

Geology and Environmental Sciences

HARTWICK COLLEGE
Know the Facts.



The Hartwick Difference

Hartwick's Department of Geology and Environmental Sciences trains students for careers in the professions of the Earth Sciences. Our major is research-oriented with strong components of lab and field work. Students have direct access to rock-preparation, computer, and mineralogy labs for hands-on learning during individual research, class work, and group projects. Geology majors are likely to spend time working on the x-ray fluorescence spectrometer and combing the deserts of southwest Texas or hiking the volcanoes of Hawaii.

With its environmental focus, Hartwick's Geology and Environmental Sciences Department has its eye on the future. An in-depth understanding of the Earth's materials, formation, and structure is at the heart of many economic, social, and environmental issues: oil and mineral exploration; safe disposal of industrial and municipal wastes; preservation of groundwater supplies; the choice of sites for dams, nuclear power plants, and high-rise buildings, issues that will become more complex as demands on the Earth and its resources increase.

Three-Year Program

Ready to move faster? Get the full Hartwick Geology and Environmental Sciences experience in three-quarters the time at three-quarters the cost. Learn more at www.hartwick.edu/threeyearbachelors.xml.

Major Components

Hartwick's Geology and Environmental Sciences curriculum is field-based, research-rich, and tailored to the different needs of different people. The Major offers three tracks: 1) geoscience track, which prepares students for careers in the petroleum or mining industries as well as any of the traditional career paths in geology; 2) environmental track, which prepares students for careers in the environmental sciences, including the hydrological sciences; and 3) education track, which prepares students for certification in teaching.

All three tracks of the Geology Major provide a field-based education with focus on collaborative research and other experiential learning opportunities. Courses required for the major are selected to give students a broad background in the field. Introductory courses cover the origin, composition, structure, and history of the Earth. In subsequent courses, students study minerals, igneous and metamorphic rocks, sedimentary rocks, fossils, the deformation of rocks, the chemistry and flow of groundwater, and the way in which data are gathered and recorded in the field. An understanding of basic concepts necessary for work in the geological and environmental sciences is gained through required courses in chemistry, physics, and calculus.

Course Highlights

(For complete information on courses and requirements, visit www.hartwick.edu/catalog.xml to find Hartwick's online course catalog.)

The basics: All Geology and Environmental Sciences majors take seven core courses, which introduce them to the fundamentals of science.

Specialization: After taking the core courses, students pursue one of the tracks outlined above. Majors complete several elective courses, including field courses.

Senior research: Every geology and environmental sciences major works with a professor on a senior thesis—a project that explores a special topic of study. The results are presented at a special symposium near the end of the senior year.

Student-faculty collaborative research projects are currently supported by on-campus grants to Hartwick

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[www.hartwick.edu/
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For more information contact the
Office of Admissions at 607-431-4150
(within the 607 area code) or
888-HARTWICK (888-427-8942).

For specific inquiries, contact
David Griffing, Department Chair,
at 607-431-4629 or
griffingd@hartwick.edu.

faculty, and competitive scholarship prizes awarded to students, such as the Freedman Prize. In addition, many Geology and Environmental Sciences majors have been awarded undergraduate research grants from outside sources, such as the Angelo Tagliacozzo Scholarship award.

Current Geology and Environmental Sciences majors are conducting a wide range of exciting research: compiling a digital geologic map of a portion of the Adirondack Mountains; determining the pressure and depth for the intrusion of a suite of granite bodies in the Adirondack Mountains' northwest lowlands; investigating the biogeochemistry of the Swift River Watershed in the White Mountains of New Hampshire; comparing the geologic features of modern and ancient coral reef deposits in the Bahamas; determining the extent of solar-induced breakdown of marble in the Mojave Desert of California; examining the complex 1.2 billion year geologic history of the Oaxacan Complex in southern Mexico.

Beyond the Classroom

Oneonta is close to several important geological provinces: the Catskill Mountains, the southern and northern Appalachians, and the Adirondacks. The department takes full advantage of its location and runs day and weekend (and longer) field trips to all of these mountain ranges.

Hartwick's Geology and Environmental Sciences Department offers off-campus study and fieldwork opportunities in places such as west Texas, the Bahamas, and Hawaii. Recent department field trips include Crater Lake, OR; Mount St. Helens, WA; Pike's Peak and Garden Of The Gods, CO; Mt. Washington, NH; Sudbury, Ontario; Arches and Canyonlands National Parks, UT.

The department runs a small weather station on Hartwick's Pine Lake Environmental Campus.

Off-campus internships are encouraged and recommended. Geology and Environmental Sciences majors frequently complete internships with regional environmental science companies and major museums. Recent internships include the Smithsonian Institution in DC; Glacier National Park in Montana; City of Utica, NY water treatment facility; Department of Health in Oneida County, NY; Geo Corps; Petrified Forest National Park in Arizona; Rogers Environmental Education Center; Lawson Surveying and Mapping; Maine Geological Survey; New York State Department of Environmental Conservation; Jet Propulsion Laboratory, Cal Tech, Pasadena, CA; and the Forestry Department-Minister of Agriculture (St. Lucia, West Indies).

Majors attend annual meetings at the Geological Society of America, most recently held in Portland (Oregon), Houston, Denver, Seattle, Salt Lake City, and Boston.

Putting Geology and Environmental Sciences to Work

Geology majors have gone on to careers in a wide variety of fields such as museum work, secondary and post-secondary teaching, hydrology, environmental engineering, and the oil/gas/mining industries.

Many Geology and Environmental Sciences students at Hartwick attend graduate school; recent graduates have pursued advanced degrees at Harvard University, Cornell University, University of California at Berkeley, Binghamton University, South Dakota School of Mines, Colorado School of Mines, Rutgers University, University of Massachusetts-Amherst, and the University of Connecticut.

Faculty

Zsuzsanna Balogh-Brunstad, Assistant Professor, M.S., University of Pécs; Ph.D., Washington State University. *Areas of Focus:* biogeochemistry, environmental chemistry, soils, hydrology, and chemical hydrology of northern forests.

David Griffing, Associate Professor, M.A., University of Idaho; Ph.D., State University of New York at Binghamton. *Areas of Focus:* modern and ancient coral reef geology, carbonate petrology/mineralogy.

Eric Johnson, Associate Professor, M.A., Ph.D., State University of New York at Binghamton. *Areas of Focus:* petrology and structural geology, especially the geological history of the Adirondack Mountains; field mapping meteorology.

Robert Titus, Professor, M.A., Ph.D., Boston University. *Areas of Focus:* paleontology and the geology of the Catskill Mountains.