

Texas State University

Outcomes Report

General Information

Academic Year:	2021-2022
College:	Liberal Arts
Department:	Geography
Program:	Environmental Interpretation (certificate)
Program Code:	3.01
Outcome Type:	Student Learning (UG)
Degree:	Certificate - Undergraduate
Coordinator/Contact:	Dr. Injeong Jo
Status:	Data Entry Closed

Mission Statement

The Texas State Department of Geography Environmental Interpretation Certificate prepares students to work as interpretive guides in parks and other tourism venues and to work in the professional areas of public information/education in resource management agencies.

Evidence of Improvement

[This program is being discontinued. Enrollment was too low to collect meaningful learning outcomes assessment data for AY 2021 / 2022.]

Action Plan

[This program is being discontinued.]

Outcome 1

Students will demonstrate their knowledge of how the Earth works as an energy / matter system as well as their knowledge of the characteristics of the Earth's lithosphere, atmosphere, hydrosphere, biosphere and cryosphere.

Outcome 1 - Method 1

Students will be evaluated on their knowledge of how the Earth works as an energy / matter system using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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

[This program is being discontinued.]

Outcome 1 - Method 2

Students will be evaluated on their knowledge of the characteristics of the Earth's lithosphere, atmosphere, hydrosphere, biosphere and cryosphere using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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 2 - Result

[This program is being discontinued.]

Outcome 2

Students will demonstrate their knowledge of the themes, principles and techniques for the effective interpretation of environmental information as well as their knowledge of interpretive geographic concepts and themes such as physical, ecological, cultural and historic landscapes and landscape features.

Outcome 2 - Method 1

Students will be evaluated on their knowledge of the themes, principles and techniques for the effective interpretation of environmental information using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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

[This program is being discontinued.]

Outcome 2 - Method 2

Students will be evaluated on their knowledge of interpretive geographic concepts and themes such as physical, ecological, cultural and historic landscapes and landscape features using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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 2 - Result

[This program is being discontinued.]

Outcome 3

Students will demonstrate their knowledge of the role of interpretation in the protection of natural and cultural resources as well as their knowledge of the various traditional and digital techniques used by professional environmental interpreters to engage the public.

Outcome 3 - Method 1

Students will be evaluated on their knowledge of the role of interpretation in the protection of natural and cultural resources using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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

[This program is being discontinued.]

Outcome 3 - Method 2

Students will be evaluated on their knowledge of the various traditional and digital techniques used by professional environmental interpreters to engage the public using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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 2 - Result

[This program is being discontinued.]

Approval History

Approval History Event	Approver
Outcomes Approved Level 1	Yongmei Lu (yl10)
Outcomes Approved Level 2	Mary Brennan (mb18)
Outcomes Audit Report Submitted	Susan Day (sd01)
Results Approved Level 1	Yongmei Lu (yl10)
Results Approved Level 2	Mary Brennan (mb18)
Results Audit Report Submitted	Susan Day (sd01)

General Information

Academic Year:	2021-2022
College:	Liberal Arts
Department:	Geography
Program:	GEO 1305
Program Code:	3.00
Outcome Type:	General Education
Degree:	Other
Coordinator/Contact:	Dr. 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

[These data represent fall 2021 only because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period. Therefore, caution must be taken when comparing this year's data with the previous year's.] 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 AY 2021 / 2022 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 were pleased to find that student learning outcomes indicated a mostly steady result in average total scores used to measure student understanding for Outcome 1 and 4. Increases of 8% and 5% were noted for Outcomes 3 and 5 compared to last year.

Action Plan

The success measurements in Outcomes 1, 3, 4, and 5 lead to the conclusion that the classroom techniques adopted in the previous year will be continued for AY 2022 / 2023. 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. Students would benefit by completing their General Education mathematics and communications requirements earlier in their residence.

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 FALL 2021, 707 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 84% of the students met (54%) or exceeded (30%) 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 FALL 2021, 707 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 78% of the students met (51%) or exceeded (27%) 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 Fall 2021, 704 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 85% of the students met (37%) or exceeded (48%) 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 FALL 2021, 707 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 81% of the students met (51%) 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 FALL 2021, 642 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 92% of the students met (67%) or exceeded (25%) expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

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 Cavitt (mc58)
Lisa Chrans (lc19)
Yongmei Lu (yl10)
Mary Cavitt (mc58)
Lisa Chrans (lc19)

General Information

Academic Year:	2021-2022
College:	Liberal Arts
Department:	Geography
Program:	GEO 1310
Program Code:	8.00
Outcome Type:	General Education
Degree:	Other
Coordinator/Contact:	Dr. Injeong Jo / Dr. 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

