GEOSPATIAL ANALYSIS AND MAPPING

The Geospatial Analysis and Mapping (GAM) Program at the University of Michigan-Dearborn supports and promotes the application of geospatial technologies in education, research, and community service.

Place-based technologies are ubiquitous, from location services on Smartphones to spatial-decision support systems that guide applications in business, government, utilities & communication, natural resources, public safety, transportation, education, health & human services, and even digital humanities. It is not hard to see how place influences your particular area of study or practice! Because of the broad array of geospatial technology across a variety of disciplines and fields, people from diverse backgrounds and interests can benefit from gaining experience in GIS and Remote Sensing.

The courses required for the program are "hands-on", balancing the development of skill and confidence with the knowledge to solve complex spatial and temporal problems. Most of the courses are project-based, where students use GIS, or develop tools, to solve real world problems; thus, when finished, students have a portfolio of deliverables that reflect newly acquired technical and critical thinking skills.

The GAM Certificate provides students with the experience and knowledge in the theory and application of GIS and remote sensing. Students learn the basic components of GIS and spatial data, understand problems that arise in the data acquisition and analysis and develop a sound background in cartographic principles. Many students could increase their marketability with a GAM certificate. This includes (but is not limited to) careers in public health, criminal justice, sociology, economics, social and natural science education, computer engineering, Earth and environmental science or studies, urban and regional studies, and anthropology/archaeology.

Most courses are offered in the evening, such that non-degree seeking students can attend; several are also hybrid in design with online lecture and laboratory sessions on campus.

Students of any UM-Dearborn major with a GPA of 2.5 or higher can apply for this program. Non-degree seeking postgraduates must apply through the CASL Campus Option Program.

Our Alumni

Students who have participated in this program have received internships/employment at Michigan Department of Transportation (MDOT), Michigan Tech Research Institute, numerous consulting firms (i.e. FTC&H), municipalities (i.e. Livonia, Novi), and private organizations. Additionally, several graduates have continued their GIS education in reputable postgraduate programs throughout the U.S.

Contact us

Please visit the GAM webpage (https://umdearborn.edu/academics/program/geospatial-analysis-and-mapping-certificate/) for more information.

Certificate Requirements

Code	Title	Credit Hours
Core Courses (12 credit hours):		
GISC/GEOG 302	Mapping Our World	4
GEOL/ESCI/ GEOG 305	Intro to GIS	4
GISC 440	Advanced GIS	4
Electives (8 credit hours):		
Choose from any of the following:		8
GISC 340	Remote Sensing	
GISC 385	GIS Internship [1]	
GISC 485	Spatial Analysis and GIS	
GISC 498	GIS Independent Study	
GISC 499	GIS Research	
Total Credit Hours		**20**

[1] GISC 498 (Independent Study) or GISC 499 (Laboratory and Field Research) or GISC 385 (Internshp) credits must be approved by GAM Program Director by Petition.

NOTES:

1. A minimum of 2.5 cumulative GPA and sophomore standing are required for admission to the program.
2. A maximum of four credit hours of transfer coursework may be counted toward the minimum 20 credit hours required for the program by Petition to the Program Director.
3. A maximum of 8 credit hours of Independent Study, Directed Research or Geospatial Internship may be counted toward the program and must be approved by the Program Director, by Petition, prior to completion.
4. A minimum 2.0 GPA in the UM-Dearborn courses counting toward the GAM certificate is required at the time of graduation and/or posting of the certificate.