Welcome

Geographic Information Science (GISci) is one of the fastest growing technical fields worldwide. To meet the increasing demand for advanced training in GISci, Central Michigan University provides a master’s degree in this dynamic field of study and a graduate certificate program in Data Mining, in which GISci plays a significant role.

The master’s degree in GISci provides advanced coursework and applied research in cartography, geographic information systems (GIS), and remote sensing. Graduate students enrolled in CMU’s GISci program develop skills that will qualify them for a variety of spatial data processing and analysis positions.

Since its inception in 2002, employment for our MSGISci Program students has been close to 100% in their chosen field.

Topics covered in the master’s program include geographic information systems application development, geographic visualization and animation, spatial database management, web mapping, and advanced digital image analysis.

Geography at CMU

The Master of Science in Geographic Information Science is a 33 credit hour program. Each student will complete a thesis or research project that applies GISci techniques to economic, environmental, or other fields of study that require spatial data processing and analysis.

To complete the program, students are required to take 21 semester hours in cartography, GIS, digital remote sensing, quantitative methods, spatial data management, dynamic mapping, and GIS design. Electives are selected from technical courses such as computer science or statistics, or from cognate disciplines such as political science or geology.

Admitted students will select either a Plan A option (thesis) or Plan B option (non-thesis). Under Plan A, six credits of thesis work are required. Under Plan B, three credits of a directed research project are required.

Required Courses I (15 hours)

- GEO 500 - Advanced Cartography 3 (2-2)
- GEO 503 - Geographical Information Systems 3 (2-2)
- GEO 508 - Digital Remote Sensing 3 (2-2)
- GEO 512 - Quantitative Methods for Spatial Analysis 3 (2-2)
- GEO 615 - Research Design in GIS 3 (3-0)

Required Courses II (6 hours)

Select two courses from the following:

- GEO 600 - Dynamic Mapping and Visualization 3 (2-2)
- GEO 603 - GIS Design and Programming 3 (2-2)
- GEO 608 - Advanced Digital Remote Sensing 3 (2-2)
- GEO 701 - Contemporary Spatial Data Management 3 (2-2)

Additional Requirement (3-6 hours)

Select either Plan A (Thesis) or Plan B (Directed Research)

- Plan A Thesis (6 hours)
- Plan B Directed Research (3 hours)

Electives (6-9 hours)

Two or three 500 to 700 level courses in a technical or cognate field(s) in consultation with advisor.

Technical courses might include relevant Computer Science, Mathematics, and/or Statistics courses or Special Topics courses in Cartography, Geographic Information Systems, Global Positioning System (GPS), or Remote Sensing.

Cognate courses might include relevant Biology, Earth Science, Geography, Geology, Political Science, or other courses that would complement the student’s area of specialization. A student must receive a minimum grade of C in each elective course.

Total: 33 semester hours
Accelerated Master’s

Central Michigan University offers an Accelerated Master’s Degree Program for undergraduate students at CMU. Admitted students are allowed to reduce the total number of credits to complete their graduate level degree by applying up to 12 credits (500 and 600 level courses) towards graduate requirements on both undergraduate and graduate degree programs.

To be admitted into the Accelerated Master’s Degree Program, the applicant must be an undergraduate student at CMU. See the CMU Graduate Bulletin for additional information.

An interdepartmental graduate certificate is also available in Data Mining. For information on the Graduate Certificate in Data Mining, please see the CMU Graduate Bulletin.

GISci Program Facilities

The Department of Geography maintains a variety of excellent facilities that are used in the education of graduate students, including two large GISci computer laboratories with state-of-the-art computers and pertinent software/hardware. CMU also provides campus-wide licensed GISci software and access for students.

The Center for Geographic Information Science Established in 1994, CMU’s Center for Geographic Information Science provides geospatial solutions and research tools to the university, government entities, and private industry.

The Center is staffed by permanent personnel and research associates specializing in all aspects of GIS, remote sensing, cartography, and GPS. Students are also an integral component of the Center and benefit by acquiring direct GISci experience that enriches their education and prepares them to successfully transition into a professional setting after graduation.

Graduate Admission

Students entering the GISci master’s program are required to have a sound knowledge of the fundamental concepts of cartography, geographic information systems, and remote sensing.

Applicants are also expected to have a basic knowledge of a computer language, calculus, and statistics as these are important skills in understanding, manipulating, and developing analytical methods and algorithms that are the foundations of advance training in Geographic Information Science.

All applicants must submit scores for the general GRE. Also, a minimum GPA of 3.0 is required for admission into the graduate program.

Financial Assistance

Financial assistance is available through graduate fellowships and graduate assistantships. Information about financial aid is available online from the College of Graduate Studies (see www.grad.cmich.edu) and the Office of Scholarships and Financial Aid (see financialaid.cmich.edu).

Graduate Assistantships are allocated through the Department of Geography. To receive full consideration for financial support beginning in a fall semester, all application materials must be received in the Department no later than March 1st. Applicants should allow approximately one month for materials submitted to the College of Graduate Studies to be processed and forwarded to the Department.

Apply Online

http://apply.cmich.edu

For More Information

Department of Geography
Director of Graduate Studies
Dow Science Complex 296
Central Michigan University
Mount Pleasant, MI 48859
Telephone: (989) 774-3323
Contact: Dr. Tao Zheng
Email: zheng1t@cmich.edu

www.geo.cmich.edu

CMU is an AA/EO institution, providing equal opportunity to all persons, including minorities, females, veterans and individuals with disabilities. See www.cmich.edu/aaeo.