[These data represent fall 2021 only because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period. Therefore, caution must be taken when comparing this year's data with the previous year's.] During AY 2021 / 2022, we implemented an action plan that had course instructors provide additional lecture time to explain how the spatial patterns of the Earth's various cultural and physical phenomena can be investigated quantitatively to improve student learning in Outcome 3 and were pleased to find a 1% increase in average total scores used to measure improvement in student learning during AY 2021 / 2022 compared to last year. We also implemented an action plan that had course instructors provide additional lecture time and assignments to improve student learning in Outcome 4 and were pleased to observe a 1% increase in average total scores used to measure improvement in student learning for AY 2021 / 2022 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 Outcomes 3 and 4 lead to the conclusion that the instructional strategies implemented in the previous year will be continued for AY 2022 / 2023. For AY 2022 / 2023, we will focus on making improvement on Outcome 3 because outcome 3 remains the outcome with the lowest percentage of students meeting or exceeding expectations. We will have instructors add class discussion time about specific examples of geographic data represented in various forms.

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 Fall 2021, 641 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 84% of the undergraduate students met (64%) or exceeded (20%) 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 Fall 2021, 641 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 85% of the undergraduate students met (65%) or exceeded (20%) 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 Fall 2021, 641 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 71% of the undergraduate students met (62%) or exceeded (9%) 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 Fall 2021, 641 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 79% of the undergraduate students met (63%) or exceeded (16%) 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 Fall 2021, 641 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 (60%) or exceeded (25%) 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:	2021-2022
College:	Liberal Arts
Department:	Geography
Program:	Geographic Information Sciences (certificate)
Program Code:	45.07
Outcome Type:	Student Learning (UG)
Degree:	Certificate - Undergraduate
Coordinator/Contact:	Dr. Injeong Jo
Status:	Data Entry Closed

Mission Statement

The Texas State Department of Geography Geographic Information Science Certificate prepares students for professional positions using the theoretical and applied aspects of Geographic Information Science.

Evidence of Improvement

[This program is being discontinued. Enrollment was too low to collect meaningful learning outcomes assessment data for AY 2021 / 2022.]

Action Plan

[This program is being discontinued.]

Outcome 1

Students will demonstrate their knowledge of the basics of Geographic Information Systems (GIS) including types of spatial data, data acquisition, data structure, data quality and data interpretation as well as their knowledge of GIS applications, GIS visualization and GIS modeling.

Outcome 1 - Method 1

Students will be evaluated on their knowledge of the basics of GIS including types of spatial data, data acquisition, data structure, data quality and data interpretation using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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

[This program is being discontinued.]

Outcome 1 - Method 2

Students will be evaluated on their knowledge of the basics of GIS applications, GIS visualization and GIS modeling using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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 2 - Result

[This program is being discontinued.]

Outcome 2

Students will demonstrate their knowledge of the technical aspects of GIS spatial data handling and analysis as well as their knowledge of the technical and theoretical aspects of remote sensing data sets and their applications.

Outcome 2 - Method 1

Students will be evaluated on their knowledge of how to display, process, and interpret digital imagery acquired from airborne and satellite imagery using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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

[This program is being discontinued.]

Outcome 2 - Method 2

Students will be evaluated on their knowledge of the basics of remote sensing applications, data visualization and modeling using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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 2 - Result

[This program is being discontinued.]

Outcome 3

Students will demonstrate their knowledge of the basic concepts of cartography and map design principles as well as their knowledge of geographic data presentation, thematic map use and cartographic mapping techniques for quantitative and qualitative data.

Outcome 3 - Method 1

Students will be evaluated on their knowledge of the basic concepts of cartography and map design principles using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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

[This program is being discontinued.]

Outcome 3 - Method 2

Students will be evaluated on their knowledge of geographic data presentation, thematic map use and cartographic mapping techniques for quantitative and qualitative data using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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 2 - Result

[This program is being discontinued.]

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)
Susan Day (sd01)
Yongmei Lu (yl10)
Mary Brennan (mb18)
Susan Day (sd01)

General Information

Academic Year:	2021-2022
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

[These data represent fall 2021 only because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period.] For AY 2021 / 2022, we decided an action plan that had the course instructors provide additional lecture time on inferential statistics to improve student learning in Outcome 3 – Method 1. We implemented our action plan and were pleased to find a distinct increase (9%) in average total scores used to measure improvement in student learning during AY 2021 / 2022 compared to last year. We also observed substantial improvement (12%) in the percentage of students who met or exceeded expectations for Outcome 5 – Method 1. During Fall 2021, instructors newly adopted a practice-based final exam that was outdoors, and this helped students successfully demonstrate their knowledge of physical geography and increased the average total scores used to measure improvement in student learning. Finally, we found a mostly steady result in average total scores used to measure student understanding for Outcome 1 – Method 2 and Outcome 2 – Method 1; and a slight increase (1%) in average total scores used to measure improvement in student learning for Outcome 2 – Method 2 during AY 2021 / 2022 compared to last year.

