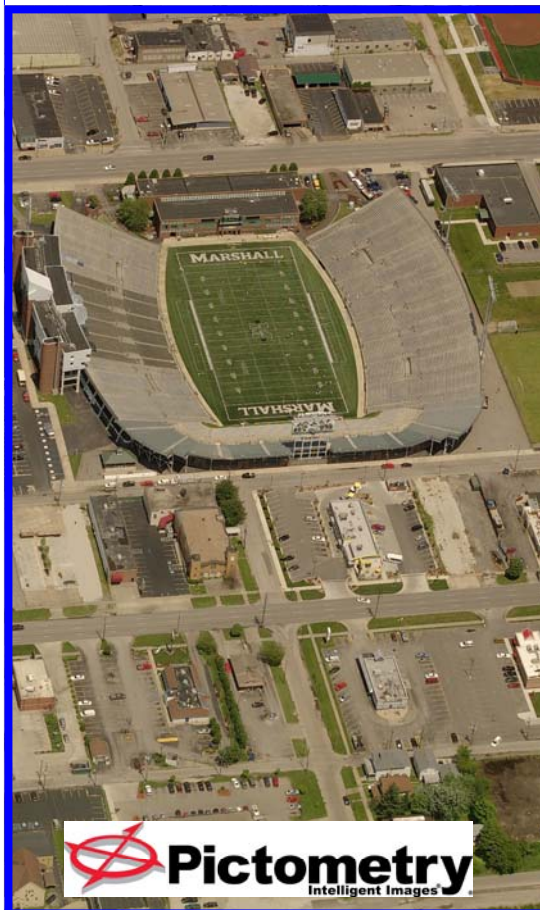


Geospatial Information Science

Graduate Certificate



Oblique aerial photograph
Marshall Stadium, Huntington, WV
Image courtesy of Pictometry, Inc.

Geospatial Information Science is a research field utilizing computer technology for presentation and analysis of all types of science and social science data referenced to the earth's surface. GIScience uses an infinite variety of mapped data, aerial photographs, digital elevation models, satellite imagery, and more to solve problems and answer questions.

Students who complete the requirements for the certificate should be able to:

- perform basic and advanced GIScience techniques using vector and raster data;
- apply GIScience to display, support, and analyze research questions in the social or natural sciences;
- collect and create GIScience data using various technologies and softwares;
- employ and evaluate geographic concepts such as projections, coordinate systems, and scale;
- recognize and apply computer science concepts such as data collection, representation, queries, and storage; and
- enter GIScience employment or continue GIScience work at the graduate level.

A graduate certificate in Geospatial Information Science consists of a minimum of 12 hours in courses designated as GIScience Courses, including regularly offered courses as well as special topics courses. Students must take courses from at least two different departments for a GIScience certificate.

GIScience Courses:

- BSC510/PS510 Remote Sensing with GIS Applications (4 hrs.)
- BSC511/PS 511 Digital Image Processing and Computer Simulation Modeling (4 hrs.)
- ES626 Remote Sensing and Map Use (3 hrs.)
- GEO526 Principles of GIS (4 hrs.)
- GEO529 Intermediate GIS – Vector Analysis (3 hrs.)
- GEO530 Intermediate GIS – Raster Analysis (3 hrs.)
- GEO531 Analysis of Digital Airborne and Space-Based Imagery (3 hrs.)
- GEO631 Advanced GIS Projects (3 hrs.)
- GEO690 Internship (3 hrs.; must be GIScience approved in advance to qualify)
- IS645 Geographic Information Systems (3 hrs.)
- Special Topics courses as approved by the GIScience Curriculum Committee

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