Geology is a scientific discipline that aims to understand every aspect of modern and ancient Earth. A degree in geology provides the diverse skills required to work in many different employment settings. For example, the acquired scientific and mapping skills are great for jobs in parks and forestry management, museum work, science education, urban and suburban planning, and jobs that involve natural resource issues. Within the field of geology, environmental and geotechnical jobs exist for people with BS degrees. A master’s degree provides better job opportunities in those fields, as well as in oil and gas exploration, which can be enormously rewarding both intellectually and financially. A PhD provides additional employment options, especially in universities and government labs. Internships enable students to meet potential employers, learn about real world opportunities, and sample different types of work.

Geology deploys an interdisciplinary mix of physics, chemistry, biology, math, and natural science to understand the mysteries of nature. It focuses on the solid Earth (rocks, minerals, mountain belts, volcanoes, earthquakes, sedimentary basins, oil and gas deposits, etc.) as well as the history of life (palaeontology) and its impact on the Earth. In recent decades, geologists have become increasingly concerned with the history of the Earth’s climate, how the physical and chemical behavior of the oceans has changed over time, and how drifting continents and evolving life have interacted to control the composition of the atmosphere and oceans and hence to control global climate. Geologists also examine how human activities affect our environment, including the quality of air, water, and soil.

Geology majors have hiked the Appalachian Trail, gone backpack camping with at-risk youth in the Utah deserts, bicycled across North America, plumbed the depths of unexplored caves, and traveled to Mongolia in pursuit of summer research. Geology majors take a six-week summer field camp that features extensive hiking in the western U.S., Italy, New Zealand, or other places around the world. To see whether geology is a good major for you, try a geology class (GEOL 0040, 0800, or 0860) and the Physical Geology Lab (GEOL 0055). Make sure you are comfortable with the required chemistry, math, and physics courses.

**Required courses for the Geology major**
The geology major requires the completion of 67 credits distributed as follows.

**Geology core requirements**

One of the following
- GEOL 0800 Geology
- GEOL 0820 Natural Disasters
- GEOL 0860 Environmental Geology

All of the following
- GEOL 0055 Physical Geology Lab
- GEOL 0060 History of the Earth
- GEOL 1001 Mineralogy
- GEOL 1003 Igneous and Metamorphic Petrology
- GEOL 1015 Colloquium
- GEOL 1020 Sedimentology and Stratigraphy
- GEOL 1100 Structural Geology
- GEOL 1960 Field Camp

**Geology elective requirement**
Students must complete nine credits of GEOL at the 1000 level or above.

**Chemistry requirements**
- CHEM 0110 General Chemistry 1
- CHEM 0120 General Chemistry 2

**Mathematics requirements**
- MATH 0220 Analytic Geometry & Calculus 1 and
- MATH 0230 Analytic Geometry & Calculus 2 or
- MATH 0235 Honors Variable Calculus

**Physics requirements**
- PHYS 0174 Basic Physics for Science and Engineering 1
- PHYS 0175 Basic Physics for Science and Engineering 2

**Additional requirement; one of the following**
- GEOL 1045 Statistics for Earth Science
- MATH 0240 Analytic Geometry & Calculus 3
- MATH 0250 Matrix Theory & Differential Equations
- STAT 1000 Applied Statistical Methods

**Grade requirements**
A minimum GPA of 2.0 in departmental courses is required for graduation.

**Satisfactory/No Credit option**
No GEOL course that counts toward the major can be taken on an S/NC basis. No more than two of the non-geological science courses that count toward the major may be taken on an S/NC basis.
Writing (W) requirement
Students must complete at least one W-course in the major.

GIS certificate
The Geographic Information Systems certificate is a great opportunity to earn electives while acquiring a range of software and image analysis skills (aerial photos, maps, and satellite images) that are highly sought after by both public and private employers. Refer to the Geographic Information Systems Certificate Web page for classes and more information.

Advising
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Checklist for the Geology major

Geology core requirements

One of the following
_______ GEOL 0800
_______ GEOL 0820
_______ GEOL 0860

All of the following
_______ GEOL 0055
_______ GEOL 0060
_______ GEOL 1001
_______ GEOL 1003
_______ GEOL 1015
_______ GEOL 1020
_______ GEOL 1100
_______ GEOL 1960

Geology elective requirement
_______ GEOL _______ (1000 level or above)
_______ GEOL _______ (1000 level or above)
_______ GEOL _______ (1000 level or above)

Chemistry requirements
_______ CHEM 0110 or CHEM 0710 (UHC)
_______ CHEM 0120 or CHEM 0720 (UHC)

Mathematics requirements
_______ MATH 0220
_______ MATH 0230 or MATH 0235 (UHC)

One of the following
_______ GEOL 1045
_______ MATH 0240
_______ MATH 0250
_______ STAT 1000

Physics requirements
_______ PHYS 0174 or PHYS 0475 (UHC)
_______ PHYS 0175 or PHYS 0476 (UHC)