

GEOGRAPHY MA, ASSESSMENT REPORT AY2011-2012

Programs: Geography MA Options

Department: GSHAA

Assessment Instruments and Student Outcomes

This assessment report is for three MA options in Geography in the Department of Geography, Sociology, History, African American Studies, and Anthropology: MA in Geography without thesis, MA in Geography with thesis, and MA in Geography with GIS Concentration. The report is based on one indirect assessment of learning, namely, *student self-assessment instrument* consisting of open-ended and closed-ended Likert-style student survey questions, and two direct assessment of learning. The student self-assessment instrument surveys student opinions about how much and what specific things they have learned in the past year.

The instruments for direct assessment of learning for the MA in Geography without thesis option include two *referred seminar/master's papers* and a *comprehensive exam*; successful completion of both the master's papers and the comprehensive exam are required for graduation. The instruments for direct assessment of learning for the MA in Geography with thesis option include an instrument embedded in *Geog 5860, Geographic Inquiry*, and a *thesis*. Upon completion of the MA in Geography, students should be able to :

1. Analyze the changing geography of the physical and human environments at local, regional, national, and global scales;
2. Evaluate urban spatial patterns and processes;
3. Demonstrate proficiency in the geography of a major region; a region of the student's choice;
4. Apply geographic information systems (GIS) and quantitative techniques for spatial analysis and modeling;
5. Write a master's paper/thesis to address a significant geographic research question(s);
6. Organize information into coherent written and oral presentations.

The instruments for direct assessment of learning for the MA in Geography with GIS Concentration include *pretest/post-test* and a *thesis*. The *pretest/post-test* consists of open-ended questions on basic GIS concepts and skills that students are expected to bring to an advanced level course. The pretest/post-test assesses students' ability to:

1. Explain the geographic coordinate system in general and the concepts of latitude, parallel of latitude, longitude, meridian, and graticule in particular.
2. Explain map projection and distortions on map projections.
3. Explain the general classes of map projections with specific examples for each class of map projection.
4. Explain horizontal and vertical datum planes used for mapping in North America.
5. Explain the concept of map scale, calculate map scale, and convert between types of map scales.
6. Convert degrees, minutes, and seconds into decimal degrees, and vice versa.

Upon completion of the thesis and the MA in Geography with GIS concentration students should be able to:

1. Explain earth-map relationship and distortions on map projections;
2. Process analog and digital remote-sensing imagery to prepare imagery for analysis;
3. Analyze analog and digital remote-sensing imagery to extract/create new information;
4. Create spatial databases consisting of raster and/or vector data models for GIS analysis and modeling;
5. Use analytical capabilities of ArcGIS, ArcGIS Extensions, and ERDAS IMAGINE in spatial analysis and modeling;
6. Customize ArcGIS and ArcGIS extensions to add specialized functionalities and automate operations;
7. Design a Web map that allows viewers to display and query the layers on the map;
8. Write a master's thesis that integrates remote sensing and GIS to address significant human and/or environmental issues;
9. Organize information into a coherent written and oral presentation.

Methods of Assessment

The *student self-assessment* instrument is distributed to students and students are asked to complete and return them to their instructors. Although some of the questions in this test instrument are open-ended, a judgment is made by the assessment coordinator whether responses by a particular student would indicate *satisfaction* or *dissatisfaction*. If responses to the questions by the majority of the self-assessing students indicate *satisfaction*, the program gets a *satisfactory* grade. If responses to the questions by the majority of the self-assessing students indicate *dissatisfaction*, the program gets *unsatisfactory* grade.

For the **MA in Geography without thesis option**, the two referred/master's papers and the comprehensive examination are evaluated by the graduate committee and a grade of "satisfactory" or "not satisfactory" is assigned by each faculty member to each of the student's work. If there is no consensus among the committee members about the quality of the papers and the results of the comprehensive exam, the committee holds a meeting to reach a consensus; a consensus to assign a grade of "Pass" or to require the student to make improvements..

For the **MA in Geography with thesis option**, a student has to achieve a grade of "B" or better for the assessment instrument embedded in Geog 5860 and the thesis must be accepted as a **pass** by a unanimous decision of the thesis committee members.

For the **MA in Geography with GIS concentration**, the pretest is administered in the first week of an advanced level course and the post test is administered in the last two weeks of the course. An average score of 80% or better is considered a **pass** in both the pretest and the post-test. The **thesis** must be accepted as a **pass** by a unanimous decision of the thesis committee members.

Assessment Findings and Student Learning

During the 2011-2012 academic year, a total of 5 students completed their studies in the three MA options. Two students, Douglas Perzan and Jamila Smith, completed the non-thesis MA

program in Geography; two students, Felicia Beckett and Jessica Goehler, completed the MA program with the thesis option; and one student, Azmath Kamran, completed the MA in Geography with GIS concentration, which requires a thesis.

