

Texas State University

Outcomes Report

General Information

Academic Year:	2022-2023
College:	Liberal Arts
Department:	Geography
Program:	GEO 1305
Program Code:	3.00
Outcome Type:	General Education
Degree:	Other
Coordinator/Contact:	Injeong Jo
Status:	Data Entry Closed

Mission Statement

The mission of the general education core curriculum at Texas State University is to provide students with a broad academic foundation in the component areas of communication; mathematics; life and physical sciences; language, philosophy and culture; creative arts; American history; government/political science; and social and behavioral sciences.

Life and Physical Sciences Mission:

The mission of the life and physical sciences component is to focus on describing, explaining, and predicting natural phenomena using the scientific method.

Evidence of Improvement

Some students lacked mathematical skills need to solve equations used by meteorologists and climate scientists (Outcome 2 and Outcome 4 along with part of Outcome 3) due to a failure to complete their General Education mathematics requirement in a timely manner. We decided on an action plan for that had the course instructor provide additional examples and explanations and continue use of the new textbook that emphasized mathematical concepts. We implemented our action plan and found that student learning outcomes indicated a mostly steady result in average total scores used to measure student understanding for Outcome 1 and 4. Outcome 2 showed an increase of 4% indicative that the approach was improving critical thinking among students.

Action Plan

The success measurements in Outcomes 1, 2 and 4 lead to the conclusion that the classroom techniques adopted in the previous year will be continued. Instructors will attempt to raise the level of critical thinking over rote memorization by introducing feedback discussions during classes with the goal of linking multiple concepts covered during the semester. Instructors will emphasize the importance of study habits and time management as keys to improving performance in Outcomes 3 and 5. Students would benefit by completing their General Education mathematics and communications requirements earlier in their residence. Students would also benefit if the University emphasized the difference between high school and college expectations during incoming student orientation.

Outcome 1

Students will describe interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

Outcome 1 - Method 1

Students taking Meteorology (GEO 1305) will be evaluated during and/or at the end of the semester by course instructors on their knowledge of the natural phenomena of meteorology using embedded test questions administered during Meteorology (GEO 1305) class examinations. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the embedded test questions. (90% - 100% = exceeded expectations, 70% - 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 1 - Method 1 - Result

During the current year, 1454 undergraduate students were evaluated by their course instructors on their ability to describe interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences using embedded exam questions. The course instructors found that 81% of the students met (52%) or exceeded (29%) expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 2

Competency: Critical Thinking

Students will demonstrate creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.

Outcome 2 - Method 1

Students taking Meteorology (GEO 1305) will be evaluated during and/or at the end of the semester by course instructors on their ability to apply the scientific method to the study of the natural phenomena of meteorology using climate and weather data with embedded test questions administered during Meteorology (GEO 1305) class examinations. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the embedded test questions. (90% - 100% = exceeded expectations, 70% – 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 2 - Method 1 - Result

During current year, 1461 undergraduate students were evaluated by their course instructors on their ability to demonstrate creative thinking innovation, inquiry, and analysis, evaluation and synthesis of information using embedded exam questions. The course instructors found that 82% of the students met (53%) or exceeded (29%) expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 3

Competency: Communication

Students will effectively develop, interpret and express ideas through written, oral and visual communication.

Outcome 3 - Method 1

Students taking Meteorology (GEO 1305) will be evaluated during and/or at the end of the semester by course instructors on their ability to use writing, speech and visualizations to express ideas about the natural phenomena of meteorology using an out-of-class project / presentation with grading rubric from the course: Meteorology (GEO 1305). Students' ability will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on an out-of-class project with grading rubric (90% - 100% = exceeded expectations, 70% – 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 3 - Method 1 - Result

During current year, 1459 undergraduate students were evaluated by their course instructors on their ability to effectively develop, interpret and express ideas through written, oral, and visual communication using an out-of-class assignment. The course instructors found that 78% of the students met (32%) or exceeded (46%) expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 4

Competency: Empirical and Quantitative Skills

Students will manipulate and analyze numerical data or observable facts resulting in informed conclusions.

Outcome 4 - Method 1

Students taking Meteorology (GEO 1305) will be evaluated during and/or at the end of the semester by course instructors on their ability to manipulate and analyze numerical meteorological data and observable climatic and weather facts using an out-of-class project with grading rubric from the course: Meteorology (GEO 1305). Students' ability will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on an out-of-class project with grading rubric (90% - 100% = exceeded expectations, 70% – 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 4 - Method 1 - Result

During current year, 1365 undergraduate students were evaluated by their course instructors on their ability to manipulate and analyze numerical data or observable facts resulting in informed conclusions using embedded exam questions. The course instructors found that 80% of the students met (50%) or exceeded (30%) expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 5

Competency: Teamwork

Students will recognize different points of view and work effectively with others to support a shared purpose or goal.

Outcome 5 - Method 1

Students taking Meteorology (GEO 1305) will be evaluated during and/or at the end of the semester by course instructors on their ability to work effectively with others to support a shared purpose and goal using an out-of-class group project with grading rubric from the course: Meteorology (GEO 1305). Students' ability will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on an out-of-class group project with grading rubric (90% - 100% = exceeded expectations, 70% – 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 5 - Method 1 - Result

During current year, 1349 undergraduate students were evaluated by their course instructors on their ability to recognize different points of view and work effectively with others to support a shared purpose or goal using an out-of-class assignment. The course instructors found that 82% of the

students met (40%) or exceeded (42%) expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

Approval History

Approval History Event

Outcomes Approved Level 1
Outcomes Approved Level 2
Outcomes Audit Report Submitted
Results Approved Level 1
Results Approved Level 2
Results Audit Report Submitted

Approver

Yongmei Lu (yl10)
Mary Cavitt (mc58)
Amy Weimer (a_w377)
Yongmei Lu (yl10)
Mary Cavitt (mc58)
Nancy Wilson (nw05)

General Information

Academic Year:	2022-2023
College:	Liberal Arts
Department:	Geography
Program:	GEO 1310
Program Code:	8.00
Outcome Type:	General Education
Degree:	Other
Coordinator/Contact:	Injeong Jo / Brian Cooper
Status:	Data Entry Closed

Mission Statement

The mission of the general education core curriculum at Texas State University is to provide students with a broad academic foundation in the component areas of communication; mathematics; life and physical sciences; language, philosophy and culture; creative arts; American history; government/political science; and social and behavioral sciences.

Social and Behavioral Sciences Mission:

The mission of the social and behavioral sciences component is to focus on the application of empirical and scientific methods that contribute to the understanding of what makes us human.

Evidence of Improvement

During current year, we implemented an action plan that had course instructors add class discussion time about specific examples of geographic data represented in various forms in Outcome 3 and were pleased to find a 1% increase in average total scores used to measure improvement in student learning during the current year compared to last year. Student learning outcomes indicated a mostly steady result in average total scores used to measure student understanding for Outcome 1, 2, and 5.

Action Plan

The improvement in Outcome 3 leads to the conclusion that the instructional strategies implemented in the previous year will be continued for the next year. We will focus on making improvement on Outcome 4 because we observed a small decrease in percentage of students meeting or exceeding expectations this year. We will have instructors provide additional lecture time and assignments to help students practice manipulating and analyzing numerical data or observable facts for the world's regions.

Outcome 1

Students will explore behavior and interactions among individuals, groups, institutions, and events, examining their impact on the individual, society, and culture.

Outcome 1 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on their knowledge of the major cultural features of the Earth and their impacts on the individual and society using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the embedded test questions. (90% - 100% = exceeded expectations, 70% - 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 1 - Method 1 - Result

During the current year, 1227 undergraduate students were evaluated by their course instructors on their knowledge of the major cultural features of the Earth and their impacts on the individual and society by their course instructors using embedded test questions from the course: World Geography (GEO1310). The course instructors found that 85% of the undergraduate students met (64%) or exceeded (21%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 2

Competency: Critical Thinking

Students will demonstrate creative thinking innovation, inquiry, and analysis, evaluation and synthesis of information.

Outcome 2 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on their success in using creative thinking, innovation, inquiry, analysis, evaluation and synthesis of information to build their knowledge and understanding of the major physical features of the Earth using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the embedded test questions. (90% - 100% = exceeded expectations, 70% - 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 2 - Method 1 - Result

During the current year, 1227 undergraduate students were evaluated by their course instructors on their success in using creative thinking, innovation, inquiry, analysis, evaluation, and synthesis of information to build their knowledge and understanding of the major physical features of the Earth by their course instructors using embedded test questions from the course: World Geography (GEO1310). The course instructors found that 86% of the undergraduate students met (65%) or exceeded (21%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 3

Competency: Communication

Students will effectively develop, interpret and express ideas through written, oral and visual communication.

Outcome 3 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on their ability to develop, interpret and express ideas about the major physical and cultural aspects of world geography through written, oral and visual communication including the use of maps as a tool to locate and visualize the Earth's major physical and cultural features using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the embedded test questions. (90% - 100% = exceeded expectations, 70% – 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 3 - Method 1 - Result

During the current year, 1227 undergraduate students were evaluated by their course instructors on their ability to develop, interpret and express ideas about the major physical and cultural aspects of world geography through written, oral, and visual communication including the use of maps as a tool to locate and visualize the Earth's major physical and cultural features by their course instructor using embedded test questions from the course: World Geography (GEO1310). The course instructors found that 72% of the undergraduate students met (64%) or exceeded (8%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations was barely achieved.

Outcome 4

Competency: Empirical and Quantitative Skills

Students will manipulate and analyze numerical data or observable facts resulting in informed conclusions.

Outcome 4 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on their ability to manipulate and analyze numerical data or observable facts for the world's regions resulting in informed conclusions to gain an understanding of the distribution and variation of the Earth's physical and cultural variables using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the embedded test questions. (90% - 100% = exceeded expectations, 70% – 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 4 - Method 1 - Result

During the current year, 1227 undergraduate students were evaluated by their course instructors on their ability to manipulate and analyze numerical data or observable facts for the world's regions resulting in informed conclusions to gain an understanding of the distribution and variation of the Earth's physical and cultural variables by their course instructors using embedded test questions from the course: World Geography (GEO1310). The course instructors found that 76% of the undergraduate students met (63%) or exceeded (13%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 5

Competency: Social Responsibility

Students will demonstrate intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities.

Outcome 5 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on their ability demonstrate intercultural competence, knowledge of civic responsibility and the ability to engage effectively in regional, national and global communities through an understanding of the physical and cultural geographies of the Earth using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the embedded test questions. (90% - 100% = exceeded expectations, 70% – 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 5 - Method 1 - Result

During the current year, 1227 undergraduate students were evaluated by their course instructors on their ability demonstrate intercultural competence, knowledge of civic responsibility and the ability to engage effectively in regional, national, and global communities through an understanding of the physical and cultural geographies of the Earth by their instructor using embedded test questions from the course: World Geography (GEO1310). The course instructors found that 85% of the undergraduate students met (63%) or exceeded (22%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations was achieved.

