

UNIVERSITY OF OKLAHOMA

GENERAL EDUCATION ASSESSMENT REPORT 2021-2022

Background Information

In summer of 2019, the University of Oklahoma (OU) completed the development of a comprehensive plan for assessing the General Education (GE) curriculum per recommendations by the Higher Learning Commission (HLC). The plan includes six student learning outcomes (SLOs) along with specific performance indicators for each SLO, a detailed curriculum map indicating systematic alignment of selected GE courses with specific SLOs and performance indicators, and a timeline of the implementation of the plan. As part of the implementation process, the General Education Assessment Subcommittee (GEAS), a Provost-appointed faculty-led group, determined that four SLOs would be assessed per academic year, with each SLO assessed in two or three selected GE courses. This report provides results of fall 2021 and spring 2022 implementation of the GE assessment plan.

General Education Assessment at OU – An Overview

OU uses multiple measures to assess the effectiveness of its General Education curriculum. Central to the process are various course-embedded assessments – authentic assessment methods of assessing student learning within the classroom environment, using course goals, learning outcomes and content to gauge the extent to which learning is taking place. The intent is to generate information about what and how students are learning in the course, using existing information that instructors routinely collect (test performance, short answer performance, quizzes, essays, etc.) or utilizing assessment instruments introduced into a course specifically for the purpose of measuring student learning. Results are aligned with and systematically inform the extent to which students meet various performance indicators¹ articulated for general education SLOs.

Student performance data (direct assessment) is measured using a four-point generic rubric that categorizes the performance indicators for each SLO as “exceeds expectations,” “meets expectations,” “partially meets expectations,” and “does not meet expectations”. Individual faculty members teaching the selected general education courses or sections of courses complete and submit a General Education Reporting Template to the Office of Academic Assessment based on the outcome of course-embedded formative and/or summative assessments conducted in the context of:

- a) One or more “signature” assignments or course projects of their choice.
- b) An examination or a series of examinations whose questions are aligned with the general education SLOs.
- c) A combination of (a) and (b).

¹ Performance Indicators (PI's) refer to specific knowledge, skills/abilities students are expected to demonstrate upon successful completion of a general education course or courses.

Indirect assessment data are gathered using the *General Education Student Survey*, which is deployed at the end of the semester to students enrolled in each selected course. Data from the surveys are analyzed by the Office of Academic Assessment and shared with each faculty member to incorporate in generating recommendations for continuous enhancement of various aspects of the teaching and learning process in their courses. At the conclusion of this process, reports for both the direct and indirect assessments are discussed at the faculty-led General Education Assessment Subcommittee (GEAS) meetings held twice each semester. A synthesis of the recommendations for continuous improvement are then forwarded to the Provost's Advisory Committee for General Education Oversight (PACGEO) to discuss and determine University-wide action plans for continuous improvement of the general education curriculum.

General Education Assessment Procedures and Results

The following SLOs were assessed in fall 2021 and spring 2022.

1. Technology and Information Literacy skills
2. Arts and Humanities Skills
3. Critical Analysis and Scientific Reasoning Skills
4. Community, Culture, and Diversity Skills

The course-level reports from individual courses assessed in Fall 2021 and Spring 2022 provide ample evidence that, generally, OU students met or exceeded the above SLOs addressed during this assessment cycle. The following section provides detailed results of assessment by SLO and semester.

To avoid reinventing the wheel and unnecessary duplication of efforts, assessment of the general education learning outcomes at OU are all course-embedded and included in the regular processes of teaching and learning already existing in GE courses. Thus, faculty utilize the already designed course teaching and learning activities to measure student learning and systematically align results of the process with OU GE student learning outcomes (SLOs) as well as performance indicators articulated for each SLO. This approach not only ensures that assessment occurs naturally and organically in GE courses across campus to promote student learning, but also encourages students work hard and excel in general education courses whose focus is to provide foundational knowledge prior to declaring their majors.

In addition to the above, faculty encourage students to respond to the GE Student Survey administered at the end of each semester to students in each GE course scheduled for assessment. From time to time, faculty may opt to give extra credit for students who complete the GE Student Survey though this is not a requirement.

Learning Outcomes by Category:

1. **Communication Skills:** Students will clearly and effectively communicate knowledge and ideas in written, oral, and visual/spatial forms appropriate to the general education subject area. They will engage with their audiences by actively reading, listening, reflecting, and responding to and delivering messages using a variety of formats.