Action Plan

The success measurements in Outcomes 1, 2, 3, and 5 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For AY 2022 / 2023, we will focus on making improvement on Outcome 4 – Method 1 because the percentage of students meeting or exceeded expectations decreased during AY 2021 / 2022 compared to last year. We will have instructors provide additional lecture time explaining fundamental concepts of geographic information systems throughout the semester.

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 Fall 2021, 482 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 (35%) or exceeded (52%) 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 Fall 2021, 482 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 84% of the students met (50%) or exceeded (34%) 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 Fall 2021, 482 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 88% of the undergraduate students met (50%) or exceeded (38%) 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 Fall 2021, 482 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 87% of the undergraduate students met (45%) 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 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 Fall 2021, 76 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 89% of the students met (43%) or exceeded (46%) 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 Fall 2021, 75 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 90% of the students met (56%) or exceeded (34%) 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 Fall 2021, 30 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 66% of the students met (43%) or exceeded (23%) 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 Fall 2021, 30 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 76% of the students met (23%) or exceeded (53%) 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 Fall 2021, 21 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 100% of the students met (95%) or exceeded (5%) 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 Fall 2021, 21 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 90% of the undergraduate students met (76%) or exceeded (24%) 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 (83%) for students enrolled in Geography (fall 2020 cohort semester) met the expectation to be at or above the University average (77%) 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 2021 graduation success for Geography students of 27% (38 graduates / 140 students enrolled) met expectations of exceeding the University graduation rate average of 18% (5,934 graduates / 33,175 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 (140) majoring in Geography in the fall of 2021 compared to the number of majors (147) in the fall of 2020 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 for FY 2021 (4.7 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

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)
Susan Day (sd01)
Yongmei Lu (yl10)
Mary Brennan (mb18)
Susan Day (sd01)

General Information

Academic Year:	2021-2022
College:	Liberal Arts
Department:	Geography
Program:	Geography (MAGeo/MS)
Program Code:	45.07
Outcome Type:	Student Learning (GR)
Degree:	Masters
Coordinator/Contact:	F Benjamin Zhan
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

[These data represent fall 2021 only because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period.] For AY 2021 / 2022, we decided an action plan that continued to have the course instructors provide additional examples and lab problems to increase student understanding of multivariate quantitative methods including basic descriptive and inferential statistical techniques to improve student learning in Outcome 2 – Method 1. We implemented our action plan and found a mostly steady result in average total scores used to measure student understanding for Outcome 2 – Method 1 during AY 2021 / 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 AY 2021 / 2022 compared to last year.

Action Plan

The success measurements in Outcomes 1 – Method 1 and Outcome 2 – Method 1 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For AY 2022 / 2023, we will focus on making improvement on Outcome 1 – Method 2 because the percentages of students meeting or exceeded expectations decreased during AY 2021 / 2022 compared to last year. We will have 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.

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 Fall 2021, 14 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 93% of the graduate students met (0%) or exceeded (93%) 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 Fall 2021, 14 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 86% of the graduate students met (22%) or exceeded (64%) 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 Fall 2021, 23 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 91% of the graduate students met (48%) or exceeded (43%) 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 Fall 2021, 23 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 91% of the graduate students met (74%) or exceeded (17%) 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

Students taking Advanced Geographic Research Design (GEO 7300) in Spring 2022 were evaluated by course instructors on their ability to critique research designs and manuscripts using embedded class assignments. Because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period, the results will be reported in AY 2022 / 2023.

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

Students taking Advanced Geographic Research Design (GEO 7300) in Spring 2022 were evaluated by course instructors on their ability to produce a draft research proposal for their thesis. Because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period, the results will be reported in AY 2022 / 2023.

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 (84%) for students enrolled in Geography: MAGeo / MS (fall 2020 cohort semester) met the expectation to be at or above the University average (84%) 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 FY 2021, 14% (8 graduates / 57 students enrolled) did not meet the expectation of exceeding the University graduation rate average of 36.0% (1,321 graduates / 3,662 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 (57) majoring in Geography: MAGeo / MS in the fall of 2021 compared to the number of majors (59) in the fall 2020 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 FY 2021 (2.1 years) did not meet 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)
Susan Day (sd01)
Yongmei Lu (yl10)
Mary Brennan (mb18)
Susan Day (sd01)

General Information

Academic Year:	2021-2022
College:	Liberal Arts
Department:	Geography
Program:	Geography (PhD)
Program Code:	45.07
Outcome Type:	Student Learning (GR)
Degree:	Doctoral
Coordinator/Contact:	F Benjamin Zhan
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

[These data represent fall 2021 only because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period.] For AY 2021 / 2022, 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. Students taking Advanced Geographic Research Design (GEO 7300) in Spring 2022 were evaluated by course instructors on their ability to produce a draft research proposal for their thesis graded with a rubric at the end of semester. However, the results will be reported in AY 2022 / 2023 because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period. We observed increases in the percentage of students who met or exceeded expectations for Outcome 2 – Method 1 (3%) and for Outcome 2 – Method 2 (3%) during AY 2021 / 2022 compared to last year.