Approval History

Approval History Event	Approver
Outcomes Approved Level 1	Yongmei Lu (yl10)
Outcomes Approved Level 2	Mary Cavitt (mc58)
Outcomes Audit Report Submitted	Lisa Chrans (lc19)
Results Approved Level 1	Yongmei Lu (yl10)
Results Approved Level 2	Mary Cavitt (mc58)
Results Audit Report Submitted	Lisa Chrans (lc19)

General Information

Academic Year:	2022-2023
College:	Liberal Arts
Department:	Geography
Program:	Geography (BA/BS/Cert.)
Program Code:	45.07
Outcome Type:	Student Learning (UG)
Degree:	Undergraduate
Coordinator/Contact:	Brian J Cooper
Status:	Data Entry Closed

Mission Statement

Geography prepares students for meaningful careers in both the public and private sectors by providing them a program of studies that focuses on the systematic study of the spatial distribution and interrelationships of people, natural resources, plant and animal life, including instruction in historical and political geography, cultural geography, economic and physical geography, regional science, cartographic methods, remote sensing, spatial analysis, and applications to areas such as land-use planning, development studies, and analyses of specific countries, regions, and resources.

In addition to general and specialized lecture-format courses, the Geography program offers a variety of project-based lab and field-trip experiences, career development through advising, job-shadowing and internships as well as team-building and leadership opportunities available by joining one or more geography department student organizations. Finally, the Geography program provides students with the foundation for a liberal education, preparing graduates to think independently, to choose free and to base personal and professional decisions on a broad understanding of the Earth's physical and cultural landscapes in order to live full, rewarding lives.

Evidence of Improvement

For current year, we decided an action plan that had the course instructors provide additional lecture time explaining fundamental concepts of geographic information systems throughout the semester to improve student learning in Outcome 4 – Method 1. Instructors also provided students with opportunities to explain and discuss some key concepts among themselves. We were pleased to find a distinct increase (25%) in average total scores used to measure improvement in student learning during this year compared to last year. We found a slight increase (2%) in average total scores used to measure improvement in student learning for Outcome 1 – Method 2; and a mostly steady result in average total scores used to measure student understanding for Outcome 1 – Method 1 and Outcome 2 – Method 2 during this year compared to last year.

Action Plan

The success measurements in Outcomes 1, 2, and 4 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For next year we will focus on making improvement on Outcome 3 – Method 1 and Outcome 5 – Method 1 because the percentage of students meeting or exceeding expectations decreased during this year compared to last year. For Outcome 3 – Method 1, we will have instructors provide additional lecture time or assignments throughout the semester to help students understand key concepts of descriptive statistics, bi-variate relationships, and inferential statistics. For Outcome 5 – Method 1, we will have instructors provide in-class hands-on exercises during lecture time to better prepare students to apply knowledge in the fieldwork. We will also provide time for review/questions prior to examinations in the class to provide clarity and reinforcement of key concepts and test materials.

Outcome 1

Students will demonstrate their knowledge of the major physical features of the Earth such as mountains, deserts, rivers and oceans and their ability to locate examples of the Earth's major features on a map.

Outcome 1 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of the major physical features of the Earth using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 1 - Result

During the current year, 722 undergraduate students were evaluated on their knowledge of the major physical features of the Earth by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 87% of the students met (34%) or exceeded (53%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 1 - Method 2

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to locate examples of major physical features of the Earth on a map using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' ability will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered

correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 2 - Result

During the current year, 722 undergraduate students were evaluated on their ability to locate examples of major physical features of the Earth on a map by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 86% of the students met (53%) or exceeded (33%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 2

Students will demonstrate their knowledge of the major cultural features of the Earth such as political boundaries, major agricultural regions and language groups and their ability to locate examples of Earth's major cultural features on a map.

Outcome 2 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of the major cultural features of the Earth using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 1 - Result

During the current year, 722 undergraduate students were evaluated on their knowledge of the major cultural features of the Earth by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 86% of the undergraduate students met (46%) or exceeded (40%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 2 - Method 2

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to locate examples of major cultural features of the Earth on a map using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' ability will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 2 - Result

During the current year, 722 undergraduate students were evaluated on their ability to locate examples of major cultural features of the Earth on a map by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 86% of the undergraduate students met (43%) or exceeded (43%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 3

Students will demonstrate their knowledge of research methods used by geographers and their ability to use statistical software to solve geographic problems.

Outcome 3 - Method 1

Students taking Research Methods in Geography (GEO 3301) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of research methods using embedded test questions administered during Research Methods in Geography (GEO 3301) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (100% - 90% embedded test questions answered correctly); Meeting Expectations (89% - 70% embedded test questions answered correctly); or Failing to Meet Expectations (69% or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 1 - Result

During the current year, 115 undergraduate students were evaluated on their knowledge of research methods by their course instructor using embedded test questions from the course: Research Methods for Geography (GEO 3301). The course instructor found that 79% of the students met (34%) or exceeded (45%) expectations on embedded knowledge questions about descriptive statistics, bi-variate relationships, and inferential statistics for this outcome /method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 3 - Method 2

Students taking Research Methods in Geography (GEO 3301) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to use statistical software to solve geographic problems using a project graded with rubric. Students' ability will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 70%); or Failing to Meet Expectations (69% or less). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 2 - Result

During the current year, 114 undergraduate students were evaluated on their ability to use statistical software to solve geographic problems using a project graded with rubric from the course: Research Methods for Geography (GEO 3301). The course instructor found that 88% of the students met (46%) or exceeded (42%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 4

Students will demonstrate their knowledge of the foundations and theories of geographic information systems (GIS) and ability to use the tools and methods of GIS.

Outcome 4 - Method 1

Students taking Fundamentals of Geographic Information Systems (GEO 2426) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of geographic information systems using embedded test questions administered during Fundamentals of Geographic Information Systems (GEO 2426) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (100% - 90% embedded test questions answered correctly); Meeting Expectations (89% - 70% embedded test questions answered correctly); or Failing to Meet Expectations (69% or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 4 - Method 1 - Result

During the current year, 104 undergraduate students were evaluated on their knowledge of geographic information systems by their course instructor using embedded test questions from the course: Fundamentals of Geographic Information Systems (GEO 2426). The course instructor found that 91% of the students met (13%) or exceeded (78%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 4 - Method 2

Students taking Fundamentals of Geographic Information Systems (GEO 2426) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to use the tools and methods of GIS using a project graded with a rubric. Students' ability will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 70%); or Failing to Meet Expectations (69% or less). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 4 - Method 2 - Result

During the current year, 104 undergraduate students were evaluated on their ability to use the tools and methods of GIS by their course instructor using a rubric-graded GIS Project from the course: Fundamentals of Geographic Information Systems (GEO 2426). The course instructor found that 70% of the students met (21%) or exceeded (49%) expectations. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 5

Students will demonstrate their knowledge of physical geography and their ability to use scientific methods and techniques for observing, measuring, recording and reporting on geographic phenomena.

Outcome 5 - Method 1

Students taking Field Methods (GEO 4430) Capstone Course will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of physical geography using embedded test questions administered during Field Methods (GEO 4430) class examinations. Specific embedded questions will target areas that need improvement as identified by the previous year's assessment. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 5 - Method 1 - Result

During the current year, 28 undergraduate students were evaluated on their knowledge of physical geography by their course instructor using embedded test questions from the course: Field Methods (GEO 4430). The course instructor found that 89% of the students met (79%) or exceeded (10%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 5 - Method 2

Students taking Field Methods (GEO 4430) Capstone Course will be evaluated during and/or at the end of the semester by course instructors on the students' ability to use scientific methods and techniques for observing, measuring, recording and reporting on geographic phenomena using a project graded with a rubric. Students' ability will be assessed by the number of points received on the grading rubric on the basis of: Exceeding Expectations (10 points); Meeting Expectations (7 – 9 points); or Failing to Meet Expectations (6 or fewer points). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 5 - Method 2 - Result

During the current year, 28 undergraduate students were evaluated on their ability to use scientific methods and techniques for observing, measuring, recording and reporting on geographic phenomena by their course instructor using a rubric-graded project from the course: Field Methods (GEO 4430). The course instructor found that 86% of the undergraduate students met (57%) or exceeded (29%) expectations for this outcome. The target of 70% of the students meeting or exceeding expectations for this outcome was achieved.

Outcome 6

The academic program will promote and realize gains in student success.

Outcome 6 - Method 1

Student retention success will be measured by observing one year retention rates of students enrolled in the academic program from their freshman to sophomore year. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Rates of retention success will be expected to be at or above the university average for this level of program.

Outcome 6 - Method 1 - Result

Student retention success measured by freshman-to-sophomore one-year retention rate (79%) for students enrolled in Geography (fall 2021 cohort semester) met the expectation to be at or above the University average (79%) for this level of program.

Outcome 6 - Method 2

Student graduation success will be measured by observing the number of graduates from the academic program in during the fall, spring, and summer semesters and comparing the number of graduates to the number of students enrolled in the program. Data will be obtained from the university's certified enrollment records for the fall, spring, and summer semesters. The number of graduates is expected to be at or above the university rate of graduation for this level of program.

Outcome 6 - Method 2 - Result

The current year graduation success for Geography students of 30% (44 graduates / 145 students enrolled) met expectations of exceeding the University graduation rate average of 21% (7088 graduates / 33832 students enrolled).

Outcome 7

The academic program will promote and realize efficiency in the delivery and completion of the program.

Outcome 7 - Method 1

Delivery efficiency will be measured by reviewing the total number students enrolled in the academic program during the fall semester. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Delivery efficiency will be expected to increase from year to year.

Outcome 7 - Method 1 - Result

Delivery efficiency measured by the number of students (145) majoring in Geography in the fall of 2022 compared to the number of majors (140) in the fall of 2021 met the expectation of an increase in the number of students from year to year.

Outcome 7 - Method 2

Completion efficiency will be measured by observing the average time-to-completion for students in the academic program. Data will be obtained from the university's certified enrollment records for the fall semester. The time-to-completion of graduates is expected to be at or below the university average for this level of program.

Outcome 7 - Method 2 - Result

Completion efficiency measured by the average time to completion (native students) majoring in Geography for current year (3.7 years) met the expectation to be at or below the University average (3.7 years) for this level of program.

Approval History

Approval History Event

Outcomes Approved Level 1

Approver

Yongmei Lu (yl10)

Outcomes Approved Level 2
Outcomes Audit Report Submitted
Results Approved Level 1
Results Approved Level 2
Results Audit Report Submitted

Mary Brennan (mb18)
Elizabeth Erhart (ee10)
Yongmei Lu (yl10)
Mary Brennan (mb18)
Elizabeth Erhart (ee10)

General Information

Academic Year:	2022-2023
College:	Liberal Arts
Department:	Geography
Program:	Geography (MAGeo/MS)
Program Code:	45.07
Outcome Type:	Student Learning (GR)
Degree:	Masters
Coordinator/Contact:	Ron Hagelman
Status:	Data Entry Closed

Mission Statement

The Master of Applied Geography (MAGeo) degree is designed to prepare students to use their skills and background knowledge to solve real-world problems with geographic dimensions and the Master of Science (MS) degree in Geography is designed to provide students with exposure to geographic theory and research at the pre-doctoral level. MAGeo students will be educated in the process of applied research in a spatial context culminating in the completion of a directed research project and MS students will be educated in the process of geographic research culminating in the completion of original research in the form of a MS thesis.