Communication Skills Performance Indicators <i>students will:</i>	Direct Assessment Strategies (based on courses addressing performance indicators for the above learning outcome)
a) Demonstrate proficiency in listening, speaking, writing, and reading.	Writing Projects, Formal Speech, Lab Reports, Policy Paper Projects, Western History Collection; OK History Center Assignments, Annotated Bibliography Paper.
b) Explain how the context in which a message is communicated influences its interpretation.	
c) Apply appropriate form and style to effectively and respectfully engage audiences using a variety of media.	
d) Write using a multi-step process of planning, critiquing, editing, and revising.	

2. **Technology and Information Literacy:** Students will demonstrate effective use of technology for communicating, researching, organizing, storing, accessing, and presenting information. They will locate, evaluate, organize, and use research material from a variety of sources, and will format and document material in a manner appropriate for the general education subject area.

Technology and Information Literacy Performance Indicators <i>students will:</i>	Direct Assessment Strategies (based on courses addressing performance indicators for the above learning outcome)
a) Apply technology as appropriate for the general education subject area.	Lab Reports, Research Project, Policy Paper Projects, Annotated Bibliography Paper, Infographic Myths Assignment.
b) Describe unethical and illegal use of information, including copyright and privacy issues.	
c) Identify appropriate sources of information for academic work.	
d) Accurately cite a variety of sources, including electronic, visual, and print media.	
e) Cite information to support ideas, hypotheses, and conclusions.	

3. **Critical Analysis and Scientific Reasoning:** Students will demonstrate the ability to integrate and analyze information from multiple perspectives, consider new solutions, and solve novel complex problems using methods appropriate for the general education subject area.

Critical Analysis and Scientific Reasoning Performance Indicators <i>students will:</i>	Direct Assessment Strategies (based on courses addressing performance indicators for the above learning outcome)
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a) demonstrate reasoning by deduction, induction, and analogy.	Lab Reports, Exams (Multiple-choice), Research Project, Policy Paper Projects, Annotated Bibliography Paper.
b) apply scientific methods as appropriate for the general education subject area.	
c) differentiate between scientific and non-scientific explanations.	
d) compare alternative explanations and their implications.	
e) summarize evidence presented in an argument.	
f) identify examples of the interaction between science and societal change.	
g) explain how the social and historical context in which a theory emerged influenced its development.	

4. **Quantitative and Numerical Analysis:** Students will apply principles and methods of quantitative and numerical analysis to solve problems and draw logical inferences. They will evaluate and interpret quantitative and numerical information across a broad range of scientific disciplines using methods appropriate for the general education subject area.

Quantitative and Numerical Analysis Performance Indicators: <i>students will:</i>	Direct Assessment Strategies (based on courses addressing performance indicators for the above learning outcome)
a) analyze and interpret quantitative information from formulas, graphs, and tables.	Lab Reports, Exams (Multiple-choice) and in-class quizzes, Research Project, Policy Paper Projects, Annotated Bibliography Paper.
b) apply appropriate strategies of quantitative problem solving.	
c) express the relationship between mathematical representation and real-world application.	

5. **Community, Culture, and Diversity:** Students will demonstrate an understanding of the complexities of human culture, past and present, including an awareness of economic, environmental, political, ethical, and social issues facing both the local and global community. They will develop an understanding of the forces that contribute to the shaping of our cultural identities.

Culture and Diversity Performance Indicators <i>students will:</i>	Direct Assessment Strategies (based on courses addressing performance indicators for the above learning outcome)
a) describe the role of geographic and environmental factors in shaping today's world.	

b) summarize the process of value formation, transmission, and modification across cultures.	Exams (Multiple-choice), Research Project, Policy Paper Projects, Annotated Bibliography Paper, mental Illness Blog, Writing Critiques, Oral/Visual Communication.
c) compare and contrast the political, social, and/or economic institutions of the United States of America and the larger global community.	
d) explain the factors that contribute to the development of cultural identities.	
e) demonstrate an understanding of behaviors, ideas, beliefs, and values held by persons in situations other than one's own.	

6. **Arts and Humanities:** Students will explore a variety of creative works in the humanities and the arts, with an emphasis on the historical, cultural, and social contexts in which the works are created.

Arts and Humanities Performance Indicators <i>students will:</i>	Direct Assessment Strategies (based on courses addressing performance indicators for the above learning outcome)
a) summarize the creative process that underlies at least one major form of artistic expression.	Essays, Writing Critiques, Oral/Visual Communication.
b) describe how the social and cultural environment influences the interpretation of works of art.	
c) identify influential and representative scholarly, literary, and artistic achievements of the past.	
d) critique creative works using knowledge of relevant aesthetic criteria or stylistic forms.	
e) critically analyze texts or cultural artifacts that reflect on perennial questions concerning the human experience.	

