



In the Department of Earth and Ocean Sciences, you will find scientists who study climate, sea-level change, glaciers, groundwater, rocks, and fossils. If these topics are of interest to you, consider taking one of our courses, or investigating one of our major and minor options.

Geological Sciences Major

Students electing this option must complete the following courses: EOS 1 and 2, 11, 12, and 22; EOS 32 or 115; EOS 38 or 52; EOS 131 or 133; and two additional EOS courses. Students must also complete CHEM 1 or 11, PHY 1 or 11, and MATH 32. The Chemistry and Physics courses must be taken with labs. CHEM 2, PHY 2 or 12, Math 21 and 34, research experience, and a six-week summer field camp are strongly recommended.

Environmental Geology Major

Students electing this option should complete EOS 1 and 2; EOS 32; EOS 38 or 52; EOS 42; EOS 131 or 133; and four additional EOS courses. In addition, students must take CHEM 1 or 11 and PHY 1 or 11, both with labs. Approved related fields science and mathematics courses may replace up to three of the EOS courses above EOS 2 for Arts and Sciences students. Engineering students with a double major in environmental geology may use upper-level engineering courses to substitute for up to two of the EOS courses above EOS 2, with prior consent. No more than a total of four EOS courses may be replaced by engineering and related fields courses for engineering students.

Geology Minor

This minor in geology is available to students in the School of Engineering. Five courses are required for the minor. They normally include:

- EOS 1 The Dynamic Earth or EOS 2 Environmental Geology
- EOS 22 Structural Geology or EOS 32 Geomorphology
- EOS 131 Groundwater

Two electives selected from the following:

- EOS 1 The Dynamic Earth or EOS 2 Environmental Geology
- EOS 5 Oceanography
- EOS 11 Mineralogy
- EOS 12 Igneous and Metamorphic Petrology
- EOS 22 Structural Geology
- EOS 32 Geomorphology
- EOS 42 Sedimentology and Stratigraphy
- EOS 51 Global Climate Change
- EOS 52 Paleoclimate
- EOS 104 Geological Applications of GIS
- EOS 115 Quaternary and Glacial Geology

Geoscience Minor

This minor in geoscience is available to Arts and Sciences students who are majoring in archaeology, astronomy, biology, chemistry, computer science, mathematics, physics, or quantitative economics. Five courses are required for the minor. They normally include:

- EOS 1 The Dynamic Earth or EOS 2 Environmental Geology

Four EOS course electives are also selected, in consultation with the faculty advisor. These courses are intended to complement the student's major and scientific or mathematical interests.

Interested in a major? Feel free to speak with any of the EOS faculty.

Prof. Anne Gardulski is the minors advisor.



Tufts EOS Frequently Asked Questions

Can I combine my interest in _____ with a major in EOS?

Absolutely. Just fill in the blank. Geology is inherently interdisciplinary. Earth scientists regularly utilize knowledge in physics, chemistry, biology, engineering, astronomy, computer science, and math to solve real world problems or to model the natural world. The Earth and ocean sciences are a good place for people who like to think big and incorporate methods from many different fields.

What can I do with a major in Earth Sciences or Geology after graduation?

As a broadly-trained Earth scientist there will be a world of opportunities open to you. Graduates from EOS have gone directly to employment in the environmental sector, mineral and energy resources, government environmental management and research, and nonprofits. Many continue to graduate school in order to specialize in one of the many fields in the Earth and Ocean sciences: groundwater and surface water hydrology, volcanology, paleontology, climatology, oceanography, geophysics, and many more. Our graduates hold successful careers in academia, at agencies like NASA, NOAA, USGS, and EPA, and many are employed in private industries. Others are elementary and high school science teachers, and some are attorneys and dentists, and medical doctors (yes, you can do a pre-health program with a Geology major)!

Are there opportunities for undergraduate student research?

Yes. Our faculty maintain externally and internally-funded research programs and regularly involve students in research. Your involvement may range from laboratory tasks, to petrographic and scanning electron microscopy, to data modeling, to field data collection depending on your skills and interest. Qualified majors may choose to complete a Senior Honors Thesis on a research topic chosen in consultation with their thesis advisor, or may choose to undertake a one semester research experience for credit. All undergraduate research in EOS is under direct mentorship of our faculty.

Do EOS students spend time in the field?

In general, yes. We believe that field experience is an important component of an Earth science education. Many of your EOS courses will have required and optional field trips. While field trips for courses are local and regional, we also offer faculty-led winter break and spring break field trips to places like Arizona, New Mexico, Utah and Death Valley, CA on a regular basis. These trips help our students synthesize classroom learning across our courses and are eye-opening experiences.

Is there a student club for Earth sciences?

Check out TUGS, the Tufts University Geological Society, on Facebook, or sign up on their bulletin board outside Lane 007.

OK, I'm in. What course(s) should I take next?

We recommend discussing choices with a faculty member, but in general:

- if you've had no EOS courses, take EOS 1 in the Fall or EOS 2 in the Spring, and an intro Chem, Physics or Calculus course
- if you've had EOS 1 or 2, take Mineralogy (EOS 11) and another upper level EOS course (offerings vary by semester)
- if you've had EOS 2 and Physics or Calculus, try Groundwater (EOS 131)
- if you've had EOS 1 or 2, and an interest in global change, enroll in Global Climate Change (EOS 51) and/or Historical Geology & Paleontology (EOS 38)

