

# Graduate Programs in GEOGRAPHIC INFORMATION SYSTEMS



**Master's in Professional Studies:**  
Geographic Information Systems

**Post-Baccalaureate Certificate:**  
Geographic Information Systems

## **GIS - a professionally-focused, relevant and practical graduate degree**

- » With an estimated growth rate of 35-40 percent per year, the GIS job market is in need of qualified and experienced professionals to help design, implement, operate and manage geographic information systems.
- » Geographical Information Science is one of the fastest expanding areas in information technology.
- » A background and knowledge base in GIS can work in a variety of fields including energy, public health, urban planning, civil engineering, environmental science, archaeology and landscape architecture.

## **When you choose UMBC Professional Programs, you can count on:**

- » A curriculum that covers all aspects of the GIS profession: web development and cloud computing, GIS application development, spatial databases, and enterprise systems implementation and management.
- » Programs that are led by a distinguished faculty of practitioners in the field.
- » Flexible evening class schedule that accommodates working professionals.
- » Classes offered in a flexible format, designed for busy working professionals, with hybrid and in-person classes offered in the early evening.
- » Wide-ranging resources offered at a top-notch public research university.

## **Why UMBC?**

- » The 2017 *U.S. News & World Report Best Colleges* guide ranks UMBC in the top five on its closely-watched Most Innovative Schools list and has recognized UMBC as a global leader in higher education.
- » UMBC provides a comprehensive and quality education at a manageable cost.



[umbc.edu/gis](http://umbc.edu/gis)

### **For Program Information:**

Dr. Erwin Villiger  
Program Director  
[villiger@umbc.edu](mailto:villiger@umbc.edu) | 301-738-6087

### **For Application Information:**

Ms. Rickeysha Jones  
Program Coordinator  
[rcjones@umbc.edu](mailto:rcjones@umbc.edu) | 301-738-6285

## Admission Requirements

### M.P.S.:

- » B.A. or B.S. in Geography, Computer Science or Information Systems or a bachelor's degree in a related field with GIS-related work experience
- » Working knowledge of Geographic Information Systems
- » Students with a GPA less than 3.0 may be admitted to the MPS program provisionally or to the Graduate Certificate program.
- » GRE is not required

### Graduate Certificates:

- » B.A. or B.S. in Geography, Computer Science or Information Systems or a bachelor's degree in a related field with GIS-related work experience
- » Working knowledge of Geographic Information Systems
- » Minimum undergraduate GPA of 3.0 on a 4.0 scale
- » GRE is not required

### International Applicants:

Please visit [umbc.edu/shadygrove/gis/international](http://umbc.edu/shadygrove/gis/international) for detailed admissions information for international applicants.

- » Please pay special attention to English proficiency and testing requirements

## Admission Deadlines

**Fall:** August 1

**Spring:** December 1

For detailed application process please visit: [umbc.edu/gis](http://umbc.edu/gis)

## Office of Professional Programs

UMBC's Office of Professional Programs offers a broad array of professionally focused master's degree and certificate programs that address industry needs while anticipating future opportunities.

[umbc.edu/professionalprograms](http://umbc.edu/professionalprograms)

## Master's Program

### Master's in Professional Studies (M.P.S.):

### Geographic Information Systems

**30 Credits (10 courses)**

### Required Courses 18 Credits

GES 670: Advanced Seminar in GIS

GES 671: Spatial Database and System Design

GES 673: Geoprocessing and Spatial Analysis

GES 675: GIS Application Development

GES 678: Project Management of the Enterprise GIS

GES 679: Professional Seminar on Geospatial Technologies

### Elective Courses (Select 4) 12 Credits

GES 770: Special Topics in Enterprise GIS

GES 771: Advanced Spatial Data Management

GES 772: Geospatial Web Services and Interoperability

GES 773: GIS Modeling Techniques

GES 774: Spatial Statistics



GES 775: Advanced GIS Application Development

GES 776: GIS Data Sources, Tasking, and Acquisitions

GES 777: Advanced Data Modeling and Editing Techniques

GES 778: Advanced Visualization and Presentation

## Certificate Programs

### Post-Baccalaureate Certificate:

### Geographic Information Systems

**15 Credits**

GES 670: Advanced Seminar in GIS

GES 671: Spatial Database and System Design

GES 675: GIS Application Development

GES 679: Professional Seminar on Geospatial Technologies

Choice of one GIS Elective Course

*\*All credits earned in this graduate certificate may be applied to the Master of Professional Studies (M.P.S.): Geographic Information Systems.*

