Potential Careers

NMU’s Geomatics Program prepares students for employment in the public, private, and nonprofit sectors in fields such as planning, management, research, assessment, technology innovation, and education. Careers include, but are not limited to:

Occupations
- Authorized Software Instructor
- Cartographer
- Engineer
- Geographer
- Geoscientist
- Landscape Architect
- Mapping Technician/Consultant
- Natural Resources Specialist
- Photogrammatrist
- Researcher
- Resource Manager
- Surveyor

Additional Resources and Info

For Career Planning and Opportunities:
Academic & Career Advisement Center
3302 C.B. Hedgcock
906-227-2971
www.nmu.edu/acac

Earth, Environmental, & Geographical Sciences Dept.
3001 New Science Facility
eegs@nmu.edu
906-227-2500
www.nmu.edu/eegs

For Job Search, Resume and Career Information:
Career Services
3502 C.B. Hedgcock
906-227-2800
www.nmu.edu/careers

For Information about NMU Student Organizations Associated with this Major Contact:
Center for Student Enrichment
1206 University Center
906-227-2439
www.nmu.edu/cse

Internet Resource Links:
- www.careers.org
- www.careerresource.net

For Career Information with National Organizations:
- www.urisa.org Urban and Regional Information Systems Association
- www.gita.org Geospatial Information & Tech Association
- www.acsm.net American Congress on Surveying and Mapping
- www.gis.com Your Internet Guide to GIS
- www.aag.org Association of American Geographers
- www.gjc.org GIS Jobs Clearinghouse
giscareers.com

Current as of Fall 2013
Provided by:

The Academic & Career Advisement Center
Geomatics

Arre you good with maps? Do you enjoy working with computers? Would you be interested in an area that allows you to work with both geographical data and current technology? NMU’s Geomatics major might be just what you are looking for.

Geomatics combines the technical and graphical areas of geography to solve everyday problems. By using past and present geographical data, scientists use today’s leading computer technology to manipulate spatial data into useful information. Encompassing a broad field, Geomatics utilizes knowledge in several areas including cartography, remote sensing, photogrammetry, computer science, and Global Positioning System (GPS). At NMU, the Geomatics major provides students with knowledge and skills related to information technology, spatial data management, analysis, and visualization.

Skills and Competencies

As in most other fields, strong interpersonal communication and organizational skills are a must for any professional. Some other valuable skills and competencies specific to a profession in the Geomatics area include critical thinking, mapping and remote sensing, leadership abilities, and data analysis.

You should also have skills in the following: software (e.g., ESRI, Leica Geosystems, ArcInfo); hardware (e.g., GPS, digitizer, LIDAR, SAR, camera); data (e.g., Digital Globe, OrbiView, Space Imaging); facility/utility (e.g., phone, power, water, cable); and application development (e.g., MapQuest, GoogleEarth.)

Course Work

This degree includes the following courses as part of the program requirements, and specific major requirements along with liberal studies and graduation requirements.

Core
ENV 101 Introduction to Environmental Science (4 cr.)
CIS 250 Systems Analysis and Design (4 cr.)
CS 101 Website Construction (4 cr.)
GC 100 Physical Geography (4 cr.)
GC 164 Human Geography (4 cr.)
GC 205 Introduction to Geographic Research (4 cr.)
GC 225 Introduction to Maps (2 cr.)
GC 235 Quantitative Methods (4 cr.)
GC 335 Geographic Information Systems (4 cr.)
GC 337 Computer Cartography (4 cr.)
GC 425 Remote Sensing (4 cr.)
GC 428 Spatial Analysis (4 cr.)
GC 489 Human Impact Upon the Environment (4 cr.)

Electives
Choose 8 credits from the following:
AD 118 Introduction to Graphic Communications (4 cr.)
CIS 464 Database Management Systems (4 cr.)
CS 120 Computer Science I (4 cr.) or
CS 120A Accelerated Computer Science I (4 cr.)
CS 122 Computer Science II (4 cr.)
CS 201 Programming in C++ (3 cr.)
CS 222 Data Structures (4 cr.)
CS 326 Object-Oriented Design (3 cr.)
CS 422 Algorithms Design and Analysis (3 cr.)
CS 460 Advanced Web Programming (3 cr.)
CS 442 Advanced Networking (3 cr.)
DD 100 Technical Drafting & Introduction to CAD (4 cr.)
DD 110 CAD Productivity and Customization (2 cr.)
GC 445 Adv. Aerial Photograph Interpretation & Photogrammetry (2 cr.)
GC 455 Digital Image Processing (2 cr.)
GC 491 Internship (2-6 cr.)

You should begin the resume-building process as soon as you can. The Academic and Career Advisement Center can assist you with career planning, while Career Services will help you fine tune your resume and look for jobs related to your field. In the meantime, the more hands-on experience you have, the better the chances are that you will find a job. Becoming involved in a Geomatics-related internship is a way to develop your professional skills and gain experience. Your academic course work is important as well, so be sure to maintain a high grade point average.

Career Development

You should begin the resume-building process as soon as you can. The Academic and Career Advisement Center can assist you with career planning, while Career Services will help you fine tune your resume and look for jobs related to your field. In the meantime, the more hands-on experience you have, the better the chances are that you will find a job. Becoming involved in a Geomatics-related internship is a way to develop your professional skills and gain experience. Your academic course work is important as well, so be sure to maintain a high grade point average.

Additional Considerations

Internship opportunities are available for many of the jobs listed, and field experience will be quite beneficial.

Job Outlook

Starting salaries are contingent upon geographic location and the individual applicant’s work experience and initiative, and usually range from $30,000 to $55,000. This field is expected to grow faster than average, expanding at a 22% growth rate. Visit www.bls.gov/ooh for more information.