Evidence of Improvement

For the current year, we decided an action plan that have the course instructors of GEO 5309 allocate more time for class discussion throughout the semester to identify examples of geographic research and methods in the academic literature on a wide range of scholarly and applied geographic topics to improve student learning in Outcome 1 – Method 2. We implemented our action plan and found a slight increase (1%) in average total scores used to measure student understanding for Outcome 1 – Method 2 during the current year compared to last year. We also observed improvement (3%) in the percentage of students who met or exceeded expectations for Outcome 2 – Method 2 during the current year compared to last year.

Action Plan

The success measurements in Outcomes 1 – Method 2 and Outcome 2 – Method 2 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For next year, we will focus on making improvement on Outcome 1 – Method 1 because the percentages of students meeting or exceeded expectations decreased during the current year compared to last year. We will have instructors of GEO 5309 allocate more time for class discussion of faculty-assigned readings throughout the semester to improve students' awareness and understanding of geographic concepts, research methods, and analytic techniques. The discussions will include student-led presentations, individually or in groups, during class as well as in online Canvas discussion forums.

Outcome 1

Students will demonstrate their knowledge of geographic concepts, research methods and analytic techniques as well as their knowledge of the geographer's perspective on conducting and completing research on a wide range of scholarly and applied geographic topics.

Outcome 1 - Method 1

Students taking Geographical Analysis (GEO 5309) will be evaluated by course instructors on their knowledge of geographic concepts, research methods and analytic techniques using an embedded course assignment graded with a rubric during and / or at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 1 - Result

During the current year, 16 graduate students were evaluated by course instructor on their knowledge of geographic concepts, research methods and analytic techniques using an embedded course assignment. The course instructor found that 87% of the graduate students met (12%) or exceeded (75%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 1 - Method 2

Students taking Geographical Analysis (GEO 5309) will be evaluated by course instructors on their knowledge of the geographer's perspective on conducting and completing research on a wide range of scholarly and applied geographic topics using an embedded course assignment graded with a rubric during and / or at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 2 - Result

During the current year, 16 graduate students were evaluated by course instructors on their knowledge of the geographer's perspective on conducting and completing research on a wide range of scholarly and applied geographic topics using an embedded course assignment. The course instructors found that 87% of the graduate students met (12%) or exceeded (75%) expectations for this outcome / method. The target of

80% of the students meeting or exceeding expectations was achieved.

Outcome 2

Students will demonstrate their knowledge of multivariate quantitative methods including basic descriptive and inferential statistical techniques as well as their knowledge of advanced topics such as regression analysis and non-parametric analytical methods, spatial statistics and factor analysis.

Outcome 2 - Method 1

Multivariate Quantitative Methods (GEO 5301) course instructors will evaluate their students' knowledge of knowledge of multivariate quantitative methods including basic descriptive and inferential statistical techniques using questions embedded in the course midterm exam. Students' knowledge will be assessed on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 1 - Result

During the current year, 34 graduate students were evaluated by course instructors on their knowledge of multivariate quantitative methods including basic descriptive and inferential statistical techniques using embedded exam questions. The course instructors found that 88% of the graduate students met (38%) or exceeded (50%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 2 - Method 2

Students taking Multivariate Quantitative Methods (GEO 5301) will be evaluated by course instructors will on their knowledge of advanced statistical topics such as regression analysis and non-parametric analytical methods, spatial statistics and factor analysis using questions embedded in the course final exam. Students' knowledge will be assessed on the basis of: Exceeding Expectations (100% - 90% embedded test questions answered correctly); Meeting Expectations (89% - 80% embedded test questions answered correctly); or Failing to Meet Expectations (79% or fewer embedded test questions answered correctly). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 2 - Result

During the current year, 34 graduate students were evaluated by course instructors on their knowledge of advanced statistical topics such as regression analysis and non-parametric analytical methods, spatial statistics and factor analysis using embedded exam questions. The course instructors found that 94% of the graduate students met (68%) or exceeded (26%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 3

Students will demonstrate their knowledge of the basic components of research grant proposals and their ability to critique research designs and manuscripts as well as their ability to produce a draft research proposal for their thesis.

Outcome 3 - Method 1

Students taking Advanced Geographic Research Design (GEO 7300) will be evaluated by course instructors on their knowledge of the basic components of research grant proposals and their ability to critique research designs and manuscripts using an embedded class assignment graded with a rubric during and / or at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 1 - Result

During the current year, 5 graduate students were evaluated by course instructors on their ability to critique research designs and manuscripts using embedded class assignments. The course instructors found that 100% of the graduate students met (0%) or exceeded (100%) expectations for this outcome / method.

Outcome 3 - Method 2

Students taking Advanced Geographic Research Design (GEO 7300) will be evaluated by course instructors on their ability to produce a draft research proposal for their thesis graded with a rubric at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 2 - Result

During the current year, 5 graduate students were evaluated by course instructors on their ability to produce a draft research proposal for their thesis. The course instructors found that 100% of the graduate students met (0%) or exceeded (100%) expectations for this outcome / method.

Outcome 4

The academic program will promote and realize gains in student success.

Outcome 4 - Method 1

Student retention success will be measured by observing one year retention rates of students enrolled in the academic program from their first to second year. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Rates of retention success will be expected to be at or above the university average for this level of program.

Outcome 4 - Method 1 - Result

Student retention success measured by first-to-second year retention rate (100%) for students enrolled in Geography: MAGeo / MS (fall 2021 cohort semester) met the expectation to be at or above the University average (80%) for this level of program.

Outcome 4 - Method 2

Student graduation success will be measured by observing the number of graduates from the academic program in during the fall, spring, and summer semesters and comparing the number of graduates to the number of students enrolled in the program. Data will be obtained from the university's certified enrollment records for the fall, spring, and summer semesters. The number of graduates is expected to be at or above the university rate of graduation for this level of program.

Outcome 4 - Method 2 - Result

The graduation success for Geography: MAGeo / MS students for the current year, 50% (25 graduates / 50 students enrolled) met the expectation of exceeding the University graduation rate average of 42% (1391 graduates / 3339 students enrolled).

Outcome 5

The academic program will promote and realize efficiency in the delivery and completion of the program.

Outcome 5 - Method 1

Delivery efficiency will be measured by reviewing the total number students enrolled in the academic program during the fall semester. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Delivery efficiency will be expected to increase from year to year.

Outcome 5 - Method 1 - Result

Delivery efficiency measured by the number of students (50) majoring in Geography: MAGeo / MS in the fall of 2022 compared to the number of majors (57) in the fall 2021 did not meet the expectation of an increase in the number of students from year to year.

Outcome 5 - Method 2

Completion efficiency will be measured by observing the average time-to-completion for students in the academic program. Data will be obtained from the university's certified enrollment records for the fall semester. The time-to-completion of graduates is expected to be at or below the university average for this level of program.

Outcome 5 - Method 2 - Result

Completion efficiency measured by the average time to completion (native students) majoring in Geography: MAGeo / MS for the current year (1.9 years) met the expectation to be at or below the University average (1.9 years) for this level of program.

Approval History**Approval History Event**

Outcomes Approved Level 1
 Outcomes Approved Level 2
 Outcomes Audit Report Submitted
 Results Approved Level 1
 Results Approved Level 2
 Results Audit Report Submitted

Approver

Yongmei Lu (yl10)
 Mary Brennan (mb18)
 Elizabeth Erhart (ee10)
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 Elizabeth Erhart (ee10)

General Information

Academic Year:	2022-2023
College:	Liberal Arts
Department:	Geography
Program:	Geography (PhD)
Program Code:	45.07
Outcome Type:	Student Learning (GR)
Degree:	Doctoral
Coordinator/Contact:	Ron Hagelman
Status:	Data Entry Closed

Mission Statement

The doctoral degree in Geography is designed to provide depth and breadth of knowledge in geographic theory and research methods resulting in the completion of significant original research in the form of a PhD dissertation. Students will be educated in the process of geographic research, the development of new knowledge and methods and the application of research, techniques, pedagogy and geographic knowledge to address problems with spatial dimensions.

Evidence of Improvement

For the current year, we decided an action plan that have instructor add an additional activity to help students learn the nature of inquiry and how to develop research questions to improve student learning in Outcome 3 – Method 2. We implemented our action plan and are pleased to see that all students met or exceeded the expectations for Outcome 3 – Method 2 during the current year. We observed a mostly steady result in the percentage of students who met or exceeded expectations for Outcome 1 – Methods 1 & 2, Outcome 2 – Methods 1 & 2, and Outcome 3 – Method 1 during the current year compared to last year.

Action Plan

The success measurements in Outcome 1, 2, and 3 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For next year, we will focus on ensuring improvement on Outcome 2 because we found some students had difficulty applying some statistical concepts and tools during the current year. We will continue to have instructors facilitate students' practice applying key concepts and tools of quantitative methods to a variety of research contexts.

Outcome 1

Students will demonstrate their knowledge of the historical roots, development and contemporary philosophical and theoretical debates in the discipline of geography, as well as their ability to produce a term paper based on primary sources and formatted in the style of the *Annals of the Association of American Geographers*.

Outcome 1 - Method 1

Students taking Nature and Philosophy of Geography (GEO 7302) will be evaluated by course instructors on their knowledge of the historical roots, development and contemporary philosophical and theoretical debates in the discipline of geography using an embedded class assignment graded with a rubric during and / or at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 1 - Result

During the current year, 9 graduate students were evaluated by course instructor on their knowledge of the historical roots, development, and contemporary philosophical and theoretical debates in the discipline of geography using an embedded class assignment. The course instructors found that 100% of the graduate students met (0%) or exceeded (100%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 1 - Method 2

Students taking Nature and Philosophy of Geography (GEO 7302) will be evaluated by course instructors on their ability to produce a term paper based on primary sources and formatted in the style of the *Annals of the Association of American Geographers* geography using an embedded class assignment graded with a rubric during and / or at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 2 - Result

During the current year, 9 graduate students were evaluated by course instructor on their ability to produce a term paper based on primary sources and formatted in the style of the *Annals of the Association of American Geographers* using an embedded class assignment. The course instructors

found that 100% of the graduate students met (0%) or exceeded (100%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 2

Students will demonstrate their advanced proficiency in the use of technical tools for geographic research including quantitative methods and other appropriate statistical tools for spatial analysis, as well as their ability to use statistical research tools to produce a research paper suitable for publication in a refereed journal.

Outcome 2 - Method 1

Students taking Advanced Quantitative Methods in Geography (GEO 7301) will be evaluated by course instructors on their advanced proficiency in the use of technical tools for geographic research including quantitative methods and other appropriate statistical tools for spatial analysis using an embedded class assignment graded with a rubric at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 1 - Result

During the current year, 11 graduate students were evaluated by course instructor on their advanced proficiency in the use of technical tools for geographic research including quantitative methods and other appropriate statistical tools for spatial analysis using an embedded class assignment. The course instructors found that 91% of the graduate students met (82%) or exceeded (9%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 2 - Method 2

Students taking Advanced Quantitative Methods in Geography (GEO 7301) will be evaluated by course instructors on their ability to use statistical research tools to produce a research paper - suitable for publication in a refereed journal - graded with a rubric at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 2 - Result

During the current year, 11 graduate students were evaluated by course instructor on their ability to use statistical research tools to produce a research paper suitable for publication in a refereed journal. The course instructors found that 91% of the graduate students met (82%) or exceeded (9%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 3

Students will demonstrate their knowledge of the basic components of research grant proposals and their ability to critique research designs and manuscripts, as well as their ability to produce a draft research proposal for their dissertation.

