

Geology and Earth Sciences

Geology, the study of the Earth, encompasses a variety of topics, including rocks, minerals, fossils, Earth history, plate tectonics, climate and weather, rivers and groundwater, oceans, mapping, sedimentology, natural hazards, and environmental science. Geology is a hands-on experience at Guilford; students are actively involved in field experiences from the introductory courses up through capstone classes. Students also engage in original laboratory work where they actually design the study, and in undergraduate research which is presented at professional meetings or national conferences. The Geology program is centered on a core of courses that establish a firm academic foundation in geology. This foundation serves as a springboard to graduate study, professional geology and employment in industry, teaching, art, environmental science, creative writing, law, resource management, and geography.

Why Guilford College?

Consistently rated nationally by *The Princeton Review* as well as being one of the 40 colleges in *Colleges that Change Lives* by Loren Pope, Guilford College inspires each student to achieve excellence through an engaging community, rooted in Quaker values, which nurtures creativity and social responsibility.

What can a Guilford education offer you?

- An urban setting near other colleges & universities with an area student population of over 27,000 students
- A consortium agreement with University of North Carolina at Greensboro, Greensboro College, Bennett College, North Carolina A&T State University, Elon University and High Point University provides students with access to courses free of charge
- A college mission statement & core values based on, and consistent with, Quaker testimonies. Guilford's core values are: Community, Diversity, Equality, Excellence, Integrity, Justice & Stewardship.
- A challenging academic program which emphasizes not only academic tracks and the learning process, but also the interconnection between curricular and co-curricular pursuits
- A diverse student population providing a stimulating peer environment
- Excellent study abroad programs in China, England, France, Germany, Ghana, Ireland, Italy, Japan, Mexico, Netherlands, Scotland, Spain, and Wales

The academic program in Geology and Earth Sciences

The Bachelor of Arts and Bachelor of Science degrees are offered in Geology and Earth Sciences
A minor is offered in Earth Science.

The Bachelor of Science degree is for students with a professional interest in geology and earth sciences, who are interested in graduate work leading to an advanced degree. The Bachelor of Arts degree allows more flexibility for students interested in pursuing an advanced degree in another field, or for those interested in working with earth systems in conjunction with other disciplines (e.g., teaching, law, social sciences, museum science, technical writing).

Students pursuing either a B.S. or a B.A. in geology may also opt for a track in environmental geology.

Bachelor of Arts Degree in Geology & Earth Sciences

Graduates from this degree track will find employment in geology or environmental firms or sometimes in cross disciplinary fields where a strong science background is critical but geology is not the primary focus of the work. With this degree, graduates would be well prepared to serve as geologic technicians in the laboratory or the field. Graduate studies in geology are also possible, but the student would likely be required to take additional courses in mathematics and physics.

Total: 48 credit hours

Bachelor of Science Degree in Geology & Earth Sciences

The Bachelor of Science degree is designed for students who intend to pursue graduate study or a professional career in the Earth sciences—geology, environmental science, geography, geophysics, hydrology, oceanography, paleontology, etc. This track requires the full suite of courses expected by the profession for technical work and for graduate study, and includes several courses in Chemistry, Physics, and Mathematics.

Total: 60 credit hours

The Track in Environmental Geology

Students pursuing either a B.S. or a B.A. in geology may opt for a track in environmental geology. The credit hours required do not change, but some of the required courses are shifted to courses with an environmental focus, such as hydrology, environmental planning, and mapping and remote sensing. This track provides a strong background in geology but is designed for students interested in careers such as environmental consulting, government regulatory agencies or resource management, or in pursuing graduate study in an environmental field.

Internship Opportunities

Geology majors frequently complete internships, either during the school year or over the summer. In recent years, students have interned in a project on fossil gastropods in Florida quarries, for the waste management and recycling program in Kernersville, NC, for an environmental consulting firm in Greensboro, and for a paleontology museum in Philadelphia. These internships can often be counted towards the geology major, and they also provide inspiration for students' independent research projects and senior theses.

Where do graduates go?

Many geology graduates go on to graduate school, sometimes immediately after Guilford, or sometimes after working for few years. In the past year, graduates enrolled in graduate programs at Duke University, Virginia Tech, the Colorado School of Mines, and Coastal Carolina University, in paleontology, economic geology, coastal environmental management, and natural disaster management. A number of graduates enter geologic or environmental careers after graduating. In recent years, students have found employment in areas such as city resource management, water quality assessment, geologic mapping, environmental consulting, and geographic information systems (GIS). Some graduates use their geology backgrounds in related fields, such as environmental law, non-profit advocacy organizations, and teaching.

Faculty

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Charles Almy, Professor Emeritus

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For additional information about Geology and Earth Sciences at Guilford College visit www.guilford.edu/academics

