Geoscience, B.A.

Learning Outcomes
Geoscience graduates will:

• understand the structure, composition, and physical processes of the Earth;
• understand the coevolution of the Earth-Life System;
• have the ability to interpret the geologic record in the field;
• understand how to assess and utilize our natural resources in a sustainable manner; and
• develop a quantitative analytical skill set to integrate the diverse array of Earth sciences and related disciplines.

Overview
The geoscience degree offers students an extensive and comprehensive background in the Earth sciences and related scientific disciplines. Strengths of the department include environmental geology, geochemistry, geophysics, paleontology, stratigraphy, tectonics and basin analysis, surficial processes, and volcanology. Students gain extensive field experience and training and are able to integrate field and analytical research. Opportunities are provided for field experience and individual research locally, regionally, and internationally.

Requirements
The Bachelor of Arts with a major in geoscience requires a minimum of 120 s.h., including at least 55 s.h. of work for the major (at least 39 s.h. in earth and environmental sciences courses and at least 16 s.h. in supporting disciplines). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core. Transfer students must complete a minimum of 15 s.h. of course work in the Department of Earth and Environmental Sciences.

The geoscience major for the B.A. is designed to provide students with a varied background in geology and a broader choice of electives than is practical in the Bachelor of Science program. The major for the Bachelor of Arts is intended for students who are interested in the fundamentals of geology or earth science teaching (see "Teacher Licensure" below). Completing the minimum requirements for this degree may not adequately prepare a student for an entry-level professional job in geology.

The department recommends that students fulfill the GE CLAS Core World Languages requirement with French, German, Russian, or Spanish and the Social Sciences requirement with approved course work in economics, geography, or anthropology.

The B.A. with a major in geoscience requires the following course work.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td></td>
<td>Earth and Environmental Sciences Required Courses</td>
<td>24-28</td>
</tr>
<tr>
<td></td>
<td>Earth and Environmental Sciences Electives</td>
<td>12</td>
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<tr>
<td></td>
<td>Mathematics Courses</td>
<td>10</td>
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<tr>
<td></td>
<td>Chemistry Courses</td>
<td>6-8</td>
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Field Requirement
To complete the major, students must have field experience. They may take at least 4 s.h. of EES:1180 Geology Field Trip: Selected National Parks and/or EES:3160 Field Trip to satisfy this requirement. Either course may be repeated and/or combined to fulfill the necessary semester hours. Or they may take one semester of EES:2831 Geologic Field Methods or the Iowa Lakeside Laboratory session.
Information.

Geoscience Consult the departmental honors advisor for more
they have completed a minimum of 16 s.h. of course work in
geoscience courses are considered for membership after
with an overall g.p.a. of at least 2.80 and at least 3.20 in
National Honor Society for the Earth Sciences. Students
The department sponsors a chapter of Sigma Gamma Epsilon
National Honor Society
a grade of B or higher in
department's undergraduate committee, and they must earn
Honors Thesis in Geoscience
must complete a senior thesis, registering in
Iowa course work and in all geoscience courses. Students
Students have the opportunity to graduate with honors in
the major. Departmental honors students must maintain
a cumulative g.p.a. of at least 3.33 in all University of
Iowa course work and in all geoscience courses. Students
must complete a senior thesis, registering in EES:4999
Honors Thesis in Geoscience. They must obtain approval
of their honors thesis contract from their advisor and the
department's undergraduate committee, and they must earn
a grade of B or higher in EES:4999.

Honors in the Major

University of Iowa Honors Program

In addition to honors in the major, students have opportunities
for honors study and activities through membership in the
University of Iowa Honors Program; visit Honors at Iowa to
learn about the University’s honors program.

Membership in the UI Honors Program is not required to earn
honors in the geoscience major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements
students must complete by certain semesters in order to stay
on the University’s Four-Year Graduation Plan. Courses in the
major are those required to complete the major; they may be
offered by departments other than the major department.

These checkpoints show the range of required course work;
the Bachelor of Arts requires a minimum of 17 courses.