Outcome 3 - Method 1

Students taking Advanced Geographic Research Design (GEO 7300) will be evaluated by course instructors on their knowledge of the basic components of research grant proposals and their ability to critique research designs and manuscripts using an embedded class assignment graded with a rubric during and / or at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 1 - Result

During the current year, 5 graduate students were evaluated by course instructors on their knowledge of the basic components of research grant proposals and their ability to critique research designs and manuscripts using an embedded class assignment. The course instructors found that 100% of the graduate students met (0%) or exceeded (100%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 3 - Method 2

Students taking Advanced Geographic Research Design (GEO 7300) will be evaluated by course instructors on their ability to produce a draft research proposal for their dissertation graded with a rubric at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 2 - Result

During the current year, 5 graduate students were evaluated by course instructors on their ability to produce a draft research proposal for their dissertation. The course instructors found that 100% of the graduate students met (0%) or exceeded (100%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 4

The academic program will promote and realize gains in student success.

Outcome 4 - Method 1

Student retention success will be measured by observing one year retention rates of students enrolled in the academic program from their first to second year. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Rates of retention success will be expected to be at or above the university average for this level of program.

Outcome 4 - Method 1 - Result

Student retention success measured by first-to-second year retention rate (64%) for students enrolled in Geography: Ph.D. (fall 2021 cohort semester) did not meet the expectation to be at or above the University average (86%) for this level of program.

Outcome 4 - Method 2

Student graduation success will be measured by observing the number of graduates from the academic program in during the fall, spring, and summer semesters and comparing the number of graduates to the number of students enrolled in the program. Data will be obtained from the university's certified enrollment records for the fall, spring, and summer semesters. The number of graduates is expected to be at or above the university rate of graduation for this level of program.

Outcome 4 - Method 2 - Result

The graduation success for Geography: Ph.D. students for the current year of 12% (6 graduates / 51 students enrolled) did not meet expectations of exceeding the University graduation rate average of 15% (89 graduates / 598 students enrolled).

Outcome 5

The academic program will promote and realize efficiency in the delivery and completion of the program.

Outcome 5 - Method 1

Delivery efficiency will be measured by reviewing the total number students enrolled in the academic program during the fall semester. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Delivery efficiency will be expected to increase from year to year.

Outcome 5 - Method 1 - Result

Delivery efficiency measured by the number of students (51) majoring in Geography: Ph.D. in the fall of 2022 compared to the number of majors (57) in the fall 2021 did not meet the expectation of an increase in the number of students from year to year.

Outcome 5 - Method 2

Completion efficiency will be measured by observing the average time-to-completion for students in the academic program. Data will be obtained from the university's certified enrollment records for the fall semester. The time-to-completion of graduates is expected to be at or below the university average for this level of program.

Outcome 5 - Method 2 - Result

Completion efficiency measured by the average time to completion (native students) majoring in Geography: Ph.D. for the current year (3.9 years) met the expectation to be at or below the University average (4.7 years) for this level of program.

Approval History

Approval History Event	Approver
Outcomes Approved Level 1	Yongmei Lu (yl10)
Outcomes Approved Level 2	Mary Brennan (mb18)
Outcomes Audit Report Submitted	Elizabeth Erhart (ee10)
Results Approved Level 1	Yongmei Lu (yl10)
Results Approved Level 2	Mary Brennan (mb18)
Results Audit Report Submitted	Elizabeth Erhart (ee10)

General Information

Academic Year:	2022-2023
College:	Liberal Arts
Department:	Geography
Program:	Geography Resource and Environmental Studies (BS)
Program Code:	3.01
Outcome Type:	Student Learning (UG)
Degree:	Undergraduate
Coordinator/Contact:	Brian J Cooper
Status:	Data Entry Closed

Mission Statement

The Resource and Environmental Studies program prepares students for a wide variety of government and private sector occupations relating to resource conservation and/or environmental management. In addition to general and specialized lecture-format courses, the program offers a variety of project-based lab and field-trip experiences, career development through advising, job-shadowing and internships as well as team-building and leadership opportunities available by joining one or more geography department student organizations. The Resource and Environmental Studies program also prepares students for graduate programs in resource and environmental studies. Finally, the Resource and Environmental Studies program provides students with the foundation for a liberal education, preparing graduates to think independently, to choose freely and to base personal and professional decisions on a broad understanding of the Earth's physical and cultural landscapes in order to live full, rewarding lives.

Evidence of Improvement

For the current year, we decided an action plan that had the course instructors provide additional lecture time explaining fundamental concepts of geographic information systems throughout the semester to improve student learning in Outcome 4 – Method 1. We implemented our action plan and were pleased to find a distinct increase (25%) in average total scores used to measure improvement in student learning compared to last year. We also were pleased to observe a 11% increase in the percentage of students who met or exceeded expectations for Outcome 5 – Method 1 during the current year compared to last year. Finally, we found a mostly steady result in average total scores used to measure student understanding for Outcome 1 and Outcome 2; and a slight increase (4%) in average total scores used to measure improvement in student learning for Outcome 5 – Method 2 during the current year compared to last year.

Action Plan

The success measurements in Outcomes 1, 2, 4, and 5 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For next year, we will focus on making improvement on Outcome 3 – Method 1 because the percentage of students meeting or exceeded expectations decreased during the current year compared to last year. We will have instructors provide additional lecture time or assignments throughout the semester to help students understand key concepts of descriptive statistics, bi-variate relationships, and inferential statistics.

Outcome 1

Students will demonstrate their knowledge of the major physical features of the Earth such as mountains, deserts, rivers and oceans and their ability to locate examples of the Earth's major features on a map.

Outcome 1 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of the major physical features of the Earth using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 1 - Result

During the current year, 722 undergraduate students were evaluated on their knowledge of the major physical features of the Earth by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 87% of the students met (34%) or exceeded (53%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 1 - Method 2

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to locate examples of major physical features of the Earth on a map using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' ability will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 2 - Result

During the current year, 722 undergraduate students were evaluated on their ability to locate examples of major physical features of the Earth on a map by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 86% of the students met (53%) or exceeded (33%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 2

Students will demonstrate knowledge of the major cultural features of the Earth such as political boundaries, major agricultural regions and language groups and their ability to locate examples of Earth's major cultural features on a map.

Outcome 2 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of the major cultural features of the Earth using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 1 - Result

During the current year, 722 undergraduate students were evaluated on their knowledge of the major cultural features of the Earth by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 86% of the undergraduate students met (46%) or exceeded (40%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 2 - Method 2

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to locate examples of major cultural features of the Earth on a map using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' ability will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 2 - Result

During the current year,, 722 undergraduate students were evaluated on their ability to locate examples of major cultural features of the Earth on a map by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 86% of the undergraduate students met (43%) or exceeded (43%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 3

Students will demonstrate knowledge of quantitative methods used by geographers and their ability to use statistical software to solve geographic problems.

Outcome 3 - Method 1

Students taking Research Methods in Geography (GEO 3301) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of research methods using embedded test questions administered during Research Methods in Geography (GEO 3301) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (100% - 90% embedded test questions answered correctly); Meeting Expectations (89% - 70% embedded test questions answered correctly); or Failing to Meet Expectations (69% or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 1 - Result

During the current year,, 115 undergraduate students were evaluated on their knowledge of research methods by their course instructor using embedded test questions from the course: Research Methods for Geography (GEO 3301). The course instructor found that 79% of the students met (34%) or exceeded (45%) expectations on embedded knowledge questions about descriptive statistics, bi-variate relationships, and inferential statistics for this outcome /method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 3 - Method 2

Students taking Research Methods in Geography (GEO 3301) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to use statistical software to solve geographic problems using a project graded with rubric. Students' ability will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 70); or Failing to Meet Expectations (69% or less). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 2 - Result

During current year, 114 undergraduate students were evaluated on their ability to use statistical software to solve geographic problems using a project graded with rubric from the course: Research Methods for Geography (GEO 3301). The course instructor found that 88% of the students met (46%) or exceeded (42%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 4

Students will demonstrate knowledge of the foundations and theories of geographic information systems (GIS) and their ability to use the tools and methods of GIS.

Outcome 4 - Method 1

Students taking Fundamentals of Geographic Information Systems (GEO 2426) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of geographic information systems using embedded test questions administered during Fundamentals of Geographic Information Systems (GEO 2426) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (100% - 90% embedded test questions answered correctly); Meeting Expectations (89% - 70% embedded test questions answered correctly); or Failing to Meet Expectations (69% or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 4 - Method 1 - Result

During the current year, 104 undergraduate students were evaluated on their knowledge of geographic information systems by their course instructor using embedded test questions from the course: Fundamentals of Geographic Information Systems (GEO 2426). The course instructor found that 91% of the students met (13%) or exceeded (78%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was not achieved.

Outcome 4 - Method 2

Students taking Fundamentals of Geographic Information Systems (GEO 2426) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to use the tools and methods of GIS using a project graded with a rubric. Students' ability will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 70%); or Failing to Meet Expectations (69% or less). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 4 - Method 2 - Result

During the current year, 104 undergraduate students were evaluated on their ability to use the tools and methods of GIS by their course instructor using a rubric-graded GIS Project from the course: Fundamentals of Geographic Information Systems (GEO 2426). The course instructor found that 70% of the students met (21%) or exceeded (49%) expectations. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 5

Students will demonstrate their knowledge of resource and environmental issues and their ability to demonstrate the role that geography plays in analyzing resource / environmental degradation problems and improving resource / environmental management strategies.

Outcome 5 - Method 1

Students taking Environmental Management (GEO 4313) Capstone Course will be evaluated during and/or at the end the semester by course instructors on the students' knowledge of resource and environmental issues using embedded test administered during Environmental Management (GEO 4313) class examinations. Specific embedded questions will target areas that need improvement as identified by the previous year's assessment. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 5 - Method 1 - Result

During the current year, 66 undergraduate students were evaluated by their course instructor on their knowledge of resource and environmental issues using a selected course assignment graded with a rubric in Environmental Management (GEO 4313) class. The course instructor found that 94% of the students met (61%) or exceeded (33%) performance expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 5 - Method 2

Students taking Environmental Management (GEO 4313) Capstone Course will be evaluated during and/or at the end the semester by course instructors on the students' knowledge of resource and environmental issues using a selected course assignment graded with a rubric in Environmental Management (GEO 4313) class. A specific assignment will target areas that need improvement as identified by the previous year's assessment. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 points); Meeting Expectations (7 - 9 points); or Failing to Meet Expectations (6 or fewer points). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 5 - Method 2 - Result

During the current year, 66 undergraduate students were evaluated by their course instructor using rubric- graded project (a simplified Environmental Impact Statement) from the course: Environmental Management (GEO 4313). The course instructor found that 97% of the students met (33%) or exceeded (64%) expectations. The target of 70% of the students meeting or exceeding expectation was achieved.

Outcome 6

The academic program will promote and realize gains in student success.

