

Department of Geography
Bachelor of Science in Geography
Plan for Assessment of Student Learning Outcomes
The University of New Mexico

A. College, Department and Date

1. College: *College of Arts & Science*
2. Department: *Department of Geography*
3. Date: *May 15, 2008*

B. Academic Program of Study

B.S. Geography

C. Contact Person for the Assessment Plan

Paul Zandbergen, Associate Professor, zandberg@unm.edu

D. Broad Program Goals & Measurable Student Learning Outcomes

1. Broad Program Learning Goals for this Degree Program

These goals reflect the Department's overarching mission to promote, develop, and improve spatial literacy through all of its programs.

- A. Students will develop an ability to see meaning in the arrangement of things in space.
- B. Students will become geographical problem-solvers capable of using quantitative and spatial methods of analysis.
- C. Students will be able to employ geospatial technologies in the acquisition, manipulation, and analysis of digital spatial data.
- D. Students will become clear and effective communicators.

2. List of Student Learning Outcomes (SLOs) for this Degree Program

- A.1. Students will be able to explain a prominent geographic pattern using core geographic concepts.
- B.1. Students will be able to identify the geographic contexts relevant to an inquiry.
- B. 2. Students will be able to acquire and manipulate data relevant to a geographic inquiry.
- B.3. Students will be able to assess the results of a data-driven geographical inquiry.
- C.1. Students will be able to identify, collect and process digital spatial data using industry-standard tools
- C.2. Students will be able to employ appropriate geospatial analysis methods and interpret the results
- D.1. Students will be able to communicate clearly and effectively in an oral format.
- D.2. Students will be able to communicate clearly and effectively in a written format.
- D.3. Students will be able to communicate clearly and effectively in cartographic format.

E. Assessment of Student Learning Three-Year Plan

1. Priority Student Learning Outcomes

Over the next three years (2008-2011), the Department of Geography will assess all of the learning outcomes listed above. These program outcomes are responsive to UNM’s broad student learning goals, as shown in the following table.

University of New Mexico Student Learning Goals				
Program SLOs	Knowledge	Skills	Responsibility	Program SLO is conceptually different from university goals.
A.1. Students will be able to explain a prominent geographic pattern using core geographic concepts.	X	X		
B.1. Students will be able to identify the geographic contexts relevant to an inquiry.	X	X	X	
B.2. Students will be able to acquire and manipulate data relevant to a geographic inquiry.		X	X	
B.3. Students will be able to assess the results of a data-driven geographical inquiry.		X	X	
C.1. Students will be able to identify, collect and process digital spatial data using industry-standard tools		X	X	
C.2. Students will be able to employ appropriate geospatial analysis methods and interpret the results		X	X	
D.1. Students will be able to communicate clearly and effectively in an oral format.		X	X	
D.2. Students will be able to communicate clearly and effectively in a written format.		X	X	
D.3. Students will be able to communicate clearly and effectively in cartographic format.		X	X	

2. How will learning outcomes be assessed?

Learning outcomes will be assessed using a variety of measures that collect evidence of learning from students in the senior capstone course (GEOG 471) as well as in an upper-level elective (GEOG 487L) each year. These measures are described fully on the following page.

All B.A. and B.S. students are required to take GEOG 471 as part of their degree, so this captures the entire population. GEOG 487L is an elective in the BS degree, but it is expected that most B.S. students will take this course. By the time B.S. students enroll in GEOG 487L they will have completed at least two Geographic Information Science courses and possibly more, so determining learning outcomes specific to GI Science in this course is appropriate.

2. How will learning outcomes be assessed? (continued)

MEASUREMENT PROCESS #1

Outcome:

- A.1. Students will be able to explain a prominent geographic pattern using core geographic concepts.