Fall 2021 and spring 2022

Technology and Information Literacy skills

Learning Outcome: Students will demonstrate effective use of technology for communicating, researching, organizing, storing, accessing, and presenting information. They will locate, evaluate, organize, and use research material from a variety of sources, and will format and document material in a manner appropriate for the general education subject area.

At the conclusion of the general education curriculum/program, the student should be able to:

- a) Apply technology as appropriate for the general education subject area.
- b) Describe unethical and illegal use of information, including copyright and privacy issues.
- c) Identify appropriate sources of information for academic work.
- d) Accurately cite a variety of sources, including electronic, visual, and print media.
- e) Cite information to support ideas, hypotheses, and conclusions.

Courses and Assessment Mechanisms

Courses	Direct Assessments	Average # of Students Assessed
LIS 1013	• Zotero Assignment: The purpose of this assignment is to help you start using Zotero, a free online tool to assist you in collecting, organizing, citing, and sharing your research sources. • Copyright/Fair Use Quiz: 10 question multiple choice quiz over Chapter 11 and 12 of their textbooks, which covers copyright and fair use • Research Projects: Students were required to gather and synthesize information on a particular research topic of your choice. At the end of the semester, they submitted a two-part paper (Part 1: findings and Part 2: a reflective essay on the research process).	47
JMC 1013	• Blog assignment required students to set up the website and to post twice a week. • Quiz tested students on media ethics and freedom of expression • A combination of lecture presentation and research paper assignment.	378
BOL 1124	• Laboratory report of hands-on experiment • End-of-semester laboratory poster presentation	543
Total Number of Students Assessed		968

Results of Direct Assessments (Fall 2021 and Spring 2022)

Technology and Information Literacy skills <i>Performance Indicators</i>	Do Not Meet Expectations		Partially Meet Expectations		Meet Expectations		Exceed Expectations		Total # of students assessed
	N	%	N	%	N	%	N	%	
a) Apply technology as appropriate for the general education subject area.	34	4%	97	10%	307	32%	353	36%	969
b) Describe unethical and illegal use of information including copyright and privacy issues. *	57	6%	46	5%	131	13%	560	58%	972
c) Identify appropriate sources of information for academic work.	26	3%	30	3%	115	12%	624	65%	965
d) Accurately cite a variety of sources, including electronic, visual, and print media.	30	3%	41	4%	105	11%	623	65%	965
e) Cite information to support ideas, hypotheses, and conclusions.	20	5%	11	3%	29	8%	140	37%	378

*This performance indicator was not assessed in BOL 1124.

Findings from the General Education Student Survey (*Indirect Assessment*)

Below are summary results of the *General Education Student Survey* deployed to students enrolled in LIS 1013, JMC 1013, and BIOL 1124 in fall 2021 and spring 2022.

Technology and Information Literacy skills <i>Performance Indicators</i>	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Total # of Respondents	
	%	n	%	n	%	n	%	n	%	n	%	n
a) apply technology as appropriate for the general education subject area.	1%	7	1%	5	8%	59	42%	323	48%	370	100%	764
b) describe unethical and illegal use of information including copyright and privacy issues.	0%	0	<1%	3	2%	14	9%	71	9%	67	100%	764
c) identify appropriate sources of information for academic work.	1%	7	2%	13	8%	59	42%	326	47%	359	100%	764
d) accurately cite a variety of sources, including electronic, visual, and print media.	1%	5	3%	21	12%	93	18%	138	44%	339	100%	764
e) cite information to support ideas, hypotheses, and conclusions.	1%	5	2%	15	11%	87	40%	304	46%	353	100%	764

Recommendations for Continuous Improvement

Highlighted in the table below, are key course level recommendations for continuous improvement vis-à-vis each performance indicator in the **Technology and Information Literacy Skills** SLO. These recommendations are drawn from a combination of faculty assessment of student work in the above-mentioned courses as well as analysis of students' own perceptions from the General Education Student Survey.

