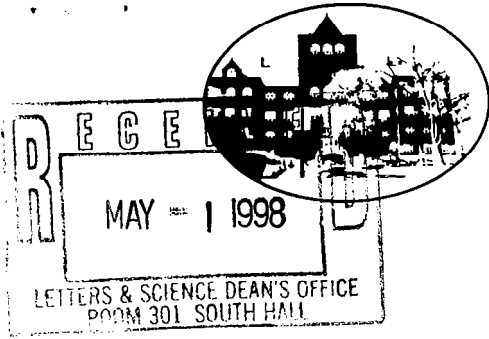


# UNIVERSITY OF WISCONSIN—MADISON

## DEPARTMENT OF GEOGRAPHY

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May 1, 1998

### MEMORANDUM

TO: Mary Anne Fitzpatrick, Associate Dean  
FROM: R. Ostergren, Chair  
RE: Assessment Report

Please find attached Geography's 1997-98 assessment report on its undergraduate majors in Geography and Cartography/GIS.

# Department of Geography

## Undergraduate Studies Committee Assessment Report: The Undergraduate Majors in Geography and Cartography/GIS

May 1, 1998

### Abstract

During the 1997-98 academic year, our assessment efforts have focused on the department's undergraduate majors in Geography and in Cartography/GIS. As part of an ongoing internal program assessment, we analyzed student performance in classes and student course evaluations, as well as student performance in our capstone undergraduate colloquium. In addition, in the spring of 1998 we conducted a survey of our seniors in order to incorporate their assessments of the undergraduate majors into our plans for programmatic revisions.

These assessment instruments indicate that the undergraduate program is doing an excellent job of meeting the two central goals that we have established: the development of critical reasoning and analytical skills, and learning the content of the discipline. Two other goals—the development of communication skills and the learning of research methodologies and techniques—are also being met, but improvements could be made in these areas. In particular, students strongly expressed the felt need for more course work in GIS (Geographic Information Systems) and cartography, and for better computing facilities. These interests and recommendations are being addressed in three ways. First, during the upcoming year the department hopes to hire an assistant professor in GIS. Second, we are creating a computer-equipped classroom (20 workstations) to supplement an existing computer lab. Finally, the department is creating a graduate capstone certificate degree program in GIS, that will have the indirect benefit for undergraduates of providing a greater variety of course work in the areas of research methodologies and techniques. This program will also provide an opportunity for majors who have completed a degree in geography to advance to a graduate certificate program that will allow them to gain added expertise in these more applied areas.

Our assessment identified one other area in which improvements could be made: career advising. During this past year, we have established a list server for our undergraduate majors to keep them better informed of programmatic requirements and deadlines, as well as to provide them with information on potential career opportunities. During the coming year, we intend to do three things to enhance career advising. First, we will initiate a survey of our alumni in order to receive feedback on ways both to improve undergraduate preparation and to better advise students as to career opportunities. Second, we plan to create a database of internship possibilities to facilitate the development of more applied experiences for our undergraduates before they leave the program. Third, we intend to hold a "career day" for undergraduates during the Spring 1999 semester. With these

programmatic enhancements in place, we are confident that we will improve a program that is already one of the strongest in the country, so that our undergraduate majors are even better trained and more competitive upon graduation.

**Assessment Tools Used**

***Direct Indicators***

National Exams	_____
Local Exams	<u>Every Semester</u>
Capstone Course(s)	<u>Every Semester</u>
Embedded Testing	_____
Student Portfolios	_____
Performance Evaluations	<u>Every Semester</u>
Pre and Post Testing	_____

***Indirect Indicators***

Student Surveys	<u>Spring 1998</u>
Exit Interviews	<u>Planned, 1998-99 academic year</u>
Alumni Surveys	<u>Planned, 1998-99 academic year</u>
Employer Surveys	_____
External Reviews	_____

## Narrative

The department offers two undergraduate majors: the major in geography and the major in cartography and GIS. The educational goals that we have established for our undergraduate program are the same across both majors. One of the primary goals of our undergraduate program is the development of critical reasoning and analytical skills. All of our course curricula are oriented toward this primary mission. We have also structured the undergraduate program to ensure that our majors meet the goal of learning the content of geography. To this end we have established breadth of knowledge requirements so that students gain a general appreciation of the contributions that geography is making to an overall understanding of the human and non-human condition of the world. We also require students to gain an in-depth knowledge of a sub-disciplinary field of geography through the completion of a concentration in the major. As a secondary emphasis we require students to complete a series of skills and techniques courses that are specific to the field. The department has also established the tertiary objective of developing the communication skills of our undergraduate majors.