Outcome 6 - Method 1

Student retention success will be measured by observing one year retention rates of students enrolled in the academic program from their freshman to sophomore year. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Rates of retention success will be expected to be at or above the university average for this level of program.

Outcome 6 - Method 1 - Result

Student retention success measured by freshman-to-sophomore one-year retention rate (93%) for students enrolled in Geography: Resource and Environmental Studies (fall 2021 cohort semester) met the expectation to be at or above the University average (79%) for this level of program.

Outcome 6 - Method 2

Student graduation success will be measured by observing the number of graduates from the academic program in during the fall, spring, and summer semesters and comparing the number of graduates to the number of students enrolled in the program. Data will be obtained from the university's certified enrollment records for the fall, spring, and summer semesters. The number of graduates is expected to be at or above the university rate of graduation for this level of program.

Outcome 6 - Method 2 - Result

The FY 2020 graduation success for Geography: Resource and Environmental Studies students of 34% (72 graduates / 213 students enrolled) met expectations of exceeding the University graduation rate average of 21% (7088 graduates / 33832 students enrolled).

Outcome 7

The academic program will promote and realize efficiency in the delivery and completion of the program.

Outcome 7 - Method 1

Delivery efficiency will be measured by reviewing the total number students enrolled in the academic program during the fall semester. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Delivery efficiency will be expected to increase from year to year.

Outcome 7 - Method 1 - Result

Delivery efficiency measured by the number of students (213) majoring in Geography: Resource and Environmental Studies in the fall of 2022 compared to the number of majors (217) in the fall 2021 did not meet the expectation of an increase in the number of students from year to year.

Outcome 7 - Method 2

Completion efficiency will be measured by observing the average time-to-completion for students in the academic program. Data will be obtained from the university's certified enrollment records for the fall semester. The time-to-completion of graduates is expected to be at or below the university average for this level of program.

Outcome 7 - Method 2 - Result

Completion efficiency measured by the average time to completion (native students) majoring in Geography: Resource and Environmental Studies for the current year (3.7 years) met the expectation to be at or below the University average (3.7 years) for this level of program.

Approval History**Approval History Event**

Outcomes Approved Level 1
 Outcomes Approved Level 2
 Outcomes Audit Report Submitted
 Results Approved Level 1
 Results Approved Level 2
 Results Audit Report Submitted

Approver

Yongmei Lu (yl10)
 Mary Brennan (mb18)
 Elizabeth Erhart (ee10)
 Yongmei Lu (yl10)
 Mary Brennan (mb18)
 Elizabeth Erhart (ee10)

General Information

Academic Year:	2022-2023
College:	Liberal Arts
Department:	Geography
Program:	Geography Resource and Environmental Studies (MAGeo)
Program Code:	3.01
Outcome Type:	Student Learning (GR)
Degree:	Masters
Coordinator/Contact:	Ron Hagelman
Status:	Data Entry Closed

Mission Statement

The Master of Applied Geography (MAGeo) degree in Resource and Environmental Studies is designed to prepare students to use their skills and background knowledge to solve real-world problems with geographic dimensions within environmental geography. Students will be educated in the process of applied research in a spatial context culminating in the completion of a directed research project.

Evidence of Improvement

For the current year, we decided an action plan that had the course instructors of GEO 5309 allocate more time for class discussion throughout the semester to identify examples of geographic research and methods in the academic literature on a wide range of scholarly and applied geographic topics to improve student learning in Outcome 1 – Method 2. We implemented our action plan and found a slight increase (1%) in average total scores used to measure student understanding for Outcome 1 – Method 2 during CY 2022 compared to last year. We also observed improvement (3%) in the percentage of students who met or exceeded expectations for Outcome 2 – Method 2 during the current year compared to last year.

Action Plan

The success measurements in Outcomes 1 – Method 2 and Outcome 2 – Method 2 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For next year, we will focus on making improvement on Outcome 1 – Method 1 because the percentages of students meeting or exceeded expectations decreased during the current year compared to last year. We will have instructors of GEO 5309 allocate more time for class discussion of faculty-assigned readings throughout the semester to improve students' awareness and understanding of geographic concepts, research methods, and analytic techniques. The discussions will include student-led presentations, individually or in groups, during class as well as in online Canvas discussion forums.

Outcome 1

Students will demonstrate their knowledge of geographic concepts, research methods and analytic techniques as well as their knowledge of the geographer's perspective on conducting and completing research on a wide range of scholarly and applied geographic topics.

Outcome 1 - Method 1

Students taking Geographical Analysis (GEO 5309) will be evaluated by course instructors on their knowledge of geographic concepts, research methods and analytic techniques using an embedded course assignment graded with a rubric during and / or at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 1 - Result

During the current year, 16 graduate students were evaluated by course instructor on their knowledge of geographic concepts, research methods and analytic techniques using an embedded course assignment. The course instructor found that 87% of the graduate students met (12%) or exceeded (75%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 1 - Method 2

Students taking Geographical Analysis (GEO 5309) will be evaluated by course instructors on their knowledge of the geographer's perspective on conducting and completing research on a wide range of scholarly and applied geographic topics using an embedded course assignment graded with a rubric during and / or at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 2 - Result

During the current year, 16 graduate students were evaluated by course instructors on their knowledge of the geographer's perspective on conducting and completing research on a wide range of scholarly and applied geographic topics using an embedded course assignment. The course instructors found that 87% of the graduate students met (12%) or exceeded (75%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 2

Students will demonstrate their knowledge of multivariate quantitative methods including basic descriptive and inferential statistical techniques as well as their knowledge of advanced topics such as regression analysis and non-parametric analytical methods. Students will demonstrate their knowledge of multivariate quantitative methods including basic descriptive and inferential statistical techniques as well as their knowledge of advanced topics such as regression analysis and non-parametric analytical methods, spatial statistics and factor analysis.

Outcome 2 - Method 1

Students taking Multivariate Quantitative Methods (GEO 5301) will be evaluated by course instructors on their knowledge of multivariate quantitative methods including basic descriptive and inferential statistical techniques using questions embedded in the course midterm exam. Students' knowledge will be assessed on the basis of: Exceeding Expectations (100% - 90% embedded test questions answered correctly); Meeting Expectations (89% - 80% embedded test questions answered correctly); or Failing to Meet Expectations (79% or fewer embedded test questions answered correctly). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 1 - Result

During the current year, 34 graduate students were evaluated by course instructors on their knowledge of multivariate quantitative methods including basic descriptive and inferential statistical techniques using embedded exam questions. The course instructors found that 88% of the graduate students met (38%) or exceeded (50%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 2 - Method 2

Students taking Multivariate Quantitative Methods (GEO 5301) will be evaluated by course instructors will on their knowledge of advanced statistical topics such as regression analysis and non-parametric analytical methods, spatial statistics and factor analysis using questions embedded in the course final exam. Students' knowledge will be assessed on the basis of: Exceeding Expectations (100% - 90% embedded test questions answered correctly); Meeting Expectations (89% - 80% embedded test questions answered correctly); or Failing to Meet Expectations (79% or fewer embedded test questions answered correctly). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 2 - Result

During the current year, 34 graduate students were evaluated by course instructors on their knowledge of advanced statistical topics such as regression analysis and non-parametric analytical methods, spatial statistics and factor analysis using embedded exam questions. The course instructors found that 94% of the graduate students met (68%) or exceeded (26%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 3

Students will demonstrate their ability to use their knowledge of the components of research design - including problem definition, theory, literature review, methodology and analysis - to prepare a draft research proposal as well as their ability to produce and present a 'defense-style' final research proposal.

Outcome 3 - Method 1

Students taking Applied Research Design and Techniques (GEO 5300) will be evaluated by course instructors on their ability to use their knowledge of the components of research design - including problem definition, theory, literature review, methodology and analysis - to prepare a draft research proposal graded with a rubric during the midterm of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 1 - Result

During the current year, 7 graduate students were evaluated by course instructors on their ability to use their knowledge of the components of research design - including problem definition, theory, literature review, methodology and analysis - to prepare a draft research proposal graded with a rubric during the midterm of the semester. The course instructors found that 100% of the graduate students met (0%) or exceeded (100%) expectations for this outcome / method. The target of 80% of the students meeting or exceeding expectations was achieved.

Outcome 3 - Method 2

Student taking Applied Research Design and Techniques (GEO 5300) will be evaluated by course instructors on their ability to produce and present a 'defense-style' final research proposal graded with a rubric at the end of the semester. Students' knowledge will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 80%); or Failing to Meet Expectations (79% or less). We expect at least 80% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 2 - Result

During the current year, 5 graduate students were evaluated by course instructors on their ability to produce a draft research proposal for their thesis. The course instructors found that 100% of the graduate students met (0%) or exceeded (100%) expectations for this outcome / method.

Outcome 4

The academic program will promote and realize gains in student success.

Outcome 4 - Method 1

Student retention success will be measured by observing one year retention rates of students enrolled in the academic program from their first to second year. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Rates of retention success will be expected to be at or above the university average for this level of program.

Outcome 4 - Method 1 - Result

Student retention success measured by first-to-second year retention rate (100%) for students enrolled in MAGeo: Resource and Environmental Studies (fall 2021 cohort semester) met the expectation to be at or above the University average (80%) for this level of program.

Outcome 4 - Method 2

Student graduation success will be measured by observing the number of graduates from the academic program in during the fall, spring, and summer semesters and comparing the number of graduates to the number of students enrolled in the program. Data will be obtained from the university's certified enrollment records for the fall, spring, and summer semesters. The number of graduates is expected to be at or above the university rate of graduation for this level of program.

Outcome 4 - Method 2 - Result

The the current year graduation success for Resource and Environmental Studies: MAGeo students of 28% (3 graduates / 11 students enrolled) did not meet expectations of exceeding the University graduation rate average of 36% (1391 graduates / 3339 students enrolled).

Outcome 5

The academic program will promote and realize efficiency in the delivery and completion of the program.

Outcome 5 - Method 1

Delivery efficiency will be measured by reviewing the total number students enrolled in the academic program during the fall semester. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Delivery efficiency will be expected to increase from year to year.

Outcome 5 - Method 1 - Result

Delivery efficiency measured by the number of students (11) majoring in MAGeo: Resource and Environmental Studies in the fall of 2022 compared to the number of majors (13) in the fall 2021 did not meet the expectation of an increase in the number of students from year to year.

Outcome 5 - Method 2

Completion efficiency will be measured by observing the average time-to-completion for students in the academic program. Data will be obtained from the university's certified enrollment records for the fall semester. The time-to-completion of graduates is expected to be at or below the university average for this level of program.

Outcome 5 - Method 2 - Result

Completion efficiency measured by the average time to completion (native students) majoring in Resource and Environmental Studies: MAGeo for the current year (1.7 years) met the expectation to be at or below the University average (1.9 years) for this level of program.