Performance Indicators	Key recommendations for continuous improvement
a) Apply technology as appropriate for the general education subject area.	• Change blog assignment to in-class instruction and discussion section completion • Re-emphasize copyright issue in using photos and video. • Grade grammar and punctuation of blog post. • The lecture and laboratory topics could be better aligned. Instructors and TAs could be providing more frequent and timely feedback on weekly assessments. • Students' ability to apply technology, additional materials (particularly videos which students seem to respond best to) could be added in this assignment to provide student instruction on the more advanced features of Zotero.
b) Describe unethical and illegal use of information, including copyright and privacy issues.	• Increase class periods on this subject • Show ethical issues in other chapters • Improve students' knowledge of this complex area, an additional case study activity may be added to explore the real-world complexity of copyright and privacy issues.
c) Identify appropriate sources of information for academic work.	• TAs could be providing step-by-step tutorials during laboratory sessions in addition to the online tutorials. • Additional information from OU Libraries could be added about specifically accessing OU materials, perhaps in the form of a guest lecture or video.
d) Accurately cite a variety of sources, including electronic, visual, and print media.	• TAs could give more guidance during the laboratory sessions in addition to connecting students to library resources. • Assessments could be better geared to facilitate more direct instruction by TAs during laboratory sessions in addition to homework assignments. • Recommend students to utilize resources offered at the OU Writing Center and the Library. • add additional chances to practice this skill throughout the course. This could be done by asking students to submit a citation with their Zotero assignment, and their website evaluation assignment, which already require them to find a source, but they could also provide an accurate citation for it.
e) Cite information to support ideas, hypotheses, and conclusions.	• Recommend students to utilize resources offered at the OU Writing Center and the Library. • Based on student perceptions, TAs could devote more laboratory time discussing and demonstrating these skills. • Robust TA orientation and training programs may translate to better student performance and a more consistency among multiple laboratory sections. • students could complete an exercise to practice citing sources to support their claims, potentially during their weekly discussion posts.

Arts and Humanities Skills

Learning Outcome: Students will apply principles and methods of quantitative and numerical analysis to solve problems and draw logical inferences. They will evaluate and interpret quantitative and numerical information across a broad range of scientific disciplines using methods appropriate for the general education subject area.

At the conclusion of the general education curriculum/program, students should be able to:

- a) Summarize the creative process that underlies at least one major form of artistic expression.
- b) Describe how the social and cultural environment influences the interpretation of works of art.
- c) Identify influential and representative scholarly, literary, and artistic achievements of the past.
- d) Critique creative works using knowledge of relevant aesthetic criteria or stylistic forms.
- e) Critically analyze texts or cultural artifacts that reflect on perennial questions concerning the human experience.

Courses Assessed in Fall 2021 and Spring 2022

Courses	Direct Assessments	Average Number of Students Assessed
AHI 1314	• Paper Assignment: Students spend time at the Fred Jones Jr. Museum of Art the museum, and then select one artwork and write a 3-page formal description using terminology learned in class. • Paper Assignment: This is the third and final 3-page paper assignment - selected artwork in a broader cultural context. • Class Assignment based on Alicia Harris' presentation on Native American Art and its emergence in the canon of art history. • Class Assignment where students learn the basic meaning of aesthetics and its interpretation in both eastern and western forms of art. • Class Assignment: Examines how artists express the impact of trauma on the human experience through their creative practice.	145
ARCH 4513	• Goff Collaboration project interpreting music with words through abstract drawing. • Team problem solving project defining environmental issues and graphic solutions to relocate the world's population. • 3 Essays/Term paper reflecting how they will engage artistic process learned in course to solve issues that they will encounter in their profession. • Using the artistic processes, they will learn and will engage in specific problems to address with these new skills and their application in their professional experience demonstrated in the 3 Essays/Term paper and their final project where they apply what they've learned in the course to their profession.	43
ARCH 4433	• Assignments focusing on developing skills in sketching and rendering for professional use and application	37

	• In-class review of historic rendering techniques and the professionals that made them • In-class review of historic rendering techniques and the professionals that made them • In-class evaluation of various styles and types of rendering practice and its history.	
FMS 1013	• A combination of short assignments (film element analysis, canvas posts, etc.), in-class group practice, midterm paper, and project. • Midterm paper/final project • Short assignments (shared annotated bibliography), in-class practice (library tour, locating sources), midterm paper/final project. • A combination of short assignments (film element analysis, canvas posts, etc.), midterm paper, and project.	255
Total Number of Students Assessed		479

Results of Direct Assessments (Fall 2021 & Spring 2022)

