewpoints). Implications and/or consequences of conclusion(s) are clearly identified.	Arrives at a conclusion(s) that is logically tied to some evidence (evidence may be selected to fit a desired conclusion). Some implications and/or consequences of conclusion(s) are identified.	Arrives at a conclusion(s) that may be oversimplified and that is inconsistently tied to evidence. Few (if any) implications and/or consequences of conclusion(s) are identified.	Does not arrive at a conclusion.	Not applicable to the assignment.

*NOTE: If the artifact is "not applicable" for all outcomes listed, then it is likely that the artifact is not appropriate for the assessment of this objective.

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General Education Rubric OBJECTIVE: *Solve problems using critical thinking*

RUBRIC NOTES

Glossary

- Critical thinking: A mode of thinking in which a problem or issue is carefully and thoroughly analyzed, assessed, and reconstructed. It assumes self-direction, self-discipline, self-monitoring, and self-correcting in the process of thinking. It requires effective problem-solving abilities and communication, as well as a commitment to overcome a tendency to accept things as "given".
- Assumptions: Ideas, concepts or beliefs (often implicit or unstated) that are assumed to be valid without attention to critical review.
- Context: "The historical, ethical, political, cultural, environmental, or circumstantial settings or conditions that influence and complicate the consideration of any issues, ideas, artifacts, and events". (from AAU&C)
- Evaluation: Contextualized reading of the problem or issue to be examined.
- Analytic thinking (as opposed to critical thinking)
    - ✓ Analytic thinking: systematic approach that breaks down a problem or issue into component parts, identifies cause and effect relationships, and comes to an appropriate solution. Often requires that criteria for analysis be pre-established.
    - ✓ Critical thinking: "a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion." (from AAU&C) Often requires creative or inventive approaches to problem-identification and solution.
- Comprehensive understanding: A belief or position resulting from a wide-ranging and inclusive examination of evidence.

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General Education Rubric OBJECTIVE: *Communicating effectively in writing*

COMPONENTS	RATINGS					
	4 – Exemplary	**3 – Proficient**	**2 – Developing**	**1 – Beginning**	**0 – Absent**	**N/A***
Purpose Students will produce written work that effectively conveys an idea or ideas.	Writing clearly frames main idea(s) and the work as a whole conveys the idea(s) in an innovative and sophisticated manner.	Writing clearly frames main idea(s) and the work as a whole conveys the idea(s) clearly.	Writing conveys an idea or ideas but these may not be clearly framed. Some sections of the work are tangential to the main idea(s).	Writing conveys an idea or ideas but significant sections of the work are tangential to the main idea(s).	It is unclear what idea or ideas the writing is attempting to convey.	Not applicable to the assignment.
Development Students will develop the main idea(s) of the written work using relevant sources, illustrations, and/or intellectual influences.	Ideas are consistently developed through sophisticated use of sources, illustrations, and/or intellectual influences. The author skillfully uses these to advance the purpose of the work.	Ideas are frequently developed through sources, illustrations, and/or intellectual influences. The author uses these to advance the purpose of the work.	Many ideas are supported by the integration of sources, illustrations, and/or intellectual influences, but engagement with these may be superficial. Writing may include some misreadings but none that substantially undermine the purpose.	Ideas are only sporadically supported by the integration of sources, illustrations, and/or intellectual influences and engagement with these may be superficial. Writing may include obvious misreadings that undermine the purpose.	Ideas are not supported by sources, illustrations, and/or intellectual influences. Alternately, sources, illustrations, and/or intellectual influences may be irrelevant to the purpose of the work.	Not applicable to the assignment.
Grammar, Mechanics, and Style Students will use syntax, grammar, and mechanics to achieve clarity and appropriate tone in their writing.	Language use is sophisticated or otherwise exceptional and skillfully communicates meaning to readers with clarity and fluency. The writing contains few, if any, errors and none that impede meaning. Language is appropriate for the	Language use clearly conveys meaning to readers. The writing contains few, if any, errors. Language is generally appropriate for the genre and academic context of the assignment.	Language use generally conveys meaning to readers, although some areas are ambiguous or otherwise unclear. The writing may include some errors. Language is generally appropriate for the genre and academic context of the assignment, although	Language use sometimes impedes meaning and writing errors are present throughout the paper. Language may not be appropriate for the genre and academic context of the assignment.	Substantial segments of the writing are too error- ridden to be comprehensible. Language use is not appropriate for the genre and academic context of the assignment.	Not applicable to the assignment.

		genre and academic context of the assignment.		there may be minor exceptions.			

*NOTE: If the artifact is "not applicable" for all outcomes listed, then it is likely that the artifact is not appropriate for the assessment of this objective.

Faculty members: *Sarah Adelman, Patricia Lynne, and Becky Shearman*

Last revised: *May, 2015 by Sarah Adelman and Samuel Witt*

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General Education Rubric OBJECTIVE: *Communicating effectively in writing*

RUBRIC NOTES

The papers are being evaluated based on writing effectiveness rather than on their disciplinary content itself. Therefore, do not be concerned if you do not have expertise in the content the paper addresses, as your focus is on those writing skills that cross disciplines. Conversely, if the paper addresses an area in which you have expertise, keep in mind that these writing samples come from general education classes, so students' knowledge of disciplinary content is inherently limited to an introductory level.

Glossary

- Relevant sources: When using this rubric to assess General Education Objective: Communicating effectively in writing, it is assumed that the selection of sources is appropriate for the assignment. Source selection is assessed in Objective 7: Locate, Evaluate, and Apply Information.