

Annual Assessment for Department of Geography Graduate Program

This report documents the Department of Geography's efforts to assess student learning outcomes in its graduate program. The report's objective is to review the effectiveness of the program's curriculum in achieving the desired student proficiencies in relation to the program's student learning outcomes, exploring possibilities for addressing any apparent deficiencies, and improving overall student competencies and proficiencies.

Program's Mission: The Department of Geography's graduate program supports the university's mission statement by providing high quality undergraduate and graduate education for the state and the region; promoting student learning, retention, and academic success; fostering community outreach through service activities; promoting instruction through the use of innovative teaching methods that require students to become actively involved in the learning process and develop the critical thinking skills necessary for life-long learning; contributing to the body of knowledge through completion of scholarly and creative activities; engaging and mentoring students in scholarly, artistic, and creative endeavors; providing opportunities for students to use their knowledge, creativity, and critical thinking skills to make their communities better places in which to live; and prepare students to examine critically the many issues facing society and, through the process of civil discourse, prepare themselves to become socially responsible individuals who contribute to the betterment of society.

Program's Student Learning Outcomes: The graduate program has seven broad student learning outcomes (see accompanying chart). All seven student learning outcomes will be assessed and analyzed on an annual basis. Adjustments to improve student performance in relation to these student learning outcomes are made on a continual basis, rather than waiting for some pre-determined period of time to make any necessary changes.

Assessment Activities:

Assessment Tools: The Department of Geography is adopting a holistic approach to student learning outcome assessment that includes a broad and flexible range of direct measures including, but not limited to, test questions, writing assignments, discussions, oral presentations, debates, and theses/comprehensive examinations which require students to design, conduct, analyze, report, and present the results of their original research projects. There is no standardized licensure exam for the discipline of Geography as a whole. The Department also utilizes an array of indirect measures including, but not limited to, discussions with graduating students, annual Fall Orientation Day focus groups, annual Assessment Day surveys and focus groups, and continuing discussions with known employers and alumni.

Benchmarks: Benchmark refers to the level of student performance on evaluative assessments embedded within the program's required curriculum. Assessments may vary by course and instructor but will utilize standardized assessment rubrics. The Geography Department uses the following performance levels: Advanced - students use critical thinking to appraise, analyze, and apply knowledge, techniques, and concepts; Mastery - students skillfully employ knowledge, techniques, and concepts; Proficient - students recognize and

apply basic techniques and concepts; Novice - students recall concepts but fail to interpret, apply or express knowledge and techniques; Limited - students may recognize a few concepts or techniques but struggle with application. The faculty would prefer that 100% of students achieve the advanced level of proficiency for all student learning outcomes.

Results/Analysis: Specific performance results are listed on the accompanying table. Overall student performance was at the advanced, mastery, or proficient levels. Students failing to achieve performance levels of proficient or higher exhibited poor attendance.

Analysis/Planned Action: Comparable data from previous years does not seem to exist so it is impossible to determine if the results pertaining to student learning outcomes from 2009-10 represents an increase, decrease, or continuance of student performance.

Instructors will also continue to emphasize to students the importance of attending and actively participating in class as well as submitting the required assignments. Although detailed statistical evidence is not available, anecdotal evidence suggests a strong positive correlation between students who do not attend class or submit assignments and students who fail to achieve satisfactory proficiencies in relation to the program's student learning outcomes.

Overview of Changes Implemented: I am unaware of reports submitted for previous years, so there were no changes implemented that derived from them. Despite this, other changes are continually being made in terms of curriculum structure, course scheduling, and assessment methods. The department is experimenting with offering GEO615 on an every-other-year basis to maximize course enrollments. The faculty are consulting with students and evaluating student performance to assess any potential impact on the student learning outcomes. GEO526 was also expanded to 4 credits hours from 3 credit hours to improve instruction and student proficiencies related to the student learning outcomes. Finally, we have revised the format of the comprehensive examinations. Previously, examinations were conducted outside of normal coursework and students received no credit for completion. The faculty felt this structure provided little incentive for students to truly demonstrate the breadth and depth of their proficiencies. Beginning during the 2009-10 academic year, comprehensive examinations are now incorporated into GEO679 and students receive 3 credits for successful completion and a letter grade that impacts their overall grade point average. This also emphasizes that the examinations are robust experiences that last throughout an entire semester, and in some cases over two semesters since GEO 679 is a variable 1-3 credit course. The faculty have determined that initial examinations are much improved in this new structure, especially related to the written portions. Further assessment is required to determine if these initial indications are sustained in subsequent years.

Like other changes within the undergraduate program, this change resulted from the instructor's evaluation of specific student performances, feedback from students, and consultation with other faculty. As such, the department has found it more efficient and accurate to evaluate and refine student learning outcomes and assessments through direct discussions with students, evaluations of various student performances, and consultations with faculty, alumni, and employers.