Arts and Humanities Performance Indicators	Do Not Meet Expectations		Partially Meet Expectations		Meet Expectations		Exceed Expectations		Total # of Students Assessed
	N	%	N	%	N	%	N	%	
a) Summarize the creative process that underlies at least one major form of artistic expression.	46	9%	36	7%	190	39%	218	44%	491
b) Describe how the social and cultural environment influences the interpretation of works of art.	63	13%	53	11%	181	37%	194	40%	491
c) Identify influential and representative scholarly, literary, and artistic achievements of the past.	52	11%	27	6%	138	29%	235	50%	472
d) Critique creative works using knowledge of relevant aesthetic criteria or stylistic forms	38	8%	38	8%	184	39%	211	45%	472
e) Critically analyze texts or cultural artifacts that reflect on perennial questions concerning the human experience.	68	14%	37	8%	218	46%	149	32%	472

Findings from the General Education Student Survey (*Indirect Assessment*)

Below are summary results of the *General Education Student Survey* deployed to students enrolled in AHI 1314, ARCH 4433, ARCH 4513 and FMS 1013 in fall 2021 and spring 2022.

Arts and Humanities Performance Indicators <i>This course equipped me with the ability to...</i>	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Total	
	%	n	%	n	%	n	%	n	%	n	%	n
a) Summarize the creative process that underlies at least one major form of artistic expression.	0%	0	0%	0	5%	1	41%	9	55%	12	100%	22
b) Describe how the social and cultural environment influences the interpretation of works of art.	0%	0	0%	0	23%	5	41%	9	41%	9	100%	22
c) Identify influential and representative scholarly, literary, and artistic achievements of the past.	0%	0	9%	2	14%	3	45%	10	32%	7	100%	22
d) Critique creative works using knowledge of relevant aesthetic criteria or stylistic forms	0%	0	5%	1	18%	4	50%	11	27%	6	100%	22
e) Critically analyze texts or cultural artifacts that reflect on perennial questions concerning the human experience.	0%	0	9%	2	23%	5	41%	9	23%	5	100%	22

Recommendations for Continuous Improvement for Arts and Humanities SLO

Highlighted in the table below, are key course level recommendations for continuous improvement vis-à-vis each performance indicator in the Arts and Humanities SLO. These recommendations are drawn from a combination of faculty assessment of student work in the above-mentioned courses as well as analysis of students' own perceptions from the General Education Student Survey.

Table 6
Key recommendations for continuous improvement for
Arts and Humanities SLO

Performance Indicators	Key recommendations for continuous improvement
a) Summarize the creative process that underlies at least one major form of artistic expression.	- Require at least one source to be from the Fine Arts Library. - Clarify the expectations for the thesis statement and bibliography since 17 in the "Partially Meets" category is too many. - Group work is encouraged so the students can understand the creative process of collective production. - Flexible deadlines for low-stake practices and activities are allowed.

	• Will streamline the course by adjusting the list of assigned films (choice of films, and/or shorten the list) and reducing workload to better fit student profile. • Instructions for group work should be updated in a timely manner (deadlines could be extended while those might be confusing) if the in-class components cannot be finished by students within the expected time.
b) Describe how the social and cultural environment influences the interpretation of works of art.	• More in-class group research to expand collaboration • Inclusion of more diverse narratives in the more conventional feature film examples • Keep the creative multimedia project option for both the midterm and final project assignments; • Sociocultural contextualization as part of the focus of in-class discussions/activities is crucial. Perhaps more uses of Poll Everywhere surveys to frame the context through questions • More interaction and activities with their personal stakes, if not within the technical restrictions related to COVID and weather conditions • Discussions around the trigger warning as a genre and as critical practice will be continued and expanded. Racial politics, gender and queer media topics will be rooted in more examples. • More time spent on allowing students to exchange their ideas about the comments they receive for the midterm paper. • Sociocultural contextualization as part of the focus of in-class discussion/activity.
c) Identify influential and representative scholarly, literary, and artistic achievements of the past.	• Inclusion of more diversity within example sources • More inclusion of sources within Quiz format and integrated within more than a single discussion prompt • Clearer instructions and expectations given both in class and on canvas; • Part of the individual examples given in class will be preserved and kept on Canvas so students can review those materials at their pace. • Will continue to diversify the influential works from a historical perspective; some avant-garde and experimental media cases will be introduced briefly, depending on the class's progress. • More critical engagement with the secondary scholarship especially during the second half of the semester. • Will continue to diversify the influential works from a historical perspective • More engagement with the secondary scholarship especially during the second half of the semester.
d) Critique creative works using knowledge of relevant aesthetic criteria or stylistic forms.	• Inclusion of analysis terminology within Quiz and later Discussion prompts and Final Exam. • Video study guides and additional example links will continue to be available on Canvas; • One-time film terminology quiz (low stake) and one optional review quiz (as practice/makeup quiz) will be kept as one form of assessment to get students familiar with the film terminology so they can use it and apply it according to their needs. Give students a bit more agency to do their online viewing notes for learning about the film elements and preparing for close reading • One-time quiz (low stake) may be added to the course assessment to get students familiar with the film terminology so they can use it and apply it. • Video study guide available on Canvas