Action Plan

The success measurements in Outcome 2 – Method 1 and Outcome 2 – Method 2 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For AY 2022 / 2023, we will focus on ensuring improvement on Outcome 3 – Method 2 because we found some students had difficulty developing draft research questions during AY 2020 / 2021. We will continue to have instructor add an additional activity to help students learn the nature of inquiry and how to develop research questions.

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 Fall 2021, 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 (11%) or exceeded (89%) 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 Fall 2021, 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 Annuals of the Association of American Geographers using an embedded class assignment. The course instructors found that 100% of the graduate students met (11%) or exceeded (89%) 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 Fall 2021, 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 Fall 2021, 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

Students taking Advanced Geographic Research Design (GEO 7300) in Spring 2022 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. Because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period, the results will be reported in AY 2022 / 2023.

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

Students taking Advanced Geographic Research Design (GEO 7300) in Spring 2022 were evaluated by course instructors on their ability to produce a draft research proposal for their dissertation. Because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period, the results will be reported in AY 2022 / 2023.

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 (83%) for students enrolled in Geography: Ph.D. (fall 2020 cohort semester) did not meet the expectation to be at or above the University average (88%) 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 FY 2021 of 18% (10 graduates / 57 students enrolled) met expectations of exceeding the University graduation rate average of 14% (81 graduates / 583students 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 (57) majoring in Geography: Ph.D. in the fall of 2021 compared to the number of majors (57) in the fall 2020 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 FY 2021 (3.7 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

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)
Susan Day (sd01)
Yongmei Lu (yl10)
Mary Brennan (mb18)
Susan Day (sd01)

General Information

Academic Year:	2021-2022
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

[These data represent fall 2021 only because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period.] For AY 2021 / 2022, we decided an action plan that had the course instructors provide additional lecture time on inferential statistics to improve student learning in Outcome 3 – Method 1. We implemented our action plan and were pleased to find a distinct increase (9%) in average total scores used to measure improvement in student learning compared to last year. We also continued to have instructors provide additional lecture time and create additional handouts related to effective environmental management for AY 2021 / 2022 and were pleased to observe a 3% increase in the percentage of students who met or exceeded expectations for Outcome 5 – Method 2 during AY 2021 / 2022 compared to last year. Finally, we found a mostly steady result in average total scores used to measure student understanding for Outcome 1 – Method 2 and Outcome 2 – Method 1; and a slight increase (1%) in average total scores used to measure improvement in student learning for Outcome 2 – Method 2 during AY 2021 / 2022 compared to last year.

Action Plan

The success measurements in Outcomes 1, 2, 3, and 5 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For AY 2022 / 2023, we will focus on making improvement on Outcome 4 – Method 1 because the percentage of students meeting or exceeded expectations decreased during AY 2021 / 2022 compared to last year. We will have instructors provide additional lecture time explaining fundamental concepts of geographic information systems throughout the semester.

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 Fall 2021, 482 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 (GEO1310). The course instructors found that 87% of the students met (35%) or exceeded (52%) 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 Fall 2021, 482 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 (GEO1310). The course instructors found that 84% of the students met (50%) or exceeded (34%) 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 Fall 2021, 482 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 88% of the undergraduate students met (50%) or exceeded (38%) 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 Fall 2021, 482 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 87% of the undergraduate students met (45%) 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 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 Fall 2021, 76 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 89% of the students met (43%) or exceeded (46%) 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 Fall 2021, 75 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 90% of the students met (56%) or exceeded (34%) 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 Fall 2021, 30 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 66% of the students met (43%) or exceeded (23%) 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 Fall 2021, 30 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 76% of the students met (23%) or exceeded (53%) 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 Fall 2021, 30 undergraduate students were evaluated by their course instructor on their knowledge of resource and environmental issues using embedded test questions from the course: Environmental Management (GEO 4313). The course instructor found that 83% of the students met (40%) or exceeded (43%) performance expectations. The target of 70% of the students meeting or exceeding expectations was achieved.