The major requires field trip experiences, many of which take
place during breaks in or between semesters or during the
summer session. These checkpoints do not include the field
trip requirements.

Before the third semester begins: competence in math
through trigonometry and the first required chemistry course

Before the fifth semester begins: three to five courses
in the major, including the remainder of the chemistry
requirement and continuation of the mathematics
requirement

Before the seventh semester begins: 7-11 courses in the
major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: 10-14 courses in the
major

During the eighth semester: enrollment in all remaining
course work in the major, all remaining GE CLAS Core courses,
and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of
study. Actual course selection and sequence will vary and
should be discussed with an academic advisor. For additional
sample plans, see MyUI.

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<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Academic Career</td>
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<tr>
<td>Any Semester</td>
<td>Research: students are strongly encouraged to be active participants in research within the department.</td>
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<tr>
<td></td>
<td>While only one field course is required, students are encouraged to participate in additional field experiences, whenever possible.</td>
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<tr>
<td>First Year</td>
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<tr>
<td>Fall</td>
<td>EES:1050 Introduction to Geology or EES:1030 or Introduction to Earth Science</td>
<td>4</td>
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</table>
CHEM:1070 General Chemistry I a 3 
ENGL:1200 or RHET:1030 The Interpretation of Literature or Rhetoric 3 - 4 
Major: math/statistics/computer science course a, b 3 - 4 
CSI:1600 Success at Iowa 2 

**Spring**

EES:2200 Historical Geology 4 
CHEM:1080 General Chemistry II 3 
ENGL:1200 or RHET:1030 The Interpretation of Literature or Rhetoric 3 - 4 
Major: math/statistics/computer science course b 3 - 4 
GE CLAS Core: Diversity and Inclusion c 3 

**Summer**

EES:2831 Geologic Field Methods 3 

**Second Year**

**Fall**

EES:2410 Mineralogy 4 
EES:3210 or EES:1040 Principles of Paleontology or Evolution and the History of Life 4 
GE CLAS Core: Historical Perspectives c 3 
GE CLAS Core: World Languages First Level Proficiency or elective course e 4 - 5 

**Spring**

Major: geoscience "choose three" course f 3 - 4 
Major: math/statistics/computer science course b 4 
GE CLAS Core: Values and Culture c 3 
GE CLAS Core: World Languages Second Level Proficiency or elective course e 4 - 5 

**Third Year**

**Fall**

Major: geoscience "choose three" course f 3 - 4 
GE CLAS Core: International and Global Issues c 3 
GE CLAS Core: World Languages Second Level Proficiency or elective course e 4 - 5 
Elective course g 3 
Elective course g 1 - 3 

**Spring**

Major: geoscience "choose three" course f 3 - 4 
GE CLAS Core: Social Sciences c 3 
GE CLAS Core: World Languages Fourth Level Proficiency or elective course e 4 - 5 
Elective course g 3 
Elective course g 1 - 3 

**Fourth Year**

**Fall**

Major: geoscience elective course prefix EES numbered 3000 or above 3 - 4 
Major: geoscience elective course prefix EES numbered 3000 or above 3 - 4 
GE CLAS Core: Literary, Visual, and Performing Arts c 3 

Elective course g 3 
Elective course g 1 - 3 

**Spring**

Major: geoscience elective course prefix EES numbered 3000 or above 3 - 4 
Major: geoscience elective course prefix EES numbered 3000 or above 3 - 4 
Elective course g 3 
Elective course g 3 

**Career Advancement**

The geoscience major is designed to prepare students for immediate employment after graduation or for admission to graduate study in earth and environmental sciences, public policy, environmental engineering, law, business, archaeology, science education, oceanography, or other allied fields. Nearly all University of Iowa geoscience graduates gain employment or move on to graduate programs following completion of their degree.

Graduates are typically employed in environmental service or corporations/consultancy; local, state, and federal agencies, such as geological surveys; education; conservation agencies; urban planning; natural resource evaluation and utilization; water resource management; nonprofit organizations; research and research institutes; and ecotourism. Companies such as ExxonMobil routinely recruit Iowa graduates on campus.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.