e) Critically analyze texts or cultural artifacts that reflect on perennial questions concerning the human experience.	• Inclusion of more personal reflection or identification within the works • Inclusion of more diversity within the example sources. • Basically, more interaction (technical condition improved if possible: switch to a smaller non-auditorium classroom for this class size); • More guiding questions given in advance should prepare students with analytical thinking and to reflect on media bias. • Modify the in-class media manifesto practice by perhaps integrating into a longer scaffolding process including the library tour (which was skipped this semester); • More time to reflect on the students' own perception of those practices via Poll Everywhere and get their immediate feedback in class; • More in-class activities and discussions should prepare students with analytical thinking and to reflect on the biased stereotypes in media. • More time to reflect on their in-class practices and final outcomes based on further discussion around both personal and collective experiences.
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Community, Culture, and Diversity Skills Fall 2021

Community, Culture, and Diversity: Students will demonstrate an understanding of the complexities of human culture, past and present, including an awareness of economic, environmental, political, ethical, and social issues facing both the local and global community. They will develop an understanding of the forces that contribute to the shaping of our cultural identities.

Culture and Diversity Performance Indicators: students will:

- a) Describe the role of geographic and environmental factors in shaping today's world.
- b) Summarize the process of value formation, transmission, and modification across cultures.
- c) Compare and contrast the political, social, and/or economic institutions of the United States of America and the larger global community.
- d) Explain the factors that contribute to the development of cultural identities.
- e) Demonstrate an understanding of behaviors, ideas, beliefs, and values held by persons in situations other than one's own.

Courses Assessed in Fall 2021

Courses	Direct Assessments	Average # of Students Assessed
ENGL 1113	• All course assignments, including major assignments of 3 essays and 1 speech.	110
ENGL 1213	• All course assignments, including major assignments of 3 essays and 1 speech.	432
COMM 2003	• All three examinations and a term paper.	125
Total Number of Students Assessed		667

Results of Direct Assessments (Fall 2021)

Community Culture, and Diversity Skills <i>Performance Indicators</i>	Do Not Meet Expectations		Partially Meet Expectations		Meet Expectations		Exceed Expectations		Total # of students assessed
	N	%	N	%	N	%	N	%	
a) Describe the role of geographic and environmental factors in shaping today's world.	53	8%	107	16%	323	47%	102	15%	687
b) Summarize the process of value formation, transmission, and modification across cultures.	55	8%	80	12%	357	51%	199	29%	694
c) Compare and contrast the political, social, and/or economic institutions of the United States of America and the larger global community.	36	8%	46	10%	231	50%	145	32%	459
d) Explain the factors that contribute to the development of cultural identities.	60	8%	107	14%	359	48%	220	29%	747
e) Demonstrate an understanding of behaviors, ideas, beliefs, and values held by persons in situations other than one's own.	54	7%	94	13%	341	46%	247	33%	747

Findings from the General Education Student Survey (*Indirect Assessment*)

Below are summary results of the *General Education Student Survey* deployed to students enrolled in ENGL 1113, ENGL 1213 and COMM 2003 in spring 2022.

Community, Culture, and Diversity Skills <i>Performance Indicators</i>	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Total	
	%	n	%	n	%	n	%	n	%	n	%	n
<i>This course equipped me with the ability to...</i>												
a) Describe the role of geographic and environmental factors in shaping today's world.	5%	26	10%	56	27%	151	44%	248	15%	85	100%	566
b) Summarize the process of value formation, transmission, and modification across cultures.	1%	8	6%	34	19%	105	47%	267	27%	152	100%	566
c) Compare and contrast the political, social, and/or economic institutions of the United States of America and the larger global community.	2%	10	8%	48	22%	122	40%	229	28%	157	100%	566
d) Explain the factors that contribute to the development of cultural identities.	1%	9	10%	54	24%	138	47%	265	21%	120	100%	566

e) Demonstrate an understanding of behaviors, ideas, beliefs, and values held by persons in situations other than one's own.	<0%	1	1%	4	6%	34	40%	225	53%	302	100%	566
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Recommendations for Continuous Improvement for Community Culture, and Diversity SLO

Highlighted in the table below, are key course level recommendations for continuous improvement vis-à-vis each performance indicator in the Community, Culture and Diversity SLO. These recommendations are drawn from a combination of faculty assessment of student work in the above-mentioned courses as well as analysis of students' own perceptions from the General Education Student Survey.