Outcome 5 - Method 2

Students Environmental Management (GEO 4313) Capstone Course will be evaluated during and/or at the end of the semester by course instructors on the students' ability to demonstrate the role that geography plays in analyzing resource / environmental degradation problems and improving resource / environmental management strategies 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 Fall 2021, 30 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 93% of the students met (33%) or exceeded (60%) 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 (88%) for students enrolled in Geography: Resource and Environmental Studies (fall 2020 cohort semester) met the expectation to be at or above the University average (77%) 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 29% (63graduates / 217 students enrolled) met expectations of exceeding the University graduation rate average of 18% (5,934 graduates / 33,175 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 (217) majoring in Geography: Resource and Environmental Studies in the fall of 2021 compared to the number of majors (234) in the fall 2020 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 FY 2021 (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)
Susan Day (sd01)
Yongmei Lu (yl10)
Mary Brennan (mb18)
Susan Day (sd01)

General Information

Academic Year:	2021-2022
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:	F Benjamin Zhan
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

[These data represent fall 2021 only because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period. Therefore, caution must be taken when comparing this year's data with the previous year's.] For AY 2021 / 2022, we decided an action plan that continued to have the course instructors provide additional examples and lab problems to increase student understanding of multivariate quantitative methods including basic descriptive and inferential statistical techniques to improve student learning in Outcome 2 – Method 1. We implemented our action plan and found a mostly steady result in average total scores used to measure student understanding for Outcome 2 – Method 1 during AY 2021 / 2022 compared to last year. We also observed a 3% increase in the percentage of students who met or exceeded expectations for Outcome 2 – Method 2 during AY 2021 / 2022 compared to last year.

Action Plan

The success measurements in Outcomes 1 – Method 1 and Outcome 2 – Method 1 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For AY 2022 / 2023, we will focus on making improvement on Outcome 1 – Method 2 because the percentages of students meeting or exceeded expectations decreased during AY 2021 / 2022 compared to last year. We will help students improve their knowledge of the geographer's perspective on conducting and completing research on a wide range of scholarly and applied geographic topics by having them discuss the assigned research articles with their peers and identify related examples of geographic research and methods in the academic literature.

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 Fall 2021, 14 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 93% of the graduate students met (0%) or exceeded (93%) 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 Fall 2021, 14 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 86% of the graduate students met (22%) or exceeded (64%) 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 Fall 2021, 23 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 91% of the graduate students met (48%) or exceeded (43%) 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 Fall 2021, 23 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 91% of the graduate students met (74%) or exceeded (17%) 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

Students taking Applied Research Design and Techniques (GEO 5300) in Spring 2022 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. Because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period, the results will be reported in AY 2022 / 2023.

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

Students taking Applied Research Design and Techniques (GEO 5300) in Spring 2022 were evaluated by course instructors on their ability to produce a draft research proposal for their thesis. Because the Department has decided to move to a calendar year reporting period and away from

the academic year reporting period, the results will be reported in AY 2022 / 2023.

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 (83%) for students enrolled in MAGEo: Resource and Environmental Studies (fall 2020 cohort semester) did not meet the expectation to be at or above the University average (84%) 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 FY 2021 graduation success for Resource and Environmental Studies: MAGEo students of 62% (8 graduates / 13 students enrolled) met expectations of exceeding the University graduation rate average of 36% (1,321 graduates / 3,662 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 (13) majoring in MAGEo: Resource and Environmental Studies in the fall of 2021 compared to the number of majors (16) in the fall 2020 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 FY 2021 (2.7 years) did not meet the expectation to be at or below the University average (1.9 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	Susan Day (sd01)
Results Approved Level 1	Yongmei Lu (yl10)
Results Approved Level 2	Mary Brennan (mb18)
Results Audit Report Submitted	Susan Day (sd01)

General Information

Academic Year:	2021-2022
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

[These data represent fall 2021 only because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period.] For AY 2021 / 2022, we decided an action plan that had the course instructors provide additional lecture time on inferential statistics to improve student learning in Outcome 3 – Method 1. We implemented our action plan and were pleased to find a distinct increase (9%) in average total scores used to measure improvement in student learning during AY 2021 / 2022 compared to last year. We found a mostly steady result in average total scores used to measure student understanding for Outcome 1 – Method 2 and Outcome 2 – Method 1; and a slight increase (1%) in average total scores used to measure improvement in student learning for Outcome 2 – Method 2 during AY 2021 / 2022 compared to last year.

Action Plan

The success measurements in Outcomes 1, 2, and 3 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For AY 2022 / 2023, we will focus on making improvement on Outcome 4 – Method 1 because the percentage of students meeting or exceeded expectations decreased During AY 2022 / 2022 compared to last year. We will have instructors provide additional lecture time explaining fundamental concepts of geographic information systems throughout the semester.

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 Fall 2021, 482 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 (GEO1310). The course instructors found that 87% of the students met (35%) or exceeded (52%) 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 Fall 2021, 482 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 (GEO1310). The course instructors found that 84% of the students met (50%) or exceeded (34%) 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 Fall 2021, 482 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 88% of the undergraduate students met (50%) or exceeded (38%) 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 Fall 2021, 482 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 87% of the undergraduate students met (45%) 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 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 Fall 2021, 76 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 89% of the students met (43%) or exceeded (46%) 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 Fall 2021, 75 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 90% of the students met (56%) or exceeded (34%) 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 Fall 2021, 30 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 66% of the students met (43%) or exceeded (23%) 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 Fall 2021, 30 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 76% of the students met (23%) or exceeded (53%) 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

Students taking Planning Practicum (GEO 4338) in Spring 2022 were evaluated by course instructors their knowledge of urban and regional planning by their course instructors using embedded test questions. Because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period, the results will be reported in AY 2022 / 2023.