Approval History

Approval History Event

Outcomes Approved Level 1
Outcomes Approved Level 2
Outcomes Audit Report Submitted
Results Approved Level 1
Results Approved Level 2
Results Audit Report Submitted

Approver

Yongmei Lu (yl10)
Mary Brennan (mb18)
Elizabeth Erhart (ee10)
Yongmei Lu (yl10)
Mary Brennan (mb18)
Elizabeth Erhart (ee10)

General Information

Academic Year:	2022-2023
College:	Liberal Arts
Department:	Geography
Program:	Geography Urban and Regional Planning (BS)
Program Code:	4.03
Outcome Type:	Student Learning (UG)
Degree:	Undergraduate
Coordinator/Contact:	Brian J Cooper
Status:	Data Entry Closed

Mission Statement

The Urban and Regional Planning program prepares students for a wide variety of government and private sector employment opportunities relating to land-use, transportation, economic development, natural resource and waste-management planning occupations. The Urban and Regional Planning program provides students with the knowledge and skills required to evaluate and facilitate programs that benefit our neighborhoods, communities, cities, and regions. In addition to general and specialized lecture-format courses, the program offers a variety of project-based lab and field-trip experiences, career development through advising, job-shadowing and internships as well as team-building and leadership opportunities available by joining one or more geography department student organizations. The Urban and Regional Planning program also prepares students for graduate studies in planning and planning-related fields. Finally, the Urban and Regional Planning program provides students with the foundation for a liberal education, preparing graduates to think independently, to choose freely and to base personal and professional decisions on a broad understanding of the Earth's physical and cultural landscapes in order to live full, rewarding lives.

Evidence of Improvement

For the current year, we decided an action plan that had the course instructors provide additional lecture time explaining fundamental concepts of geographic information systems throughout the semester to improve student learning in Outcome 4 – Method 1. We implemented our action plan and were pleased to find a distinct increase (25%) in average total scores used to measure improvement in student learning during the current year compared to last year. We found a mostly steady result in average total scores used to measure student understanding for Outcome 1 – Method 1 and Outcome 2 – Method 2; and a slight increase (2%) in average total scores used to measure improvement in student learning for Outcome 1 – Method 2 during the current year compared to last year.

Action Plan

The success measurements in Outcomes 1, 2, 4 and 5 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For next year, we will focus on making improvement on Outcome 3 – Method 1 because the percentage of students meeting or exceeded expectations decreased during the current year compared to last year. We will have instructors provide additional lecture time or assignments throughout the semester to help students understand key concepts of descriptive statistics, bi-variate relationships, and inferential statistics.

Outcome 1

Students will demonstrate knowledge of the major physical features of the Earth such as mountains, deserts, rivers and oceans and their ability to locate examples of the Earth's major features on a map.

Outcome 1 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of the major physical features of the Earth using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 1 - Result

During the current year, 722 undergraduate students were evaluated on their knowledge of the major physical features of the Earth by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 87% of the students met (34%) or exceeded (53%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 1 - Method 2

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to locate examples of major physical features of the Earth on a map using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' ability will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 2 - Result

During the current year, 722 undergraduate students were evaluated on their ability to locate examples of major physical features of the Earth on a map by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 86% of the students met (53%) or exceeded (33%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 2

Students will demonstrate knowledge of the major cultural features of the Earth such as political boundaries, major agricultural regions and language groups and their ability to locate examples of Earth's major cultural features on a map.

Outcome 2 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of the major cultural features of the Earth using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 1 - Result

During the current year, 722 undergraduate students were evaluated on their knowledge of the major cultural features of the Earth by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 86% of the undergraduate students met (46%) or exceeded (40%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 2 - Method 2

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to locate examples of major cultural features of the Earth on a map using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' ability will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 2 - Result

During the current year, 722 undergraduate students were evaluated on their ability to locate examples of major cultural features of the Earth on a map by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 86% of the undergraduate students met (43%) or exceeded (43%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 3

Students will demonstrate knowledge of quantitative methods used by geographers and their ability to use statistical software to solve geographic problems.

Outcome 3 - Method 1

Students taking Research Methods in Geography (GEO 3301) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of research methods using embedded test questions administered during Research Methods in Geography (GEO 3301) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (100% - 90% embedded test questions answered correctly); Meeting Expectations (89% - 70% embedded test questions answered correctly); or Failing to Meet Expectations (69% or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 1 - Result

During the current year, 115 undergraduate students were evaluated on their knowledge of research methods by their course instructor using embedded test questions from the course: Research Methods for Geography (GEO 3301). The course instructor found that 79% of the students met (34%) or exceeded (45%) expectations on embedded knowledge questions about descriptive statistics, bi-variate relationships, and inferential statistics for this outcome /method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 3 - Method 2

Students taking Research Methods in Geography (GEO 3301) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to use statistical software to solve geographic problems using a project graded with rubric. Students' ability will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 70%); or Failing to Meet Expectations (69% or less). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 2 - Result

During the current year, 114 undergraduate students were evaluated on their ability to use statistical software to solve geographic problems using a project graded with rubric from the course: Research Methods for Geography (GEO 3301). The course instructor found that 88% of the students met (46%) or exceeded (42%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 4

Students will demonstrate knowledge of the foundations and theories of geographic information systems (GIS) and their ability to use the tools and methods of GIS.

Outcome 4 - Method 1

Students taking Fundamentals of Geographic Information Systems (GEO 2426) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of geographic information systems using embedded test questions administered during Fundamentals of Geographic Information Systems (GEO 2426) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (100% - 90% embedded test questions answered correctly); Meeting Expectations (89% - 70% embedded test questions answered correctly); or Failing to Meet Expectations (69% or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 4 - Method 1 - Result

During the current year, 104 undergraduate students were evaluated on their knowledge of geographic information systems by their course instructor using embedded test questions from the course: Fundamentals of Geographic Information Systems (GEO 2426). The course instructor found that 91% of the students met (13%) or exceeded (78%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was not achieved.

Outcome 4 - Method 2

Students taking Fundamentals of Geographic Information Systems (GEO 2426) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to use the tools and methods of GIS using a project graded with a rubric. Students' ability will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 70%); or Failing to Meet Expectations (69% or less). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 4 - Method 2 - Result

During the current year, 104 undergraduate students were evaluated on their ability to use the tools and methods of GIS by their course instructor using a rubric-graded GIS Project from the course: Fundamentals of Geographic Information Systems (GEO 2426). The course instructor found that 70% of the students met (21%) or exceeded (49%) expectations. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 5

Students will demonstrate their knowledge of urban and regional planning and their ability to demonstrate how effective urban planning influences the utility of the land and infrastructure.

Outcome 5 - Method 1

Students taking Planning Practicum (GEO 4338) Capstone Course will be evaluated during and/or at the end the semester by course instructors on the students' knowledge of urban and regional planning using embedded test administered during Planning Practicum (GEO 4338) class examinations. Specific embedded questions will target areas that need improvement as identified by the previous year's assessment. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 5 - Method 1 - Result

During the current year, 10 students were evaluated by course instructors their knowledge of urban and regional planning by their course instructors using embedded test questions. The course instructors found that 100% of the students met (50%) or exceeded (50%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 5 - Method 2

Students taking Planning Practicum (GEO 4338) Capstone Course will be evaluated during and/or at the end of the semester by course instructors on the students' ability to create a land-use plan in order to demonstrate how effective urban planning influences the utility of the land and infrastructure using a project graded with a rubric. Students' ability will be assessed by the number of points received on the grading rubric on the basis of: Exceeding Expectations (10 points); Meeting Expectations (7 - 9 points); or Failing to Meet Expectations (6 or fewer points). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 5 - Method 2 - Result

During the current year, 10 students were evaluated by course instructors on their ability to create a land-use plan in order to demonstrate how effective urban planning influences the utility of the land and infrastructure using a project graded with a rubric. The course instructors found that 90% of the students met (30%) or exceeded (60%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 6

The academic program will promote and realize gains in student success.

Outcome 6 - Method 1

Student retention success will be measured by observing one year retention rates of students enrolled in the academic program from their freshman to sophomore year. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Rates of retention success will be expected to be at or above the university average for this level of program.

Outcome 6 - Method 1 - Result

Student retention success measured by freshman-to-sophomore one-year retention rate (78%) for students enrolled in Geography: Urban and Regional Planning (fall 2021 cohort semester) did not meet the expectation to be at or above the University average (79%) for this level of program.

Outcome 6 - Method 2

Student graduation success will be measured by observing the number of graduates from the academic program in during the fall, spring, and summer semesters and comparing the number of graduates to the number of students enrolled in the program. Data will be obtained from the university's certified enrollment records for the fall, spring, and summer semesters. The number of graduates is expected to be at or above the university rate of graduation for this level of program.

Outcome 6 - Method 2 - Result

The the current year graduation success for Geography: Urban and Regional Planning students of 30% (14 graduates / 47 students enrolled) met expectations of exceeding the University graduation rate average of 21% (7088 graduates / 33832 students enrolled).

Outcome 7

The academic program will promote and realize efficiency in the delivery and completion of the program.

Outcome 7 - Method 1

Delivery efficiency will be measured by reviewing the total number students enrolled in the academic program during the fall semester. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Delivery efficiency will be expected to increase from year to year.

Outcome 7 - Method 1 - Result

Delivery efficiency measured by the number of students majoring (47) in Geography: Urban and Regional Planning in the fall of 2022 compared to the number of majors (43) in the fall 2021 met the expectation of an increase in the number of students from year to year.

Outcome 7 - Method 2

Completion efficiency will be measured by observing the average time-to-completion for students in the academic program. Data will be obtained from the university's certified enrollment records for the fall semester. The time-to-completion of graduates is expected to be at or below the university average for this level of program.

Outcome 7 - Method 2 - Result

Completion efficiency measured by the average time to completion (native students) majoring in Geography: Urban and Regional Planning Studies for the current year (4.3 years) did not meet the expectation to be at or below the University average (3.7 years) for this level of program.

Approval History**Approval History Event**

Outcomes Approved Level 1
 Outcomes Approved Level 2
 Outcomes Audit Report Submitted
 Results Approved Level 1
 Results Approved Level 2
 Results Audit Report Submitted

Approver

Yongmei Lu (yl10)
 Mary Brennan (mb18)
 Elizabeth Erhart (ee10)
 Yongmei Lu (yl10)
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 Elizabeth Erhart (ee10)

General Information

Academic Year:	2022-2023
College:	Liberal Arts
Department:	Geography
Program:	Geography Water Resources (BS/Cert.)
Program Code:	3.02
Outcome Type:	Student Learning (UG)
Degree:	Undergraduate
Coordinator/Contact:	Brian J Cooper
Status:	Data Entry Closed

Mission Statement

The Water Studies program provides students with a focused study of the physical, chemical, social, political, and economic factors of water resources from the geographic perspective in preparation for employment in both the public and private sectors. As water resources become ever more critical to the nation - and in particular Texas - this program addresses the increasing need for professionals in this crucial field. In addition to general and specialized lecture-format courses, the program offers a variety of project-based lab and field-trip experiences, career development through advising, job-shadowing and internships as well as team-building and leadership opportunities available by joining one or more geography department student organizations. The Water Studies program also prepares students for graduate studies. Finally, the Water Studies program provides students with the foundation for a liberal education, preparing graduates to think independently, to choose freely and to base personal and professional decisions on a broad understanding of the Earth's physical and cultural landscapes in order to live full, rewarding lives.