Performance Indicators	Key recommendations for continuous improvement
a) Describe the role of geographic and environmental factors in shaping today's world.	- This indicator may be met through individual projects, depending on the issues students write about, but there are no plans to address this in more depth in the curriculums for ENGL 1113 and ENGL 1213. - Continue to troll for the best most rigorous and accessible material including videos to boost students' understanding about the vast topic of global cultures.
b) Summarize the process of value formation, transmission, and modification across cultures.	- Implicit influences in the construction of ENGL 1213 projects, including conceptual knowledge of values and culture could be made more explicit in our instructional approaches. Moving forward, this connection will be made clearer to students in the classroom. Instructor training and professional development workshops will help us give instructors strategies for emphasizing these skills. - Continue to troll for the best most rigorous and accessible material including videos to boost students' understanding about the vast topic of global cultures.
c) Compare and contrast the political, social, and/or economic institutions of the United States of America and the larger global community.	Continue to troll for the best most rigorous and accessible material including videos to boost students' understanding about the vast topic of global cultures.
d) Explain the factors that contribute to the development of cultural identities.	- Continue to (A) offer instructor training on ways to connect stakeholders to their cultural identities and will provide resources for Project 2 in ENGL 1213 that prompt students to research the cultural identity of stakeholders and, (B) develop activities and resources that demonstrate the role of cultural identities in ethical argumentation. Readings have already been diversified to give more students opportunities to learn about cultural identities, but more will be done to continue to work on improving this. - Continue to troll for the best most rigorous and accessible material including videos to boost students' understanding about the vast topic of global cultures.

e) Demonstrate an understanding of behaviors, ideas, beliefs, and values held by persons in situations other than one's own.	- Continuing to improve this indicator by providing more training on analyzing stakeholders' values, beliefs, and arguments. Further training in teaching stasis theory, adding more diverse resources to the teaching archives, and more professional development workshops will also help in continuing to improve this skill. - Continue to troll for the best most rigorous and accessible material including videos to boost students' understanding about the vast topic of global cultures.
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Critical Analysis and Scientific Reasoning Fall 2021

Critical Analysis and Scientific Reasoning: Students will demonstrate the ability to integrate and analyze information from multiple perspectives, consider new solutions, and solve novel complex problems using methods appropriate for the general education subject area.

Critical Analysis and Scientific Reasoning Performance Indicators:

Students will:

- a) demonstrate reasoning by deduction, induction, and analogy.
- b) apply scientific methods as appropriate for the general education subject area.
- c) differentiate between scientific and non-scientific explanations.
- d) compare alternative explanations and their implications.
- e) summarize evidence presented in an argument.
- f) identify examples of the interaction between science and societal change.
- g) explain how the social and historical context in which a theory emerged influenced its development.

Courses Assessed in Fall 2021

Courses	Direct Assessments	Average # of Students Assessed
BIOL 1005	- Unit quizzes, in-class "clicker" questions - Art Museum Project and presentation - Experimental Design (for lab), Abstract (for lab). - Weekly discussion questions (COVID vaccines, Human population growth, GMOs, Designer babies, Urban or Rural Living, Cancer risk, Human evolution, Clean water, Human population growth, and many others, Evolution in High School Curriculum) - Plastic pollution asynchronous lecture and assessment - Meat industry asynchronous lecture and assessment - Sam Nobel Museum tour worksheet	60
MATH 2423	Collection of three problems on a similar theme on one of the midterm exams.	134
Total Number of Students Assessed		194

Results of Direct Assessments (Fall 2021 & Spring 2022)