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

Students taking Planning Practicum (GEO 4338) in Spring 2022 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. Because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period, the results will be reported in AY 2022 / 2023.

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 (100.00%) for students enrolled in Geography: Urban and Regional Planning (fall 2020 cohort semester) met the expectation to be at or above the University average (77%) 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 2021 graduation success for Geography: Urban and Regional Planning students of 37% (16 graduates / 43 students enrolled) met expectations of exceeding the University graduation rate average of 18% (5,934 graduates / 33,175 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 (43) in Geography: Urban and Regional Planning in the fall of 2021 compared to the number of majors (46) in the fall 2020 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: Urban and Regional Planning Studies for FY 2021 (4.5 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)
 Susan Day (sd01)
 Yongmei Lu (yl10)
 Mary Brennan (mb18)
 Susan Day (sd01)

General Information

Academic Year:	2021-2022
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

[These data represent fall 2021 only because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period.] For AY 2021 / 2022, we decided an action plan that had the course instructors provide additional lecture time on inferential statistics to improve student learning in Outcome 3 – Method 1. We implemented our action plan and were pleased to find a distinct increase (9%) in average total scores used to measure improvement in student learning during AY 2021 / 2022 compared to last year. We also observed substantial improvement (8%) in the percentage of students who met or exceeded expectations for Outcome 5 – Method 2. During Fall 2021, instructors provided more in-depth explanation with specific examples, and this helped students better understand how hydrology, water availability and quality, hazards, use, demand and allocation influence water resource management. Finally, we found a mostly steady result in average total scores used to measure student understanding for Outcome 1 – Method 2 and Outcome 2 – Method 1; and a slight increase (1%) in average total scores used to measure improvement in student learning for Outcome 2 – Method 2 during AY 2021 / 2022 compared to last year.

Action Plan

The success measurements in Outcomes 1, 2, and 3 lead to the conclusion that the instructional strategies implemented in the previous year will be continued. For AY 2022 / 2023, we will focus on making improvement on Outcome 4 – Method 1 and Outcome 5 – Method 1 because the percentages of students meeting or exceeded expectations decreased during AY 2021 / 2022 compared to last year. For Outcome 4 – Method 1, we will have instructors provide additional lecture time explaining fundamental concepts of geographic information systems throughout the semester. For Outcome 5 – Method 1, we will have instructors add formative assessments during classes 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 Fall 2021, 482 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 (GEO1310). The course instructors found that 87% of the students met (35%) or exceeded (52%) 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 Fall 2021, 482 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 (GEO1310). The course instructors found that 84% of the students met (50%) or exceeded (34%) 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 Fall 2021, 482 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 88% of the undergraduate students met (50%) or exceeded (38%) 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 Fall 2021, 482 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 87% of the undergraduate students met (45%) 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 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 Fall 2021, 76 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 89% of the students met (43%) or exceeded (46%) 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 Fall 2021, 75 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 90% of the students met (56%) or exceeded (34%) 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 Fall 2021, 30 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 66% of the students met (43%) or exceeded (23%) 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 Fall 2021, 30 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 76% of the students met (23%) or exceeded (53%) 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 Fall 2021, 32 undergraduate students were evaluated by their course instructor using embedded exam questions from the course: Water Resources (GEO 3434). The course instructor found 72% of the students met (63%) or exceeded (9%) expectations by demonstrating their knowledge of the major concepts in water resources. The target of 70% of the students meeting or exceeding expectations was barely 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 Fall 2021, 32 undergraduate students were evaluated using a rubric-graded project from the course: Water Resources (GEO 3434). The course instructor found that 91% of the students met (38%) or exceeded (53%) 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 (67%) for students enrolled in Geography: Water Resources (fall 2020 cohort semester) did not meet the expectation to be at or above the University average (77%) 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 2021 graduation success for Geography: Water Resources students of 14% (4 graduates / 29 students enrolled) did not meet expectations of exceeding the University graduation rate average of 18% (5,934 graduates / 33,175 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 2021 compared to the number of majors (33) in the fall 2020 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 FY 2021 (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)
Susan Day (sd01)
Yongmei Lu (yl10)
Mary Brennan (mb18)
Susan Day (sd01)

General Information

Academic Year:	2021-2022
College:	Liberal Arts
Department:	Geography
Program:	GEOL 1410
Program Code:	3.00
Outcome Type:	General Education
Degree:	Other
Coordinator/Contact:	Dr. Injeong Jo / Dr. Dolores Van Der Kolk
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

[These data represent fall 2021 only because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period. Therefore, caution must be taken when comparing this year's data with the previous years'.] We decided on an action plan for AY 2021-2022 that had the course instructors provide exercises using rock samples that will help improve student learning in this area. We implemented our action plan and were pleased to find a distinct increase (9%) in average total scores used to measure student learning for Outcome 4 during AY 2021 / 2022 compared to last year. We also found improvement in the percentage of students who exceeded expectations for Outcome 1 (55% increase), 3 (17% increase), and 4 (29% increase).