In order to improve analytical capabilities for future years, faculty will develop grading rubrics appropriate for assessing the student learning outcome. Some rough rubrics have already been drafted for assessing oral presentations and quantitative projects (see accompanying charts). Additional rubrics are being developed for map projects, lab exercises, writing assignments, capstone projects, concepts and methods projects, research design projects, and Masters theses and comprehensive examinations. These rubrics will be tested and refined during the spring 2010 semester. Following this trial period, the rubrics will become standard assessment tools used by all geography instructors for all classes. In subsequent years, these rubrics will help provide a baseline of data to determine overall trends in student performance and overall program effectiveness.

Changes/Modifications Resulting from Assessment Day Activities: Student attendance and participation during Assessment Day activities continues at a low level. Response rates on program surveys distributed during the spring semester was low. These efforts provided some anecdotal evidence, but valid statistical calculations are not possible.

Assistance Needed with Assessment: None

Marshall University
Assessment of Graduate Student Learning Outcomes for the Geography Program
2009/2010

Student Learning Outcomes	Year	Assessment Tools	Benchmark ¹	Results	Analysis/ Planned Actions
Students employ GIS to create, display, and interpret map data	2009 /10	GEO526 assignments as determined by instructor ²	Proficient or above	4 students performed at mastery level; 1 student performed at mastery level; 2 students performed at proficient level	Change course from 3 to 4 hours to reflect lab component of course; emphasize importance of attendance
Students calculate and apply quantitative solutions to geographical problems	2009 /10	GEO540 assignments as determined by instructor ³	Proficient or above	1 student performed at advanced level; 1 student performed at mastery level; 1 student performed at proficient level; 1 student performed at novice level	Revise course based on new learning tools and more diverse exercises
Students compare, analyze, and evaluate geographical research methodology	2009 /10	GEO615 assignments as determined by instructor ⁴	Proficient or above		
Students conceptualize and design a geographical research project	2009 /10	GEO616 assignments as determined by instructor ⁵	Proficient or above	5 students performed at the advanced level; 1 student performed at the limited level	Continued monitoring

Student Learning Outcomes	Year	Assessment Tools	Benchmark ¹	Results	Analysis/ Planned Actions
Non-thesis students describe, analyze, and evaluate geographical topics and research	2009 /10	GEO679 final comprehensive written and oral exams	Proficient or above	2 students performed at the advanced level; 2 students performed at the mastery level	Exam procedure revised to last entire semester and worth credit now, resulting in much improved student performance in written exams
Thesis students conduct, assess, and defend a completed independent research project	2009 /10	GEO681 written thesis and oral defense	Proficient or above	1 student performed at the advanced level	Results would be improved by encouraging students to begin thesis research earlier
Students communicate effectively	2009 /10	GEO 679 or GEO 681 exams or thesis	Proficient or above	3 students performed at the advanced level; 2 students performed at the mastery level	Greater emphasis will be placed on oral communication skills

¹ Benchmark refers to the level of student performance on evaluative assessments for the corresponding course. Such assessments vary by course and instructor. The Geography Department uses the following performance levels: Advanced - students use critical thinking to appraise, analyze, and apply knowledge, techniques, and concepts; Mastery - students skillfully employ knowledge, techniques, and concepts; Proficient - students recognize and apply basic techniques and concepts; Novice - students recall concepts but fail to interpret, apply or express knowledge and techniques; Limited - students may recognize a few concepts or techniques but struggle with application.

² Performance assessments in GEO526 include classroom exercises to learn and apply concepts and techniques and application of the concepts techniques in quizzes, exams, and final course projects; these assessments focus on interpreting and constructing maps. This requirement may be satisfied if the student previously completed GEO426 as an undergraduate.

³ Performance assessments in GEO540 include classroom exercises to learn and apply concepts and techniques and application of the concepts and techniques in quizzes, exams, and final course projects; these assessments focus on calculating and applying quantitative solutions to geographical problems. This requirement may be satisfied if the student previously completed GEO440 as an undergraduate.

⁴ Learning outcomes not assessed during this reporting period.

⁵ Performance assessments in GEO615 focused on the various steps involved in designing a geographical research project, including formulating a research question, locating existing data and/or relevant research, developing a research methodology, presenting the proposal in written and oral forms.