Critical Analysis and Scientific Reasoning Skills <i>Performance Indicators</i>	Do Not Meet Expectations		Partially Meet Expectations		Meet Expectations		Exceed Expectations		Total # of Students Assessed
	N	%	N	%	N	%	N	%	
a) Demonstrate reasoning by deduction, induction, and analogy.	13	7%	39	20%	99	51%	43	22%	194
b) Apply scientific methods as appropriate for the general education subject area	23	12%	49	25%	97	50%	25	13%	194
c) Differentiate between scientific and non-scientific explanations.	0	0%	12	3%	30	50%	18	30%	60
d) Compare alternative explanations and their implications.	39	20%	54	28%	62	32%	39	20%	194
e) Summarize evidence presented in an argument.	0	0%	12	20%	36	60%	12	20%	60
f) Identify examples of the interaction between science and societal change.	0	0%	6	10%	18	30%	36	60%	60
g) Explain how the social and historical context in which a theory emerged influenced its development.	0	0%	60	100%	0	0%	0	0%	60

Note: Performance Indicators (c), (e), (f) and (g), were not assessed in MATH 2423

Findings from the General Education Student Survey (*Indirect Assessment*)

Below are summary results of the *General Education Student Survey* deployed to students enrolled BIOL 1005 and MATH 2423 in spring 2022.

Critical Analysis and Scientific Reasoning Skills <i>Performance Indicators</i>	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Total	
	%	n	%	n	%	n	%	n	%	n	%	n
<i>This course equipped me with the ability to...</i>												
a) Demonstrate reasoning by deduction, induction, and analogy.	7%	7	11%	11	22%	21	41%	39	19%	18	100%	96

b) Apply scientific methods as appropriate for the general education subject area	7%	7	8%	8	18%	17	42%	40	25%	24	100%	96
c) Differentiate between scientific and non-scientific explanations.	9%	9	10%	10	25%	24	27%	26	28%	27	100%	96
d) Compare alternative explanations and their implications.	5%	5	8%	8	24%	23	36%	35	26%	25	100%	96
e) Summarize evidence presented in an argument.	5%	5	15%	14	31%	30	27%	26	22%	21	100%	96
f) Identify examples of the interaction between science and societal change.	16%	15	15%	14	23%	22	25%	24	22%	21	100%	96
g) Explain how the social and historical context in which a theory emerged influenced its development.	19%	18	12%	11	24%	23	25%	24	20%	19		96

Recommendations for Continuous Improvement for Critical Analysis and Scientific Reasoning Skills

Highlighted in the table below, are key course level recommendations for continuous improvement vis-à-vis each performance indicator in the Community, Culture and Diversity SLO. These recommendations are drawn from a combination of faculty assessment of student work in the above-mentioned courses as well as analysis of students' own perceptions from the General Education Student Survey.

Performance Indicators	Key recommendations for continuous improvement
a) Demonstrate reasoning by deduction, induction, and analogy.	- Formally introduce the notion of deductive reasoning to students and point it out throughout the semester to boost student understanding of reasoning by deduction. - Incorporate more active-learning activities that encourage students to observe patterns and make their own conjectures would strengthen students' ability to reason inductively. - Challenge students to differentiate scientific and non-scientific arguments.

b) Apply scientific methods as appropriate for the general education subject area	• Do more activities that require students to consider the methods they know and to decide which method would be best to apply to a specific problem. • Active-learning activities completed in groups would foster students' development of critical analysis and scientific reasoning skills in general. • Having more TAs or even undergraduate learning assistants would help with facilitating active-learning activities. • Challenge students to think about issues from various angles by focusing on "implications." For example, for COVID vaccines, what is the implication of non-scientific explanations? How can we overcome these explanations? This would have been an interesting avenue for a short-term paper.
c) Differentiate between scientific and non-scientific explanations.	• Challenge students to differentiate scientific and non-scientific arguments.
d) Compare alternative explanations and their implications.	• Requiring students to given explanations verbally and in writing to other classmates could help strengthen their ability to use words along with math to compare alternative explanations. • Doing more activities in which they compare alternative explanations might encourage students to become more nuanced in their thinking. • To strengthen their ability to compare alternative explanations students can be given more open-ended problems that allow for alternative explanations. Students can then compare and critique these different explanations. • We can incorporate more essay-style questions on exams that require students to compare alternative explanations or approaches to a particular math problem. • Challenge students to differentiate scientific and non-scientific arguments.
e) Summarize evidence presented in an argument.	• Detailed rubrics for the discussion questions—while somewhat impractical considering how long grading would take for 60 students—would have encouraged students to put more effort into their responses.
f) Identify examples of the interaction between science and societal change.	• Providing examples of how scientific advancement can improve society/the environment <i>and</i> how it can harm the society/the environment would be a useful improvement to the course.
g) Explain how the social and historical context in which a theory emerged influenced its development.	• Making more explicit the understanding of the historical context of the theory of evolution.