In order to assess the achievement of these goals, the department has for several years utilized a series of direct indicators, including local exams, performance evaluations, and a capstone colloquium required of all our undergraduates. In addition to these direct indicators, we have added a senior survey beginning in spring of 1998. During the 1998-99 academic year, we plan to initiate two additional indirect indicators: exit interviews and alumni surveys. We also plan to review alternative instruments for assessing student evaluations of courses and instructors. Although the instrument that we currently use is adequate for providing general feedback on an overall evaluation of courses and instructors, it does not provide detailed information about how each course is helping to fulfill our primary, secondary and tertiary programmatic goals. We also intend to examine the use of different evaluation instruments for our three different types of classes: large introductory classes, mid-sized intermediate classes, and smaller advanced seminars and colloquia. We also intend to explore the idea of mid-semester course evaluations that would allow students to become more complete participants in their undergraduate education.

The results of our assessment for the 1997-98 academic year indicate that we have been very successful in achieving our primary and secondary goals, although feedback from course evaluations and senior surveys have provided useful recommendations for strengthening the undergraduate program. The achievement of our tertiary goal of improving communication skills received mixed reviews. The ability of our undergraduate majors to communicate effectively was assessed positively by instructors in our writing intensive courses, but was characterized as highly variable by the instructor of our capstone colloquium. The results of our senior survey suggest that this is the one goal that seniors do not feel has been entirely met. We will attempt to clarify this mixed result during the coming year through the use of new course evaluation forms designed to provide more detailed feedback in this area, and to differentiate between large lecture settings and small seminars.

In general, the results of our course evaluations and senior surveys evidence a high level of student satisfaction with the undergraduate majors in geography and in cartography/GIS. This goes along with the high national ranking of the department (currently ranked 2<sup>nd</sup> nationally) and the department's strong reputation for teaching. The department has traditionally placed considerable emphasis on undergraduate teaching, consistently employing its best teachers (two have campus distinguished teaching awards) in its large enrollment undergraduate courses. Student evaluations of instructors and courses in the department are overall quite positive. Most instructors regularly earn high approval ratings (excellent or above average) from more than 80 percent of the students enrolled. Instructors and courses in the department rarely earn high approval ratings from fewer than 50 or 60 percent of students enrolled. According to the results of open-ended questions in our senior surveys, over 90 percent of our seniors said that they would choose to major in geography again. Those seniors who said that they would not do so expressed general dissatisfaction with a liberal arts degree in general, rather than with the geography or cartography/GIS major in particular. All of those who said that they would major in geography again expressed enthusiasm for the subject matter of geography and/or enthusiastic endorsement of the instruction that they received from the geography faculty.

The senior surveys also indicated that seniors strongly agree that their undergraduate major in geography or cartography/GIS had met its primary and secondary goals (an average of 5.4 and 6.0 respectively on a seven-point scale, with seven being the highest). They did, however, feel that the tertiary goal of developing effective communication skills has only been met somewhat (an average of 4.5 on a seven point scale). As noted above, this result does not entirely match instructor evaluations of communication effectiveness among our majors, either in individual course work or in the undergraduate capstone colloquium, and we need to explore this contradictory result in greater depth during the coming academic year. We also asked our seniors to assess how well they had learned to use research methodologies and techniques in the field of geography—a specific aspect of our secondary goal. The average score for this was 5.0 on a seven-point scale. This somewhat lower score reflects an area that consistently came up in the open-ended questions as something that needs strengthening in our undergraduate program—namely, a stronger grounding in cartography and GIS.

The department has also recognized the need to strengthen undergraduate training in cartography, and GIS. During the past academic year, we applied for and received funding for the development of a graduate capstone certificate degree in GIS. The graduate certificate degree will likely be of considerable indirect benefit to our undergraduates in that it will expand the number of technical courses available to all geography students. It will also enhance the department's computer and cartography lab facilities—an additional area that our seniors consistently mentioned as in need of enhancement. An added benefit is that the graduate capstone certificate degree will provide a new opportunity for undergraduate majors in geography to continue on and gain the kind of technical skills that will make an undergraduate degree in geography more

marketable. The department also expects to hire a new faculty member in the coming year whose primary responsibility will be GIS instruction. With that hire GIS instruction will improve both through more offerings in that area, and by reducing the use of lecturers in some key GIS courses. We expect further improvements in technical instruction when a new computer classroom opens in January of 1999. That facility will provide an opportunity for in-class use of computers, a capability sorely needed for many years.

Our assessment identified one other area in which improvements could be made: advising, and particularly career advising. Many of our seniors graduate without a clear sense of career opportunities. We are working in a number of ways to redress this shortcoming in our undergraduate program. During this past year, we have established a list server for our undergraduate majors, in order to keep them better informed of programmatic requirements and deadlines, as well as to provide them with information on potential career opportunities. During the coming year, we intend to do three things to enhance career advising. First, we will initiate a survey of our alumni in order to receive feedback on ways both to improve undergraduate preparation and to better advise students as to career opportunities. Second, we will create a database of internship opportunities to facilitate the development of more applied experiences for our undergraduates before they leave the program. Third, we intend to initiate a "career day" for our undergraduates during the Spring 1999 semester. With these programmatic enhancements in place, we are confident that we will improve a program that is already one of the strongest in the country, so that our undergraduate majors are even better trained and more competitive upon graduation.