



WESTERN
ILLINOIS
UNIVERSITY

POST-BACCALAUREATE CERTIFICATE IN GIS ANALYSIS: ECOLOGICAL GIS OR GIS APPLICATIONS

Higher Values in Higher Education

Academic Excellence • Educational Opportunity
Personal Growth • Social Responsibility

The Departments of Biological Sciences and Geography offer this interdisciplinary, skill-based program (Geographic Information Systems or GIS) designed to train students to become qualified GIS analysts in their specific specialty fields or disciplines. Students pursuing this certificate will gain development and confidence in GIS by learning how problems in “my” field are interpreted in GIS, how to model scientifically the geospatial world, how to use GIS tools correctly, how to design and implement a GIS project in “my” field, and how to make high-quality maps and use maps wisely for GIS story-telling. Students will gain GIS expertise from three perspectives of GIS learning: (1) theoretical understanding, (2) skill development, and (3) problem solving by use of cutting-edge ideas and tools.



Program Location: Macomb, Quad Cities

Admission Requirements

Students applying for the certificate must have a cumulative undergraduate grade point average of 2.75 or higher and an undergraduate degree in Biology, Geography, or a related field. Non-degree students seeking the certificate only must meet the admission requirements for the Graduate School; students seeking both a degree and the certificate must meet the admission requirements for their degree program.

Academic Requirements

Students must have a cumulative 3.0 GPA for all coursework required for completion of the certificate. A post-baccalaureate certificate will not be awarded to a student who earns more than 3 semester hours (SH) of “C,” “D,” “F,” or “U” grades in the graduate-level courses required for the completion of the certificate. No course for which a student has received a grade of “D” or less may be used to satisfy certificate requirements. Transfer work or course substitutions are not allowed in the certificate programs. The work required for the certificate must be completed within three calendar years.

If approved by the specific academic department, courses taken to satisfy certificate requirements may be used to satisfy post-baccalaureate degree requirements at the University.

Certificate Requirements

The program requires completion of 18 SH broken into Section A (Ecological GIS) or Section B (GIS Applications). Section A requires 12-SH core courses, and students may select two elective courses (6 SH) to include one from Biology and one from Geography. Section B requires 9-SH core course, and students may select three elective courses (9 SH) from Geography.

Career Opportunities

In the environmental field today, there are few jobs beyond the technician level that do not require a background in Geography Information Systems (GIS). The Illinois Department of Natural Resources, Illinois Environmental Protection Agency, U.S. Army Corps of Engineers, and

U.S. Fish and Wildlife Service all require their mid-level employees to be familiar with the use and application of GIS to their particular missions. Potential career opportunities include the following:

- Resource development
- Environmental consulting
- Landscaping
- Working in state and federal agencies
- Urban planning
- Industrial or urban facility and site development
- Agricultural management
- Crime mapping
- Emergency management
- Climatology

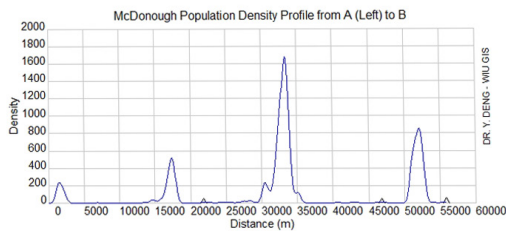
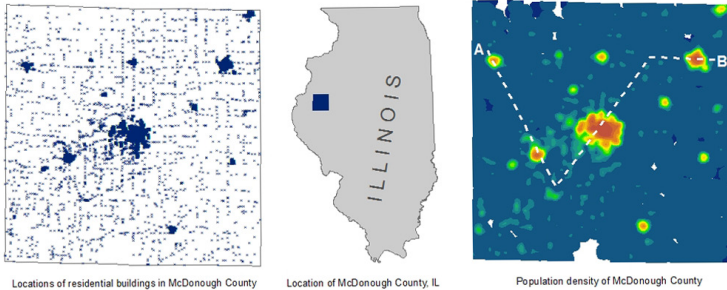
Facilities

The GIS Analysis post-baccalaureate certificate utilizes modern remote sensing/GIS computer instructional labs at the Macomb (Waggoner Hall and Tillman Hall) and Moline (WIU-QC Complex) campuses. ESRI *ArcGIS* software is available for classroom and individual learning, and students are provided with *ArcGIS* student versions for their personal computers.

The Department of Geography houses the GIS Center on the third floor of Tillman Hall. The center is responsible for compiling, managing, and storing GIS data layers. Other facilities include a Remote Sensing/GIS lab with over 30 computers that are fully networked and use ERDAS *Imagine* software. Other software includes ESRI *GIS*, such as *ArcGIS*. Additionally, the department has three wired electronic classrooms plus wireless connectivity throughout Tillman Hall.

The Alice L. Kibbe Life Science Station is a biological reserve of more than 1,600 acres of islands, bluffs, and upland areas in the Mississippi River Valley near Warsaw, Illinois. Its aquatic habitats, forests, and prairies serve as an outdoor classroom for field studies and are used in environmental research. The Cedar Glen Eagle Roost, which is adjacent to the field station, is considered one of the Midwest’s most outstanding

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natural areas and is nationally known as a major winter roosting area for bald eagles. The field station maintains research sites and equipment for sampling on the Mississippi River.

Distinctive Features

- Students will be taught correct use of GIS over a broad range of real-world problems, including both environmental (including ecological) and socioeconomic applications, many of which share similar GIS principles, methods, and tools.
- There is an emphasis on a modeling-oriented GIS approach to guide students through a three-step procedure of (1) understanding and conceptualizing the problem in GIS, (2) representing the problem in GIS, and (3) analyzing the problem using GIS techniques.
- Students are trained to use GIS wisely based on a solid understanding of this science, including its principles, methodologies, tools, and limitations.

Contact Information

For admissions process and general program information, contact the School of Graduate Studies, Western Illinois University, 1 University Circle, Macomb, IL 61455, (309) 298-1806, Grad-Office@wiu.edu, wiu.edu/grad.

For specific program questions, contact Dr. Charles Lydeard, Department Chairperson, Department of Biological Sciences, Western Illinois University, 1 University Circle, Macomb, IL 61455, (309) 298-1546, C-Lydeard@wiu.edu, wiu.edu/biology, or Dr. Samuel Thompson, Department Chairperson, Department of Geography, Western Illinois University, 1 University Circle, Macomb, IL 61455, (309) 298-1648, S-Thompson@wiu.edu, geography@wiu.edu, wiu.edu/geography.

