

GEOLOGY

Courses required for the first year: none
Courses recommended for the first year: <ul style="list-style-type: none"> • Gateway GEOL course (GEOL-101, GEOL-105, or GEOL-112) • MATH-140 (pre-calculus or equivalent course as necessary) • CHEM-131 or CHEM-235
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The Major in GEOLOGY

MAJOR IN GEOLOGY. 44 credits, including: One gateway course (GEOL-101, 105, 112, or 123); GEOL-201, 205, 240, 450, 451; two courses from GEOL-309, 350, 360; two additional elective GEOL courses (including GEOG-306 or ENVR-300); and one required supporting science course (CHEM-131 or CHEM-235).

Upper-level geoscience courses assume math skills equivalent to those covered in a high school or college pre-calculus course. Students planning to pursue graduate studies or careers in the geosciences are strongly recommended to take MATH-160 (Calculus) as well as additional courses in physics, mathematics, chemistry, geography, and/or biology.

Required Courses

Course Number	Course Name	Learning Perspective	Prerequisites	Credits
GEOL-101, 105, 112, or 123	One Gateway Course (Physical Geol., Geology in Rockies, Dinosaurs, Bonaire)	PN	none	4
GEOL-201	History of Life		GEOL Gateway Course or BIOL-360	4
GEOL-205	Mineralogy (ideally sophomore year)		GEOL Gateway Course, CHEM-131 or CHEM-235	4
GEOL-240	Structural Geol. and Tectonics		GEOL Gateway Course	4
2 courses from: GEOL-309, GEOL350, GEOL-360	Geomorphology Sedimentology and Stratigraphy Petrology		GEOL Gateway Course GEOL-201, GEOL-205 GEOL-205	4 4 4
2 elective courses (8 credits) from: GEOL-XXX GEOG-306 ENVR-300	Any other GEOL courses Soil Science Climate Change and Sust. Energy		Varies	4 4 4
GEOL-450	SI: Research Methods (junior year)			4
GEOL-451	SI: Geological Research		GEOL-450	4

Required Supporting Course

Course Number	Course Name	Learning Perspective	Prerequisites	Credits
CHEM-131 or CHEM-235	General Chemistry I or Intro. Inorganic Chem	PN PN		4 4

Recommended Supporting Courses for the Geology Major (especially for students anticipating graduate school in the geosciences).

Course Number	Course Name	Learning Perspective	Prerequisites	Credits
GEOG-273	GIS			4
MATH-160	Calculus I			4
PHYS-151	Principles of Physics I	PN		4

The Minor in GEOLOGY

MINOR IN GEOLOGY. 17 credits (4 courses + 1 credit), including one gateway course (GEOL-101, GEOL-105, GEOL-112, or GEOL-123), GEOL-399 (1-credit), and 12 additional credits (or 3 courses) from GEOL courses at or above the 200-level. GEOG-306 and ENVR-300 may be substituted for GEOL courses. GEOL-399, coordinated with a faculty member, requires completion of a research paper that addresses some aspect of geology and relates it to the student's primary major, and it must incorporate an additional reflective component demonstrating an understanding of the connectivity between subject areas. This paper could conceivably be an extension of the Senior Inquiry effort within the student's primary major.

Required Courses

Course Number	Course Name	Learning Perspective	Prerequisites	Credits
GEOL-101, 105, 112, or 123	Gateway Course (Physical Geol., Geology in Rockies, Dinosaurs, Bonaire)	PN	none	4
3 additional courses (12 credits) of GEOL-XXX, GEOG-306, or ENVR-300				12
GEOL-399	Directed Study			1

Major Overview

Geology Departmental Mission Statement

The Geology Department of Augustana College aims to provide a comprehensive undergraduate education that emphasizes critical and creative thinking, problem solving, reading, and communication, all in the context of the earth sciences. Upon graduation, geology majors should be well prepared for entry-level jobs in the earth sciences and other professions, and they should have the necessary knowledge and skills to succeed in graduate programs in the earth sciences.

Geology is the science of materials that form the Earth and the processes of Earth formation and evolution. This includes sub-disciplines, such as the study of environmental problems and remedial solutions, geologic hazards and hazard mitigation, life and evolution as preserved in the rock record, and the resources upon which industrial society is based.

Geology is interdisciplinary and incorporates the fundamental principles of physics, chemistry, biology and mathematics to understand the geological systems of the Earth. Many geology students augment their major with additional courses, minors, or majors in related or science departments or math.

Geology majors are well-prepared for entry-level jobs in environmental consulting. About half or the geology majors pursue graduate school in earth and environmental sciences or law, and many majors pursue careers in earth sciences, environmental consulting, education or business.

Students interested in geology are encouraged to attend weekly meetings of the Udden Geology Club and to talk to any of the faculty about their interests. Udden Club meets most Fridays, 3:45-5:00 pm. Students are also encouraged to look into opportunities to study in the field.