Evidence of Improvement

For the current year, we decided an action plan that had the course instructors provide additional lecture time explaining fundamental concepts of geographic information systems throughout the semester to improve student learning in Outcome 4 – Method 1 and add formative assessments during classes about the concepts that students have difficulty understanding to improve student learning in Outcome 5 – Method 1. We implemented our action plan and were pleased to find distinct increases in average total scores used to measure improvement in student learning in Outcome 4 – Method 1 (25%) and in Outcome 5 – Method 1 (16%) during the current year compared to last year. We found a mostly steady result in average total scores used to measure student understanding for Outcome 1 – Method 1 and Outcome 2 – Method 2; and a slight increase (2%) in average total scores used to measure improvement in student learning for Outcome 1 – Method 2 during the current year compared to last year.

Action Plan

The success measurements in Outcomes 1, 2, and 4 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For next year, we will focus on making improvement on Outcome 3 – Method 1 and Outcome 5 – Method 2 because the percentages of students meeting or exceeded expectations decreased during the current year compared to last year. For Outcome 3 – Method 1, we will have instructors provide additional lecture time or assignments throughout the semester to help students understand key concepts of descriptive statistics, bi-variate relationships, and inferential statistics. For Outcome 5 – Method 2, we will have instructors add formative assessments during the project period about the concepts that students have difficulty understanding.

Outcome 1

Students will demonstrate knowledge of the major physical features of the Earth such as mountains, deserts, rivers and oceans and their ability to locate examples of the Earth's major features on a map.

Outcome 1 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of the major physical features of the Earth using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 1 - Result

During the current year, 722 undergraduate students were evaluated on their knowledge of the major physical features of the Earth by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 87% of the students met (34%) or exceeded (53%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 1 - Method 2

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to locate examples of major physical features of the Earth on a map using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' ability will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 1 - Method 2 - Result

During the current year, 722 undergraduate students were evaluated on their ability to locate examples of major physical features of the Earth on a map by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 86% of the students met (53%) or exceeded (33%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 2

Students will demonstrate knowledge of the major cultural features of the Earth such as political boundaries, major agricultural regions and language groups and their ability to locate examples of Earth's major cultural features on a map.

Outcome 2 - Method 1

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of the major cultural features of the Earth using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 1 - Result

During the current year, 722 undergraduate students were evaluated on their knowledge of the major cultural features of the Earth by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 86% of the undergraduate students met (46%) or exceeded (40%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 2 - Method 2

Students taking World Geography (GEO 1310) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to locate examples of major cultural features of the Earth on a map using embedded test questions administered during World Geography (GEO 1310) class examinations. Students' ability will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 2 - Method 2 - Result

During the current year, 722 undergraduate students were evaluated on their ability to locate examples of major cultural features of the Earth on a map by their course instructors using embedded test questions from the course: World Geography (GEO 1310). The course instructors found that 86% of the undergraduate students met (43%) or exceeded (43%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 3

Students will demonstrate knowledge of quantitative methods used by geographers and their ability to use statistical software to solve geographic problems.

Outcome 3 - Method 1

Students taking Research Methods in Geography (GEO 3301) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of research methods using embedded test questions administered during Research Methods in Geography (GEO 3301) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (100% - 90% embedded test questions answered correctly); Meeting Expectations (89% - 70% embedded test questions answered correctly); or Failing to Meet Expectations (69% or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 3 - Method 1 - Result

During the current year, 115 undergraduate students were evaluated on their knowledge of research methods by their course instructor using embedded test questions from the course: Research Methods for Geography (GEO 3301). The course instructor found that 79% of the students met (34%) or exceeded (45%) expectations on embedded knowledge questions about descriptive statistics, bi-variate relationships, and inferential statistics for this outcome /method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 3 - Method 2

Students taking Research Methods in Geography (GEO 3301) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to use statistical software to solve geographic problems using a project graded with rubric. Students' ability will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 70); or Failing to Meet Expectations (69% or less). We expect at least 70% of the students will meet or exceed expectations for this outcome / method

Outcome 3 - Method 2 - Result

During the current year, 114 undergraduate students were evaluated on their ability to use statistical software to solve geographic problems using a project graded with rubric from the course: Research Methods for Geography (GEO 3301). The course instructor found that 88% of the students met (46%) or exceeded (42%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 4

Students will demonstrate knowledge of the foundations and theories of geographic information systems (GIS) and their ability to use the tools and methods of GIS.

Outcome 4 - Method 1

Students taking Fundamentals of Geographic Information Systems (GEO 2426) will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of geographic information systems using embedded test questions administered during Fundamentals of Geographic Information Systems (GEO 2426) class examinations. Students' knowledge will be assessed on the basis of: Exceeding Expectations (100% - 90% embedded test questions answered correctly); Meeting Expectations (89% - 70% embedded test questions answered correctly); or Failing to Meet Expectations (69% or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 4 - Method 1 - Result

During the current year, 104 undergraduate students were evaluated on their knowledge of geographic information systems by their course instructor using embedded test questions from the course: Fundamentals of Geographic Information Systems (GEO 2426). The course instructor found that 91% of the students met (13%) or exceeded (78%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 4 - Method 2

Students taking Fundamentals of Geographic Information Systems (GEO 2426) will be evaluated during and/or at the end of the semester by course instructors on the students' ability to use the tools and methods of GIS using a project graded with a rubric. Students' ability will be assessed by the percentage of points received on the grading rubric on the basis of: Exceeding Expectations (100% - 90%); Meeting Expectations (89% - 70%); or Failing to Meet Expectations (69% or less). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 4 - Method 2 - Result

During the current year, 104 undergraduate students were evaluated on their ability to use the tools and methods of GIS by their course instructor using a rubric-graded GIS Project from the course: Fundamentals of Geographic Information Systems (GEO 2426). The course instructor found that 70% of the students met (21%) or exceeded (49%) expectations. The target of 70% of the students meeting or exceeding expectations for this outcome / method was achieved.

Outcome 5

Students will demonstrate their knowledge of the formation, use, conservation and management of water resources including legal, economic, political and societal factors as well as the evaluation of attempts to manage water resources and their ability to show how hydrology, water availability and quality, hazards, use, demand and allocation influence water resource management.

Outcome 5 - Method 1

Students taking Water Resources (GEO 3434) Capstone Course will be evaluated during and/or at the end of the semester by course instructors on the students' knowledge of water resources using embedded test questions administered during Water Resources (GEO 3434) class examinations. Specific embedded questions will target areas that need improvement as identified by the previous year's assessment. Students' knowledge will be assessed on the basis of: Exceeding Expectations (10 embedded test questions answered correctly); Meeting Expectations (7 - 9 embedded test questions answered correctly); or Failing to Meet Expectations (6 or fewer embedded test questions answered correctly). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 5 - Method 1 - Result

During the current year, 73 undergraduate students were evaluated by their course instructor using embedded exam questions from the course: Water Resources (GEO 3434). The course instructor found 88% of the students met (59%) or exceeded (29%) expectations by demonstrating their knowledge of the major concepts in water resources. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 5 - Method 2

Students taking Water Resources (GEO 3434) Capstone Course will be evaluated during and/or at the end of the semester by course instructors on the students' ability to show how hydrology, water availability and quality, hazards, use, demand and allocation influence water resource management using a project graded with a rubric. Students' ability will be assessed by the number of points received on the grading rubric on the

basis of: Exceeding Expectations (10 points); Meeting Expectations (7 – 9 points); or Failing to Meet Expectations (6 or fewer points). We expect at least 70% of the students will meet or exceed expectations for this outcome / method.

Outcome 5 - Method 2 - Result

During the current year, 71 undergraduate students were evaluated using a rubric-graded project from the course: Water Resources (GEO 3434). The course instructor found that 72% of the students met (56%) or exceeded (16%) expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 6

The academic program will promote and realize gains in student success.

Outcome 6 - Method 1

Student retention success will be measured by observing one year retention rates of students enrolled in the academic program from their freshman to sophomore year. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Rates of retention success will be expected to be at or above the university average for this level of program.

Outcome 6 - Method 1 - Result

Student retention success measured by freshman-to-sophomore one-year retention rate (100%) for students enrolled in Geography: Water Resources (fall 2021 cohort semester) met the expectation to be at or above the University average (79%) for this level of program.

Outcome 6 - Method 2

Student graduation success will be measured by observing the number of graduates from the academic program in during the fall, spring, and summer semesters and comparing the number of graduates to the number of students enrolled in the program. Data will be obtained from the university's certified enrollment records for the fall, spring, and summer semesters. The number of graduates is expected to be at or above the university rate of graduation for this level of program.

Outcome 6 - Method 2 - Result

The the current year graduation success for Geography: Water Resources students of 17% (5 graduates / 29 students enrolled) did not meet expectations of exceeding the University graduation rate average of 21% (7088 graduates / 33832 students enrolled).

Outcome 7

The academic program will promote and realize efficiency in the delivery and completion of the program.

Outcome 7 - Method 1

Delivery efficiency will be measured by reviewing the total number students enrolled in the academic program during the fall semester. Data will be obtained from the university's certified enrollment records at the end of the fall semester. Delivery efficiency will be expected to increase from year to year.

Outcome 7 - Method 1 - Result

Delivery efficiency measured by the number of students (29) majoring in Geography: Water Resources in the fall of 2022 compared to the number of majors (29) in the fall 2021 did not meet the expectation of an increase in the number of students from year to year.

Outcome 7 - Method 2

Completion efficiency will be measured by observing the average time-to-completion for students in the academic program. Data will be obtained from the university's certified enrollment records for the fall semester. The time-to-completion of graduates is expected to be at or below the university average for this level of program.

Outcome 7 - Method 2 - Result

Completion efficiency measured by the average time to completion (native students) majoring in Geography: Water Resources for the current year (6.8 years) did not meet the expectation to be at or below the University average (3.7 years) for this level of program.

Approval History

Approval History Event

Outcomes Approved Level 1
Outcomes Approved Level 2
Outcomes Audit Report Submitted
Results Approved Level 1
Results Approved Level 2
Results Audit Report Submitted

Approver

Yongmei Lu (yl10)
Mary Brennan (mb18)
Elizabeth Erhart (ee10)
Yongmei Lu (yl10)
Mary Brennan (mb18)
Elizabeth Erhart (ee10)

General Information

Academic Year:	2022-2023
College:	Liberal Arts
Department:	Geography
Program:	GEOL 1410
Program Code:	3.00
Outcome Type:	General Education
Degree:	Other
Coordinator/Contact:	Injeong Jo / Shelly Wernette
Status:	Data Entry Closed

Mission Statement

The mission of the general education core curriculum at Texas State University is to provide students with a broad academic foundation in the component areas of communication; mathematics; life and physical sciences; language, philosophy and culture; creative arts; American history; government/political science; and social and behavioral sciences.

Life and Physical Sciences Mission:

The mission of the life and physical sciences component is to focus on describing, explaining, and predicting natural phenomena using the scientific method.

Evidence of Improvement

We decided on an action plan for the current year that had the course instructors facilitate a peer review and resubmission process that will help students consider the effectiveness of their communication methods and improve accordingly. We implemented our action plan and were pleased to find a distinct increase (21%) in average total scores used to measure student learning for Outcome 3 during the current year compared to last year. During the current year, instructors also used class time to go over strategies for breaking down problems into their component concepts and relating those concepts, provided immediate feedback from lab instructors with chance for revision, and moderated healthy debate within the groups. As a result, we also found improvement in the percentage of students who met or exceeded expectations for Outcome 2 (8%), 4 (21%), and 5 (10%).

