Earth Science BA  
2013-2014

Earth Science is the study of the composition, structure, and history of the Earth and of the processes that operate on and within it, with emphasis on the crust, oceans and atmosphere. Earth Scientists are employed in a wide range of fields, including exploration for and development of natural resources (hydrocarbons, minerals, groundwater), environmental science, urban planning, education, oceanography, and other areas related to natural science. Potential employers include the oil, gas, and mineral industries, environmental consultants, federal and private research institutions, universities, schools, and government agencies. An advanced degree is usually required for a career in research or teaching.

Major Requirements:

MATH 1271 & 1272—Calculus 1 & 2  
PHYS 1301W & 1302W—Introductory Physics for Science and Engineering 1 & 2  
CHEM 1061/1065 & 1062/1066—Chemical Principles 1 & 2  
ESCI 2201—Solid Earth Dynamics (prerequisite or concurrent—Phys 1301W)  
ESCI 2202 – Earth History  
ESCI 2203 – Earth Surface Dynamics  
ESCI 2301—Mineralogy (prerequisite or concurrent—Chem 1061/1065 & Math 1271)  
ESCI 3202—The Fluid Earth (prerequisite —ESCI 2201)  
ESCI 3303W – Geochemical Principles  
ESCI 3891 – Field Methods  
ESCI 3911—Introductory Field Geology  
ESCI 4911- Advanced Field Geology or ESCI 4971W Field Hydrogeology  

9 or more elective credits:  
ESCI 2302—Petrology (prerequisite—ESCI 2301)  
ESCI 4501—Structural Geology (prerequisite —ESCI 2302 & 2201)  
ESCI 4602—Sedimentology and Stratigraphy (prerequisite—ESCI 2203 & 2301)  
ESCI 2xxx-5xxx (any)

Recommended program: This program is dependent upon placement in the appropriate courses. Please see your adviser to determine the correct courses for you to be taking. It is not advisable to take courses other than the ones into which you have placed. Sophomore Earth Science courses may be able to be taken concurrently with background courses.

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>Freshman</td>
<td>CHEM 1061/1065 (4) MATH 1271 (4)</td>
<td>CHEM 1062/1066 (4) MATH 1272 (4)</td>
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<tr>
<td>Sophomore</td>
<td>PHYS 1301W (4) ESCI 2201 (4) ESCI 2301 (3)</td>
<td>PHYS 1302W (4) ESCI 2202 (4) ESCI 2203 (3)</td>
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<td>ESCI 2302 (3) suggested elective ESCI 3891 (1)</td>
<td>ESCI 2302 (3) suggested elective ESCI 3891 (1)</td>
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<td>Summer</td>
<td>ESCI 3911 (4)</td>
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<td>Junior</td>
<td>ESCI 3202 (3) ESCI 3303W (4)</td>
<td>ESCI 4602 (3) suggested elective</td>
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<td>ESCI 4501 (3) suggested elective</td>
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<tr>
<td>Summer</td>
<td>ESCI 4911 or 4971 (4)</td>
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<tr>
<td>Senior</td>
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Students take field courses (ESCI 3911, 4911 or 4971W) during the junior or senior year.

How to declare the Earth Science major:

Contact the Department of Earth Sciences in 104 Pillsbury Hall, 612-624-1333, to schedule an appointment to meet with the Earth Science major adviser to declare the major.
Resources

For more information about Earth Sciences, check out the Department website at www.geo.umn.edu/.

Career and Community Learning Center

CLA Career Services located in 411 Science Teaching and Student Services (STSS), supports CLA students making career decisions. The office’s Resource Library in 411 STSS is open from 8:00am-4:30pm Monday-Friday, and no appointment is necessary. Resources include information about graduate schools and employment. Workshops are offered that cover resume writing, job and internship searches, interviewing, and other subjects. A current schedule is available online at www.clacareer.umn.edu.

Volunteer Resources

The Community Service-Learning Center office is located in 240 Appleby. Advisers are available to meet with students who wish to arrange volunteer opportunities or who wish to enroll in classes that involve service-learning. For more information, see www.servicelearning.umn.edu or call (612) 624-2044

Possible Areas of Employment

- **Government**—urban planning, public information, research
- **Business**—positions in oil, gas, or mineral industries, environmental consulting firms, or utility companies
- **Education**—teaching, research, student affairs

Resources Available at the Career and Community Learning Center, 411 STSS

150 Best Companies for Liberal Arts Graduates by Woodruff and Ptacek
Careers for Scientific Types & Others with Inquiring Minds by Jan Goldberg
Careers in Education Roy Edelfelt
Careers in High Tech by Nick Basta
Careers in Science by Thomas A Easton
Careers in the Environment by Fasulo and Walker
Great Jobs for Geology Majors by Blythe Camenson
Great Jobs for Liberal Arts Majors by Blythe Camenson
Real People Working in Science by Jan Goldberg
Complete Guide to Environmental Careers in the 21st Century

Web Sites of Interest

University of Minnesota-Dept. of Earth Sciences www.geo.umn.edu/
American Geological Institute www.agiweb.org
Geological Society of America www.geosociety.org
National Park Service http://www.nps.gov
Geoscience job listings http://groups.yahoo.com/group/GeoSci-Jobs
Earthworks http://www.earthworks-jobs.com

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