

Degrees Available at SIUE

- Master of Science in Geography

Professional Development Sequence

- Geographic Information Systems (GIS)

Geography at SIUE

Geography brings together the natural and social sciences and utilizes geospatial technologies to understand Earth's processes and examine relationships between people and the environment. The breadth of geographic inquiry in the Department of Geography accommodates students who have broad interests and goals. The master's program in geography within the College of Arts and Sciences is designed to provide students with a foundation in geography as well as specialization within one or more of geography's sub-disciplines.

Career Opportunities

A variety of career opportunities await graduates with a degree in geography from SIUE. We offer the only geography program in the St. Louis metropolitan area and as such, our graduates are in demand for positions in the region's growing geo-spatial workforce. Employers include federal and state government agencies; national security contractors; tech companies; engineering firms; utility companies; local and regional governments; agricultural companies; and environmental non-profit organizations. Our geography graduates work as geospatial analysts, cartographers, imagery analysts, urban planners, retail location analysts, climate scientists, resource managers, sustainability consultants and park rangers.

Hands-on Learning

Students at the graduate level have the opportunity to work closely with our diverse faculty on current research projects and are encouraged to gain professional experience through internships. Faculty members specialize in human geography, physical geography and geographic techniques such as cartography, GIS and remote sensing. They are also engaged in research that impacts the local community and beyond.

Global Experience

The graduate program in the Department of Geography has had students from China, India, Nepal, Nigeria and Ukraine, and a number of our faculty members are international. Program coursework often includes international perspectives, and students are encouraged to participate in international research projects.

**Faculty****Graduate Program Director****Michael Grossman, PhD****Professor**Climatology, Hydrology, Physical Geology
and Geography
mgrossm@siue.edu**Professors****Gillian Acheson, PhD**

Cultural Geography, Geography Education

Shunfu Hu, PhD

GIS, Remote Sensing, Physical Geography

Randall Pearson, PhD

Remote Sensing, GIS, Physical Geography

Wendy Shaw, PhD

Social and Cultural Geography, Development

Bin Zhou, PhD

Economic Geography, Asia and China

Associate Professors**Stacey Brown, PhD**

Medical Geography, GIS

James Hanlon, PhD

Urban, Cultural and Historical Geography

Mark L. Hildebrandt, PhD

Meteorology, Climatology

Susan E. Hume, PhDEthnicity and Race, Migration, Urban
Geography**Francis Odemerho, PhD**

Geomorphology, Africa

Assistant Professors**Adriana Martinez, PhD**

Fluvial Geomorphology, GIS

Michael Shouse, PhD

Biogeography, Biogeomorphology, GIS

Curriculum

Students in the graduate program are required to maintain a minimum overall grade point average of 3.0. Should a student earn a grade of C or below in any graduate level course, he or she will be placed on academic probation. Any student earning two grades of C or below in the program will be dropped from the geography graduate program, regardless of GPA. To facilitate the process of student advising and guidance, all applicants must submit a one-page written statement of their graduate education and study plan along with their graduate admissions forms.

Thesis Option:

A minimum of 30 hours is required for the master of science, of which 21 semester hours must be geography graduate-level courses. In addition, at least one half of the required 30 credit hours must be earned at the 500-level. Required courses (12 hours) include: GEOG 520, 521, 522; plus one seminar in geography. Electives (12-15 hours) are additional courses that should be related to the student's needs and interests and faculty expertise. Candidates must complete a thesis while enrolled in GEOG 599 (3 to 6 hours).

Non-Thesis Option:

A minimum of 36 credit hours is required for the master of science, of which 24 semester hours must be geography graduate-level courses. In addition, at least one-half of the 36 required credits must be earned at the 500-level. Required courses (15 hours) include GEOG 520, 521, 522, 598 plus one seminar in geography. Electives (21 hours) are additional courses that should be related to the student's needs and interests and faculty expertise.

In addition, each graduate student, regardless of option selected, must declare a subject area he or she wishes to emphasize. Before enrolling in the second year of study, each student must have selected a subject area advisor and obtained approval from the advisor as well as the graduate director.

Geographic Information Systems (GIS)

The Professional Development Sequences (PDS) in Geographic Information Systems (GIS) were originally developed by the Department of Geography with the support of the Schools of Business and Engineering. Three separate sequences were developed to accommodate the growing demand for practitioners in this new, specialized field which combines geographic information and graphics technology. In addition, since their origination, these sequences have been regularly updated to remain current with advances in technology and the changing needs of many user groups including the social, natural, physical, and applied sciences.

The PDS in GIS is, therefore, valuable to graduate students and professionals from many diverse fields such as economic development, real estate, environmental assessment, resource management, urban and regional planning, public administration, and health services. These course sequences provide the requisite education and training needed to understand GIS methodology and technology, and how to apply it to one's particular field. This methodology is particularly valuable for applications requiring area definition coupled with demographic, environmental, and market research and analysis.

Program of Study

The first PDS (Principles and Concepts of Geographic Information Systems) includes: GEOG 418 (Geographic Information Systems), GEOG 422 (Remote Sensing and Digital Image Processing), GEOG 423 (Computer Mapping), and GEOG 520 (Research Methods in Geography). The second PDS (Applied Geographic Information Systems) is comprised of: GEOG 424 (Vector Based GIS), GEOG 425 (Raster Based GIS), and GEOG 454 (Topics in Geographic Techniques) or GEOG 427 (Internship). The third PDS (Advanced Geographic Information Systems) requires GEOG 522 (Techniques in Geography), GEOG 525 (Seminar in GIS), and GEOG 590 (Independent Study). Depending on the level of GIS education and training desired, a student may take only the first PDS, the first and second PDS, or all three. Completion of each sequence is a prerequisite for enrollment in the next.

Admission

Graduate students who are officially admitted to and in good standing with the Graduate School may enroll in a GIS PDS provided they have the approval of the Geography graduate advisor and PDS coordinator. As long as the student is enrolled in the PDS, the student will have unclassified graduate status. Students desiring to acquire this specialized GIS training through a degree program (geography, business administration, or civil engineering), must follow the procedures necessary for admission to that degree program. A student completing the first PDS may apply up to three courses (nine semester hours) toward the elective hour requirement for a graduate degree in geography, provided the stipulations for transfer credit are met.

Contact Information

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