Action Plan

The success measurement in Outcome 4 leads to the conclusion that the instructional strategies implemented in the previous year will be continued. For AY 2022 / 2023, we will focus on making improvement on Outcome 3 because the percentages of students meeting or exceeded expectations decreased during AY 2021 / 2022 compared to last year. We will help students improve their ability to use writing, speech and visualizations to express ideas about the natural phenomena of physical geology using a lab project / presentation by facilitating a peer review and resubmission process that will help students consider the effectiveness of their communication methods and improve accordingly.

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 Fall 2021, 171 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 96% of the students met (22%) or exceeded (73%) 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 Fall 2021, 171 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 82% of the students met (65%) or exceeded (17%) 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 Fall 2021, 171 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 77% of the students met (21%) or exceeded (56%) 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 Fall 2021, 171 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 77% of the students met (28%) or exceeded (49%) 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 Fall 2021, 171 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 90% of the students met (67%) or exceeded (23%) 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

Approver

Yongmei Lu (yl10)
Mary Cavitt (mc58)
Michelle Hamilton (mh42)
Yongmei Lu (yl10)

General Information

Academic Year:	2021-2022
College:	Liberal Arts
Department:	Geography
Program:	GEOL 1420
Program Code:	3.00
Outcome Type:	General Education
Degree:	Other
Coordinator/Contact:	Dr. Injeong Jo / Dr. Dolores Van Der Kolk
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

[These data represent fall 2021 only because the Department has decided to move to a calendar year reporting period and away from the academic year reporting period. Therefore, caution must be taken when comparing this year's data with the previous years'.] We decided on an action plan for AY 2021-2022 that continued having instructors provide additional examples to demonstrate the application of the scientific method to the study of the natural phenomena of historical geology to help student learning (Outcome 2). We implemented our action plan and found a mostly steady result in average total scores used to measure student understanding for Outcome 2. We also observed a 35% increase in average total scores used to measure student learning for Outcome 3 during AY 2021 / 2022 compared to last year. During Fall 2021, instructors provided more resources and examples for lab activities, and this helped students successfully use writing, speech and visualizations to express ideas about the natural phenomena of historical geology.

Action Plan

The success measurement in Outcome 2 leads to the conclusion that the instructional strategies implemented in the previous year will be continued. For AY 2022 / 2023, we will focus on making improvement on Outcome 5 because the percentages of students meeting or exceeded expectations decreased during AY 2021 / 2022 compared to last year. We will help students improve their ability to work effectively with others to support a shared purpose and goal by providing partnered, interactive lab activities that require students to share delegate tasks to effectively accomplish the assignment.

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 Fall 2021, 56 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 93% of the students met (64%) or exceeded (29%) 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 Fall 2021, 55 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 83% of the students met (45%) or exceeded (38%) 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 Fall 2021, 56 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 88% of the students met (9%) or exceeded (79%) 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 Fall 2021, 59 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 79% of the students met (25%) or exceeded (54%) 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 Fall 2021, 59 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 74% of the students met (8%) or exceeded (66%) 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)

Michelle Hamilton (mh42)

Yongmei Lu (yl10)

Mary Cavitt (mc58)

Nancy Wilson (nw05)

General Information

Academic Year:	2021-2022
College:	Liberal Arts
Department:	Geography
Program:	Location Analysis (certificate)
Program Code:	45.07
Outcome Type:	Student Learning (UG)
Degree:	Certificate - Undergraduate
Coordinator/Contact:	Dr. Injeong Jo
Status:	Data Entry Closed

Mission Statement

The Texas State Department of Geography Location Analysis Certificate prepares students to work as location analysis professionals in the public and private sectors analyzing spatial data to identify and optimize locations for business and public activities.

Evidence of Improvement

[This program is being discontinued. Enrollment was too low to collect meaningful learning outcomes assessment data for AY 2021 / 2022.]

Action Plan

[This program is being discontinued.]

Outcome 1

Students will demonstrate their knowledge of the major concepts and theoretical framework of urban geography as well as their knowledge of the basic historical, social, political and economic processes that shape the urban environment.

Outcome 1 - Method 1

Students will be evaluated on their knowledge of the major concepts and theoretical framework of urban geography using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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

[This program is being discontinued.]

