Earth Science

Have you ever wondered why the earth appears as it does? Do you enjoy the outdoors? Are you concerned about the environment? Do you like to analyze things? If you answered "yes" to most of these questions, then Earth Science could be the major made for you.

Earth Scientists gather and interpret data about the earth to improve our quality of life. They provide basic information to society for problem solving, environmental protection, establishing policies, and public health, safety, and welfare. By applying logic and reasoning, along with knowledge of the forces that shape the earth, geoscientists can reconstruct the past and anticipate the future.

The Earth Science major at NMU provides students with a thorough knowledge of Earth's physical environment including its geology, weather and climate, astronomical relationships, and hydrology. The Earth, Environmental, and Geographical Sciences Department at Northern provides students with ample opportunity to gain excellent field experience, locally and abroad.

With a degree in Earth Science, students are able to work as explorers for new resources, consultants on engineering or environmental problems, researchers, teachers, and more. One of the attractive benefits of working in the earth sciences is that the work is often a mix of indoor and outdoor activities.

Skills and Competencies

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

Course Work

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

Core (52 cr.)

GC100 Physical Geography (4 cr.)
GC205 Introduction to Geographic Research (4 cr.)
GC225 Introduction to Maps (2 cr.)
GC235 Quantitative Methods (4 cr.)
GC255 Physical Geology (4 cr.)
GC385 Weather and Climate (4 cr.)
GC390 Oceanography (2 cr.)
GC465 Hydrology (4 cr.)
GC488 Earth and Environmental Science Capstone Research (4 cr.)

Choose 4 credits from the following:

GC202 Soils (4 cr.)
GC210 Earth Hazards (4 cr.)
GC285 Earth's Climate: Past, Present, & Future (4 cr.)

GC491 Internship (2-6 cr.)

Choose 8 credits from the following:

GC365 Historical Geology (4 cr.)
GC370 Geomorphology (4 cr.)
GC376 Field Geology (4 cr.)

Choose 8 credits from the following:

GC335 Geographic Information Systems (4 cr.)
GC425 Remote Sensing (4 cr.)
GC445 Advanced Aerial Photograph Interpretation and Photogrammetry (4 cr.)
GC455 Digital Image Processing (2 cr.)
GC492 Research in Water Science (2 cr.)

Other Required Courses

AS103 Obs. and Solar System Astronomy (4 cr.)
CH111 General Chemistry I (5 cr.)
CH112 General Chemistry II (5 cr.)
MA161 Calculus I (4 cr.)
PH201 College Physics I (5 cr.) or PH 220 Intro. to Physics I (5 cr.)

Detailed course descriptions can be found at www.nmu.edu/bulletin.

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 an earth-science 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 excel in your courses and visit your instructors during office hours if you have questions.

Additional Considerations

Additional education, work experience, and specific training may be necessary for some occupations.

Take advantage of internship opportunities to gain experience with the profession.

Job Outlook

Starting salaries are contingent upon occupation, geographic location and the individual applicant's work experience and initiative. Employment of earth scientists is expected to grow at a faster-than-average rate of about 8%, depending on the field of work. Visit www.bls.gov/ooh for more information.

Potential Careers

NMU's Earth Science Program prepares students for employment in the following careers:

- Atmospheric Scientist
- Educator
- Environmental Consultant
- Geographer
- Geologist
- Geomorphologist
- Geoscientist
- Hydrologist
- Natural Hazards Scientist
- Natural Resources Specialist
- Researcher
- Resource Explorer
- Soil Scientist
- Surveyor

Additional Resources and Information

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

Earth, Environmental, & Geographical Sciences
3001 Weston Hall
906-227-2500
eegs@nmu.edu
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

Rock & Mineral Club
eegs@nmu.edu

Internet Resource Links:
www.careers.org
www.bls.gov/ooh

For Career Information from National Organizations:

www.geosociety.org -Geological Society of America
www.nrcs.usda.gov -Nat. Res. Conservation Service
www.agiweb.org -American Geological Institute
www.aag.org -American Association of Geographers
www.amergeog.org -Am. Geographical Society
www.sca-inc.org -Student Conservation Assoc.
www.earthscienceworld.org/careers
https://gammathetaupsilon.org/

NORTHERN MICHIGAN UNIVERSITY
MARQUETTE, MICHIGAN

The Academic & Career Advisement Center
2022

What to do with a major in...

Earth Science