Measurement Process:

- i. Assessment of this outcome will use students' written responses to scenario assignments as evidence of student learning. These assignments will be designed by the GEOG 471 instructor in conjunction with the undergraduate advisor, subject to approval by the voting faculty. Each assignment will present students with a scenario that illustrates a particular spatial pattern and will be asked to explain its probable cause in terms of core geographic concepts (such as scale, diffusion, distance, etc.) The students will complete each assignment with a written response, and the instructor will copy and file the students' written answers for assessment purposes. Note: Two of these scenario assignments will be embedded each semester in the regular grade structure of the course to provide a standard performance incentive. On each of the two assigned scenarios, different core geographic concepts will be relevant. Only one scenario assignment will be assessed each year.
- ii. This is a direct measurement.
- iii. The program performance target for these outcomes is defined as "acceptable" or better performance by 75% of Geography seniors. The standards for "acceptable" are outlined in the attached Rubric A, which will be given to students in advance.

MEASUREMENT PROCESS #2

Outcomes:

- B.1. Students will be able to identify the geographic contexts relevant to an inquiry.
- B.2. Students will be able to acquire and manipulate data relevant to a geographic inquiry.
- B.3. Students will be able to assess the results of a data-driven geographical inquiry.

Measurement Process:

- i. The capstone course is typically organized around student development and completion of a senior research project, which is presented in both oral and written formats at the end of the course. The project will be considered as evidence of learning in the assessment of all three of these outcomes. Each project will be selected by the student, with the assistance of the GEOG471 instructor, and will be oriented toward a geographic inquiry that can be answered via core methods in spatial analysis.
- ii. This is a direct measurement.
- iii. The program performance target for these outcomes is defined as "acceptable" or better performance by 75% of Geography seniors. The standards for "acceptable" are outlined in Rubric B, which will be given to students in advance.

2. How will learning outcomes be assessed? (continued)

MEASUREMENT PROCESS #3

Outcome:

- C.1. Students will be able to identify, collect and process digital spatial data using industry-standard tools
- C.2. Students will be able to employ appropriate geospatial analysis methods and interpret the results

Measurement Process:

- i. Assessment of this outcome will use student's final projects in GEOG 487L. This course is focused on the hands-on use of spatial-analytical techniques as applied to a topic of the student's choice. As part of the project, students need to identify, collect and process digital spatial data relevant to their topic, and then carry out geospatial analysis methods that are appropriate for the specific questions within the topic. Results of the final project need to be delivered in the form of an oral presentation as well as a written report. While students have to develop a project proposal and present their findings (like in GEOG 471), the focus on the learning outcomes is on the student's use of hands-on geospatial tools.
- ii. This is a direct measurement.
- iii. The program performance target for this outcome is defined as "acceptable" or better performance by 75% of graduating students. The standard for "acceptable" is defined in the attached Rubric C, which will be given to students in advance.

MEASUREMENT PROCESS #4

Outcome:

- D.1. Students will be able to communicate clearly and effectively in an oral format.

Measurement Process:

- i. Assessment of this outcome will use each student's oral presentation of the final research project as evidence of student learning.
- ii. This is a direct measurement.
- iii. The program performance target for this outcome is defined as "acceptable" or better performance by 75% of graduating students. The standard for "acceptable" is defined in the attached Rubric D, which will be given to students in advance.

MEASUREMENT PROCESS #5

Outcome:

- D.2. Students will be able to communicate clearly and effectively in a written format.

Measurement Process:

- i. Assessment of this outcome will use each student's written report of the final research project as evidence of student learning.
- ii. This is a direct measurement.
- iii. The program performance target for this outcome is defined as "acceptable" or better performance by 75% of graduating students. The standard for "acceptable" is defined in the attached Rubric D, which will be given to students in advance.

MEASUREMENT PROCESS #6

Outcome:

- D.3. Students will be able to communicate clearly and effectively in cartographic format.

Measurement Process:

- i. Assessment of this outcome will use student's final projects in GEOG 487L. Producing results in cartographic form is part of the requirements of the final project and are included in the final written report.
- ii. This is a direct measurement.
- iii. The program performance target for this outcome is defined as "acceptable" or better performance by 75% of graduating students. The standard for "acceptable" is defined in the attached Rubric C, which will be given to students in advance.