Department of Geography Oral Presentation Assessment Rubric

	Advanced	Mastery	Proficient	Novice	Limited
Content	Student demonstrates critical thinking to appraise, analyze, and apply geographical knowledge, techniques, and concepts	Student skillfully employs geographical knowledge, techniques, and concepts	Student recognizes and applies basic geographical techniques and concepts correctly	Student recalls geographical concepts but fails to interpret, apply or express knowledge and techniques	Student recognizes a few geographical concepts or techniques but cannot apply them correctly
Organization	Coherent structure with an introduction, main body, and conclusion; the main points/concepts are clear and critically analyzed; keeps to allotted time with skillful time management	Coherent structure with an introduction, main body, and conclusion; the main points/concepts are clear and employed correctly; keeps to allotted time with efficient time management	Coherent structure with an introduction, main body, and conclusion; the main points/concepts are clear; keeps to allotted time	Coherent structure with an introduction, main body, and conclusion; the main points/concepts are not clear; does not keep to allotted time	No apparent structure; no apparent main points/concepts; no apparent time management effort
Verbal Skills	Student demonstrates specialized verbal skills, including complete sentences, proper grammar, professional vocabulary, etc	Student employs basic verbal skills, including complete sentences, proper grammar, appropriate vocabulary, etc	Student demonstrates basic verbal skills, including complete sentences, proper grammar, appropriate vocabulary, etc with minor errors	Student makes frequent errors regarding complete sentences, proper grammar, vocabulary, etc	Student cannot speak

Non-Verbal Skills	Student demonstrates a professional demeanor, including eye contact, posture, gestures, etc	Student demonstrates a casual demeanor, including eye contact, posture, gestures, etc	Student demonstrates a indifferent demeanor including eye contact, posture, gestures, etc	Student demonstrates an unprofessional demeanor including eye contact, posture, gestures, etc	Student demonstrates completely inappropriate eye contact, posture, gestures, etc
Visual Material	Student demonstrates professional use of maps or other graphics, including geospatial technologies, which are clearly integrated into the presentation	Student demonstrates basic use of maps or other graphics, including geospatial technologies, which are integrated into the presentation	Student employs maps or other graphics, including geo-spatial technologies, but they are not integrated into the presentation	Student employs maps or other graphics, including geo-spatial technologies, but they are not integrated into the presentation and contain errors	Student did not use visual materials
Audience	Student demonstrates ability to critically analyze and respond effectively to audience questions or comments	Student demonstrates ability to analyze and respond to audience questions or comments	Student demonstrates ability to respond to audience questions or comments with basic answers or responses	Student responds to audience questions or comments, but is unable provide basic answers or responses	Student did not respond to audience questions or comments

GEO440/540 Quantitative Methods Semester Project Grading Rubric¹

	Advanced	Mastery	Proficient	Novice	Limited
Introduction (10 points)	Valid research problem clearly stated, integrating at least three appropriate sources to pique interest; dependent and independent variables clearly defined; strong revisions as recommended	Research problem stated, integrating at least three appropriate sources; dependent and independent variables defined; revisions as recommended	Research problem stated but unclear with some sources not well integrated; variables named and distinguished; some revisions	Research problem unclear or invalid with weak reference to sources; variables present but not clearly distinguished	Little development
Flow chart (5 points)	Clearly delineates the flow of research; strong revisions as recommended	Delineates the flow of research; revisions as recommended	Present to accompany research flow but may lack development	Present, but unclear	Missing or very unclear
Data and description (20 points)	Excel table properly formatted; complete description of data and their quality, applying most required terms such as interval, primary, discrete; validity, accuracy, reliability clearly described; strong revisions as recommended	Excel table properly formatted; description of data and their quality, applying most required terms; revisions as recommended	Excel table present; weak description of data; some data terms used correctly	Excel table has problems; data descriptions unclear; few data terms used correctly	Missing or very unclear
Descriptive statistics (15 point)	Formulae presented and described accurately; statistics calculated correctly and presented properly; strong revisions as recommended	Formulae presented and described; most statistics calculated correctly and presented properly; strong revisions as recommended	Formulae presented, but descriptions are weak; basic statistical analysis with few mistakes, but some weaknesses in presentation	Formulae not presented; some statistics with errors and little accurate presentation	Missing or very unclear
Quantitative analysis (40 points)	Methods chosen after consulting with instructor; six steps of classical hypothesis testing applied and described; formulae presented and described accurately; statistics calculated correctly and presented properly; scholarly article logically integrated for each method	Methods chosen with instructor; classical hypothesis testing applied and described; most formulae presented and described accurately; most statistics calculated correctly and presented properly; scholarly article integrated	Methods may not all be appropriate; some classical hypothesis testing elements present; formulae presented, but descriptions are weak; basic statistical analysis with few mistakes; scholarly article mentioned but not well integrated	Methods may not all be appropriate; classical hypothesis testing not followed accurately; formulae descriptions very weak; several statistical mistakes; scholarly article not used correctly	Missing or very unclear
Conclusions (10 points)	Well-written, thoughtful summation of techniques, research question, analysis results, and weaknesses	Good summation of techniques, research question, analysis results, and weaknesses	Contains summary of some elements	Weak summary	Missing or very weak
College-level English including grammar, punctuation, spelling, sentence structure and logical flow of content	After 5 mistakes, I will quit grading and return your paper for no credit.				

¹ This rubric is also used for quantitative work submitted as part of a thesis, comprehensive exam, or other geography classes.