



## Bachelor of Science in Environmental Studies Geographic Information Systems Concentration

### **Do you love cyberspace and the great outdoors?**

How do you combine an interest in computers and the environment? Geospatial technology is the answer. Environmental and outdoor professionals with high tech mapping and GPS skills are needed in careers all over the world. Put your digital skills to work to help the environment! New programs and state-of-the-art facilities at UMM give you the knowledge, experience and skills you need for a fun and fulfilling career.

### **What is GIS?**

You may not know it, but geographic information systems (GIS) technology is everywhere! Have you ever used web-based map services like Google Maps or MapQuest? Have you ever used a GPS in your car, cell phone or on a camping trip? Have you ever tracked a package en route to you via a delivery service like UPS or FedEx? If you answered yes to any of these questions, you have used GIS technology. GIS refers to computer software, hardware, data, and methods that allow users to easily collect, store and manage map information, create maps, and analyze spatial relationships. With GIS, you can ask geographic questions, solve geographic problems, and communicate geographic ideas. It's used in government, education and the private sector.

**GIS professionals are in demand!** The U.S. Department of Labor classifies geospatial technology as one of the 12 fastest growing industries. In environmental and outdoor recreation fields, applicants with GIS skills are in increasing demand, making them more competitive in today's tough job market.

### **What's the UMM advantage? Real projects, real experience!**

Our GIS courses stress hands-on service learning along with relevant theory. You'll get practical experience addressing real world problems and questions. You'll get to test your mapping and geospatial analysis skills in projects with local organizations, companies or agencies, providing valuable services while learning to apply GIS in the real world. By graduation you'll be prepared for a job. Here are a few recent student projects at UMM:

- Students and interns have collaborated with local land trusts to map resources like vital habitat, working farms and waterfront, and scenic vistas.
- Students developed a set of maps to help the Town of Machiasport manage their harbors, shorelines, and clam flats.
- The Town of Jonesboro is using maps designed by students to create a comprehensive plan.

### **Environmental Studies with GIS Concentration Course Requirements**

#### **General Requirements**

All University Core requirements must be met, in addition to the Environmental Studies requirements. Note that completion of some courses within the major, such as in mathematics, will also fulfill core requirements.

A minimum cumulative Grade Point Average (GPA) of 2.00 in the program requirements is necessary for graduation. This GPA must be achieved by the completion of a total of 60 credits. If the student fails to maintain this average in subsequent semesters, a warning may be issued. The student may lose matriculated status if the average remains below 2.0 after the completion of another 12 credits. A student may petition to be readmitted to the program.

### **GIS requirements**

#### Required courses:

GIS 230 Geographic Information Systems Applications (GIS) I – 4cr  
GEO 101 Introduction to Geography or equivalent (offered online only) – 3cr  
GIS 330 Geographic Information Systems Applications (GIS) II – 4cr  
GIS 201 Global Positioning Systems (GPS) – 1 or 2cr

#### Choose two (all require GIS 1 & GIS 2 as prerequisites):

Advanced Projects in Geographic Information Systems (GIS) 4cr  
Community Applications of Geographic Information Systems 4cr  
Remote Sensing and Image Analysis 4cr  
Geostatistics 4cr  
GIS Application Development 4cr  
GIS Internship – 3cr

### **Environmental Studies Requirements**

ANT 212 Environmental Anthropology – 3cr  
ANT 313 Political Ecology or POS 305 Environmental Policy – 3cr  
BIO 111 General Zoology – 4cr  
BIO 112 General Botany – 4cr  
BIO 245 General Ecology – 4cr  
CHY 101 General Chemistry I – 4cr  
CHY 102 General Chemistry II – 4cr  
ECO 223 Environmental Economics – 3cr  
ENV 112 Environmental Issues – 3cr  
ENV 2XX Scientific Writing and Presentation – 2cr  
Environmental Studies: Issues and Actions – 8cr  
Four Year rotation of themes such as:

- Energy
- Climate Change
- Sustainable Agriculture/Communities
- Local Environmental Issues

MAT 215 Applied Statistics or MAT 113 Intro to Statistics – 3-4cr

### **Why study Environmental Studies and GIS at UMM?**

We offer programs designed to meet the specific needs of growing industries with a need for technically skilled professionals.

UMM's programs are hands-on! Beyond your classroom studies you will have opportunities to pursue practical, work-based learning

***Not ready to commit to a four-year degree program?***  
*Through our partnership with Washington County Community College in Calais, you can earn an Associate of Science in GIS Applications in just two years. Contact us to learn more!*

experiences. This can either be through service projects, cooperative education or internships, all for college credit. You could find yourself working at a government agency, an environmental consulting firm, a local non-profit, an industrial plant, a national park, or a wildlife refuge.

**Our faculty focus on you!** UMM faculty specialize in getting you outdoors! Faculty are your advisors and guide you in structuring and completing the program which best suits your interests and career goals. Course offerings are rigorous and of the highest quality, and from the very beginning, you'll work closely with your professors in the classroom, lab, and field. At UMM we take a personal approach to education.

**A unique curriculum, an extraordinary place, an affordable price.**

UMM is at the headwaters of the Machias River Estuary. We're surrounded by forests, fields, blueberry land, lakes, rivers and the Atlantic Ocean. Nearby are Acadia National Park, Moosehorn National Wildlife Refuge, and the Bay of Fundy. The region is home to bald eagles, peregrine falcons, and many species of whales, including the endangered North Atlantic right whale. You can literally step out of the classroom and into an unspoiled natural laboratory.

All our programs are environmentally aware and community-centered, and all at an affordable price. Our campus community is close-knit and nurturing. Students work directly with faculty, often participating in their research projects. State-of-the-art computer facilities and distance learning technology support learning and link us worldwide.

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with GIS Concentration  
University of Maine at Machias



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