Action Plan

The success measurement in Outcome 2, 3, 4, and 5 leads to the conclusion that the instructional strategies implemented in the previous year will be continued. For next year, we will focus on making improvement on Outcome 1 because the percentages of students meeting or exceeded expectations slightly decreased during the current year compared to last year. We will help students improve on their knowledge of the natural phenomena of Earth's physical geology by integrating into lecture and course readings more recent news stories that demonstrate the reality of these phenomena and how they impact people.

Outcome 1

Students will describe interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

Outcome 1 - Method 1

Students taking Physical Geology (GEOL 1410) will be evaluated during and/or at the end of the semester by course instructors on their knowledge of the natural phenomena of Earth's physical geology using embedded test questions administered during Physical Geology (GEOL 1410) class examinations. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the embedded test questions. (90% - 100% = exceeded expectations, 70% - 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 1 - Method 1 - Result

During the current year, 322 undergraduate students were evaluated by their course instructors on their knowledge of the natural phenomena of Earth's physical geology using embedded exam questions. The course instructors found that 91% of the students met (43%) or exceeded (48%) expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 2

Competency: Critical Thinking

Students will demonstrate creative thinking innovation, inquiry, and analysis, evaluation and synthesis of information.

Outcome 2 - Method 1

Students taking Physical Geology (GEOL 1410) will be evaluated during and/or at the end of the semester by course instructors on their ability to apply the scientific method to the study of the natural phenomena of physical geology using embedded test questions administered during Physical Geology (GEOL 1410) class examinations. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the embedded test questions. (90% - 100% = exceeded expectations, 70% - 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for

this outcome.

Outcome 2 - Method 1 - Result

During the current year, 322 undergraduate students were evaluated by their course instructors on their ability to apply the scientific method to the study of the natural phenomena of physical geology using embedded exam questions. The course instructors found that 90% of the students met (42%) or exceeded (48%) expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 3

Competency: Communication

Students will effectively develop, interpret and express ideas through written, oral and visual communication.

Outcome 3 - Method 1

Students taking Physical Geology (GEOL 1410) will be evaluated during and/or at the end of the semester by course instructors on their ability to use writing, speech and visualizations to express ideas about the natural phenomena of physical geology using a lab project / presentation with grading rubric from the course: Physical Geology (GEOL 1410). Students' ability will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the lab project / presentation. (90% - 100% = exceeded expectations, 70% - 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 3 - Method 1 - Result

During the current year, 263 undergraduate students were evaluated by their course instructors on their ability to use writing, speech and visualizations to express ideas about the natural phenomena of physical geology using a lab project / presentation. The course instructors found that 98% of the students met (18%) or exceeded (80%) expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 4

Competency: Empirical and Quantitative Skills

Students will manipulate and analyze numerical data or observable facts resulting in informed conclusions.

Outcome 4 - Method 1

Students taking Physical Geology (GEOL 1410) will be evaluated during and/or at the end of the semester by course instructors on their ability to manipulate and analyze numerical physical geology data and observable physical geology facts using a lab project with grading rubric from the course: Physical Geology (GEOL 1410). Students' ability will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the lab project. (90% - 100% = exceeded expectations, 70% - 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 4 - Method 1 - Result

During the current year, 299 undergraduate students were evaluated by their course instructors on their ability to manipulate and analyze numerical physical geology data and observable physical geology facts using a lab project. The course instructors found that 98% of the students met (9%) or exceeded (89%) expectations. The target of 70% of the students meeting or exceeding expectations was not achieved.

Outcome 5

Competency: Teamwork

Students will recognize different points of view and work effectively with others to support a shared purpose or goal.

Outcome 5 - Method 1

Students taking Physical Geology (GEOL 1410) will be evaluated during and/or at the end of the semester by course instructors on their ability to work effectively with others to support a shared purpose and goal using a group lab project with grading rubric from the course: Physical Geology (GEOL 1410). Students' ability will be assessed on the basis of failure to meet, meet, or exceed expectations, which will be determined by the students' total score on a group lab project. (100% = exceeded expectations, 70% - 90% = met expectations, 60% = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 5 - Method 1 - Result

During the current year, 313 undergraduate students were evaluated by their course instructors on their ability to work effectively with others to support a shared purpose and goal using a group lab project. The course instructors found that 100% of the students met (7%) or exceeded (93%) expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

Approval History

Approval History Event

Outcomes Approved Level 1
Outcomes Approved Level 2

Approver

Yongmei Lu (yl10)
Mary Cavitt (mc58)

Outcomes Audit Report Submitted
Results Approved Level 1
Results Approved Level 2
Results Audit Report Submitted

Amy Weimer (a_w377)
Yongmei Lu (yl10)
Mary Cavitt (mc58)
Nancy Wilson (nw05)

General Information

Academic Year:	2022-2023
College:	Liberal Arts
Department:	Geography
Program:	GEOL 1420
Program Code:	3.00
Outcome Type:	General Education
Degree:	Other
Coordinator/Contact:	Injeong Jo / Shelly Wernette
Status:	Data Entry Closed

Mission Statement

The mission of the general education core curriculum at Texas State University is to provide students with a broad academic foundation in the component areas of communication; mathematics; life and physical sciences; language, philosophy and culture; creative arts; American history; government/political science; and social and behavioral sciences.

Life and Physical Sciences Mission:

The mission of the life and physical sciences component is to focus on describing, explaining, and predicting natural phenomena using the scientific method.

Evidence of Improvement

We decided on an action plan for the current year that continued having instructors provide partnered, interactive lab activities that require students to share delegate tasks to effectively accomplish the assignment to improve student learning in Outcome 5. We implemented our action plan and were pleased to find a distinct increase (16%) in average total scores used to measure student learning for Outcome 5 during the current year compared to last year. During the current year, instructors also implemented more discussion aligned with the periods of Earth History and Physical Rock units in the United States, provided immediate feedback from lab instructors with chance for revision, and moderated healthy debate within the groups. As a result, we also found improvement in the percentage of students who met or exceeded expectations for Outcome 2 (12%), Outcome 3 (8%), and Outcome 4 (16%).

Action Plan

The success measurement in Outcome 1, 2, 3, 4, and 5 leads to the conclusion that the instructional strategies implemented in the previous year will be continued. For next year, we will focus on making improvement on Outcome 1 because we found some students had difficulty understanding how natural phenomena have shaped the Earth through its history during the current year. We will help students improve their understanding of how natural phenomena have shaped the Earth through its history by implementing more interactive assignments and facilitating active discussion on hypotheses discussed in lecture.

Outcome 1

Students will describe interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

Outcome 1 - Method 1

Students taking Historical Geology (GEOL 1420) will be evaluated during and/or at the end of the semester by course instructors on their knowledge of how natural phenomena have shaped the Earth through its history using embedded test questions administered during Historical Geology (GEOL 1420) class examinations. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the embedded test questions. (90% - 100% = exceeded expectations, 70% - 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 1 - Method 1 - Result

During the current year, 96 undergraduate students were evaluated by their course instructors on their knowledge of the of Earth's historical geology and the scientific principles that govern the major theories and concepts of historical geology and the scientific method to describe the interactions between the Earth's various historical systems using 10 embedded exam questions from the course: Historical Geology (GEOL 1420). The course instructors found that 94% of the students met (24%) or exceeded (70%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 2

Competency: Critical Thinking

Students will demonstrate creative thinking innovation, inquiry, and analysis, evaluation and synthesis of information.

Outcome 2 - Method 1

Students taking Historical Geology (GEOL 1420) will be evaluated during and/or at the end of the semester by course instructors on their ability to apply the scientific method to the study of how natural phenomena have shaped the Earth through its history using embedded test questions

administered during Historical Geology (GEOL 1420) class examinations. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the embedded test questions. (90% - 100% = exceeded expectations, 70% – 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 2 - Method 1 - Result

During the current year, 85 undergraduate students were evaluated by their course instructor on their ability to apply the scientific method to the study of the natural phenomena of historical geology using embedded exam questions from the course: Historical Geology (GEOL 1420). The course instructors found that 95% of the students met (41%) or exceeded (54%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 3

Competency: Communication

Students will effectively develop, interpret and express ideas through written, oral and visual communication.

Outcome 3 - Method 1

Students taking Historical Geology (GEOL 1420) will be evaluated during and/or at the end of the semester by course instructors on their ability to use writing, speech and visualizations to express ideas about how natural phenomena have shaped Earth through its history using a lab project / presentation with grading rubric from the course: Historical Geology (GEOL 1420). Students' ability will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the lab project / presentation. (90% - 100% = exceeded expectations, 70% – 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 3 - Method 1 - Result

During the current year, 94 undergraduate students were evaluated on their ability to use writing, speech and visualizations to express ideas about the natural phenomena of historical geology their course instructors using a 100-point rubric-graded lab project from the course: Historical Geology (GEOL 1420). The course instructors found that 96% of the students met (46%) or exceeded (50%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 4

Competency: Empirical and Quantitative Skills

Students will manipulate and analyze numerical data or observable facts resulting in informed conclusions.

Outcome 4 - Method 1

Students taking Historical Geology (GEOL 1420) will be evaluated during and/or at the end of the semester by course instructors on their ability to manipulate and analyze numerical historical geology data and observable historical geology facts using a lab project with grading rubric from the course: Historical Geology (GEOL 1420). Students' ability will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the lab project. (90% - 100% = exceeded expectations, 70% – 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 4 - Method 1 - Result

During the current year, 91 undergraduate students were evaluated by their course instructors on their ability to manipulate and analyze numerical historical geology data and observable historical geology facts using a 100 - Point rubric-graded lab project from the course: Historical Geology (GEOL 1420). The course instructors found that 95% of the students met (38%) or exceeded (57%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 5

Competency: Teamwork

Students will recognize different points of view and work effectively with others to support a shared purpose or goal.

Outcome 5 - Method 1

Students taking Historical Geology (GEOL 1420) will be evaluated during and/or at the end of the semester by course instructors on their ability to work effectively with others to support a shared purpose and goal using a group lab project with grading rubric from the course: Historical Geology (GEOL 1420). Students' ability will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total score on the group lab project. (90% - 100% = exceeded expectations, 70% – 89% = met expectations, 69% or below = failed to meet expectations). We expect at least 70% of the students will meet or exceed expectations for this outcome.

Outcome 5 - Method 1 - Result

During the current year, 96 undergraduate students were evaluated by their course instructors on their ability to work effectively with others to support a shared purpose and goal using a 100-point rubric-graded group lab project from the course: Historical Geology (GEOL 1420). The course

instructors found that 94% of the students met (55%) or exceeded (39%) expectations for this outcome / method. The target of 70% of the students meeting or exceeding expectations was achieved.

Approval History

Approval History Event

Outcomes Approved Level 1
Outcomes Approved Level 2
Outcomes Audit Report Submitted
Results Approved Level 1
Results Approved Level 2
Results Audit Report Submitted

Approver

Yongmei Lu (yl10)
Mary Cavitt (mc58)
Amy Weimer (a_w377)
Yongmei Lu (yl10)
Mary Cavitt (mc58)
Nancy Wilson (nw05)