3. When will learning outcomes be assessed? When and in what forum will the results of the assessment be discussed?

Assessment of student learning in the B.S. program will be conducted every semester that the senior capstone course (GEOG 471) is offered, typically once per year in the spring semester, as well as every semester that GEOG 487L is offered, typically once per year in the fall semester. A committee of three Geography faculty members will be tasked with assessment duties, which will include:

- i. attending student presentations in the GEOG 471 and GEOG 487L courses,
- ii. reading student research reports and written responses to the case-study assignments, and
- iii. completing all relevant rubrics at the end of the semester.

The course instructor will communicate with this committee during the semester and will make copies of all relevant materials, such as the case-study assignments and the research reports.

All outcomes will be assessed each time GEOG 471 and GEOG 487L are offered. (See timeline below.)

Completed rubrics will be placed in an assessment file (to be administered by the departmental Assessment Coordinator) as soon as they are completed. Each summer, the Assessment Coordinator will produce an annual report on the number of students assessed and the average scores recorded for each outcome. This report will be distributed to the entire faculty and to the Advisory Board.

Modifications to the assessment instruments/methods will be discussed each year at the annual faculty retreat. Changes in program curriculum/pedagogy will be discussed every third year, beginning in summer 2009. (See next section for details regarding this process.)

TIMELINE

- **Summer 2008**
 - appointment of Assessment Coordinator
 - assignment of assessment duties for 2008-209

- **Spring 2009**
 - assessment of outcomes A.1, B.1, B.2, B.3, C.1, C.2, D.1, D.2, D.3

- **Summer 2009**
 - annual report compiled/distributed
 - faculty review of B.S. program
 - faculty review of assessment procedures
 - assignment of assessment duties for 2009-2010

- **Spring 2010**
 - assessment of outcomes A.1, B.1, B.2, B.3, C.1, C.2, D.1, D.2, D.3

- **Summer 2010**
 - annual report compiled/distributed
 - faculty review of assessment procedures
 - assignment of assessment duties for 2010-2011

- **Spring 2011**
 - assessment of outcomes A.1, B.1, B.2, B.3, C.1, C.2, D.1, D.2, D.3

- **Summer 2011**
 - annual report compiled/distributed
 - faculty review of assessment procedures
 - assignment of assessment duties for 2011-2012

4. What is the unit's process to analyze/interpret assessment data and use results to improve student learning?

All members of the Geography faculty will participate in the assessment process at various levels, as described below.

- a) Evidence will be gathered by the regular instructors of GEOG 471 and GEOG 487L through the following assignments: scenario analyses, a case-study analysis, a research report, and a research presentation.
- b) Analysis of these direct measures will be conducted by three members of the Geography faculty, who will use a standard scoring rubric in their work (see attached).
- c) Annual reports will be prepared by the Assessment Coordinator and circulated to the full faculty and the advisory board.
- d) Given the small size of the Geography faculty, interpretation of all measurements will be conducted by the faculty as a whole. Annual reports will be used as a basis for discussing assessment mechanisms/procedures (on an annual basis) as well as curricular design and pedagogical approaches (every third year). Priority areas for discussion at the annual faculty retreat will include:

2009, 2010, 2011

- Quality of data collected
- Completeness of data collected
- Reliability of data collected
- Potential improvements to measurement instruments
- Potential improvements to assessment procedures
- Assignment of assessment responsibilities for the coming year

2009

- Student performance levels on each outcome
 - Potential explanations for any missed targets
 - Desired improvements to student learning
 - Curricular approaches to improving student learning
 - Pedagogical approaches to improving student learning
 - Modifications to program goals and outcomes
 - Modifications to performance targets
- e) Recommendations will be voted on by the entire faculty and will be circulated annually to the advisory board, the Dean of Arts and Sciences, and the Provost's Office of Assessment.