In response to questions in the *student self-assessment* instrument, MA students without and with the thesis option indicated that they are better researchers, can speak more eloquently about environmental justice, globalization, and social justice, can manage their time better, and are more confident about themselves than a year ago. In response to questions in the *student self-assessment* instrument, GIS students can list a wide range of GIS skills that they learned in the past year, students think they can use GIS more proficiently now than a year ago, and that they are confident that they can teach other people GIS skills they learned in the past year. Overall, the responses by the self-assessing students in the three options indicate satisfaction with the programs and, therefore, the programs receive **satisfactory** grades, but responses to some questions, especially responses to closed-ended questions, suggest that we should and can do better.

For the two students who completed the **MA in Geography without thesis option**, the instruments for the direct assessment of student learning were *referred seminar/master's papers* and a *comprehensive exam*. Both students were highly motivated individuals with generally very good writing skills. The research paper supervisors and instructors who graded the comprehensive exams reported student strengths and weaknesses. Student strengths reported include fairly good to strong writing skills, fairly good to excellent oral communication, good analytical capabilities, and enthusiasm for the subject. Student weaknesses reported include not digging deeper into the literature, difficulty articulating research questions, and time management problem, and difficulty completing activities by due dates. The non-thesis option is currently phasing out; all new students admitted into the MA program will be required to write a thesis. However; a number of students without the thesis option still remain in the program and the option will continue until these students graduate.

For the two students who completed the **MA in Geography with the thesis option**, the instruments for the direct assessment of student learning were Geog 5860, Geographic Inquiry, and the thesis. Geog 5860 was introduced after the two students were admitted into the program and they were not required to take it. For the thesis, both students performed independent research projects involving a large amount of primary research. One of the thesis students organized writing workshops in successive years and analyzed participation and results. To do this, she had to submit her project to the CSU IRB. Both did creative and impressive pieces of work. While the writing quality of the two theses varied, both were very well written. Overall, the biggest problem the thesis students encountered was completing their theses in a reasonable period of time. One of them took ten years to complete the program; she had to file a special petition for the extension of time beyond the 6 years allowed to finish an MA program, while the other student was nearing the six year limit.

For the one student who completed the **MA in Geography with GIS concentration**, the instruments for direct assessment of student learning were pretest/post-test and a thesis. The student took the pretest/post-test in a previous semester and performed exceptionally well; she scored 72% and 96% in the pretest and post-test respectively; $\geq 80\%$ in the post-test is

considered a satisfactory level of performance. In her thesis, the student performed a high level analysis using remotely sensed satellite data.

Decision-making Using Findings

Student weaknesses in research skills and the issue of students not being able to finish their thesis in a reasonable amount of time has been addressed by the addition of a required course, Geographic Inquiry, to the curriculum. This class would help students develop a thesis proposal. Students who completed their thesis this year predated the Geographic Inquiry requirement. It remains to be seen as to whether students who took the course complete more quickly. In addition there has been a renewed advising focus on thesis completion. The department has also made the thesis option compulsory for all MA students whose programs began in fall 2011 or later. This places additional focus on writing skills as well as the ability to complete a large project. It is hoped that the Geographic Inquiry class will help with this, in addition to the now required Thesis I and Thesis II classes for all MA students.

Demonstrating Student Learning

Positive and encouraging responses to questions in the student self-assessment instrument, successful completion of the MA options by 5 students, the quality of research completed by students demonstrated significant student learning and achievement of learning outcomes.

Publicizing Student Learning

The assessment plan and assessment results for the previous academic year were posted at the department web site linked to the Chicago State University's web site. The results or a summary of results for the 2011/2012 assessment will be posted shortly.

Accomplishments and Challenges

Among the major accomplishments related to assessment in our department is that we have managed to keep up with new technologies in GIS, remote sensing, and GPS by upgrading existing hardware and software and by acquiring new ones through various sources of funding, including grants. Our GIS lab has become a tremendous asset for teaching not only GIS and remote sensing courses but also for enhancing the teaching of other graduate and undergraduate courses in Geography, Sociology, History, African American Studies, and Anthropology, and for enhancing the activities of the Neighborhood Assistance Center. Another major accomplishment is the full participation of faculty in assessment activities; faculty have accepted assessment as an important component of the teaching and learning process.

A major challenge of our program is soliciting funds for maintaining GIS and remote sensing software licenses and for continually upgrading software and hardware to keep with new developments. While software and hardware upgrading may be required at least every two years, the kind of money required to do the upgrading may be hard to come by every two years.