Outcome 1 - Method 2

Students will be evaluated on their knowledge of the basic historical, social, political and economic processes that shape the urban environment using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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 2 - Result

[This program is being discontinued.]

Outcome 2

Students will demonstrate their knowledge of the fundamentals of location analysis used to interpret factors influencing locational siting of industry, business, housing and community facilities as well as their knowledge of the spatial techniques that location analysis professionals use as part of an informed decision-making process to determine the best location for various types of land uses.

Outcome 2 - Method 1

Students will be evaluated on their knowledge the fundamentals of location analysis used to interpret factors influencing locational siting of industry, business, housing and community facilities using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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

[This program is being discontinued.]

Outcome 2 - Method 2

Students will be evaluated on their knowledge the spatial techniques that location analysis professionals use to assess and interpret factors influencing locational siting of types of land uses using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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 2 - Result

[This program is being discontinued.]

Outcome 3

Students will demonstrate their knowledge of the basics of Geographic Information Systems (GIS) including types of spatial data, data acquisition, data structure, data quality and data interpretation as well as their knowledge of GIS applications, GIS visualization and GIS modeling.

Outcome 3 - Method 1

Students will be evaluated on their knowledge of the basics of GIS including types of spatial data, data acquisition, data structure, data quality and data interpretation using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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

[This program is being discontinued.]

Outcome 3 - Method 2

Students will be evaluated on their knowledge of the basics of GIS applications, GIS visualization and GIS modeling using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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 2 - Result

[This program is being discontinued.]

Approval History

Approval History Event	Approver
Outcomes Approved Level 1	Yongmei Lu (yl10)
Outcomes Approved Level 2	Mary Brennan (mb18)
Outcomes Audit Report Submitted	Susan Day (sd01)
Results Approved Level 1	Yongmei Lu (yl10)
Results Approved Level 2	Mary Brennan (mb18)
Results Audit Report Submitted	Susan Day (sd01)

General Information

Academic Year:	2021-2022
College:	Liberal Arts
Department:	Geography
Program:	Water Resources Policy (certificate)
Program Code:	3.02
Outcome Type:	Student Learning (UG)
Degree:	Certificate - Undergraduate
Coordinator/Contact:	Dr. Injeong Jo
Status:	Data Entry Closed

Mission Statement

The Texas State Department of Geography Water Resources Policy Certificate prepares students for professional water resources management and policy career positions.

Evidence of Improvement

[This program is being discontinued. Enrollment was too low to collect meaningful learning outcomes assessment data for AY 2021 / 2022.]

Action Plan

[This program is being discontinued.]

Outcome 1

Students will demonstrate their knowledge of the major natural, legal, social and economic concepts of water resources as well as their knowledge of the environmental aspects of water issues.

Outcome 1 - Method 1

Students will be evaluated on their knowledge of the major natural, legal, social and economic concepts of water resources using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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

[This program is being discontinued.]

Outcome 1 - Method 2

Students will be evaluated on their knowledge of the environmental aspects of water issues using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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 2 - Result

[This program is being discontinued.]

Outcome 2

Students will demonstrate their knowledge of the natural / physical, technical, institutional and economic issues that influence river basin management as well as their knowledge of specific examples of river basin management issues in Texas, U.S. and internationally.

Outcome 2 - Method 1

Students will be evaluated on their knowledge of the natural/physical, technical, institutional and economic issues that influence river basin management using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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

[This program is being discontinued.]

Outcome 2 - Method 2

Students will be evaluated on their knowledge of specific examples of river basin management issues in Texas, U.S. and internationally using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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 2 - Result

[This program is being discontinued.]

Outcome 3

Students will demonstrate their knowledge of the institutional and legal frameworks within which water policy issues are debated and decided as well as their knowledge of the roles the executive, legislative and judicial branches of government play in determining water policy.

Outcome 3 - Method 1

Students will be evaluated on their knowledge of the institutional and legal frameworks within which water policy issues are debated and decided using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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

[This program is being discontinued.]

Outcome 3 - Method 2

Students will be evaluated on their knowledge of the roles the executive, legislative and judicial branches of government play in determining water policy using an exit examination administered by the learning outcomes coordinator at the completion of all courses required for the certificate. Students' knowledge will be assessed on the basis of exceeding, meeting or failing to meet expectations, which will be determined by the students' total percentage score on these exit examination 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 2 - Result

[This program is being discontinued.]

Approval History

Approval History Event	Approver
Outcomes Approved Level 1	Yongmei Lu (yl10)
Outcomes Approved Level 2	Mary Brennan (mb18)
Outcomes Audit Report Submitted	Susan Day (sd01)
Results Approved Level 1	Yongmei Lu (yl10)
Results Approved Level 2	Mary Brennan (mb18)
Results Audit Report Submitted	Susan Day (sd01)