

## Environmental Geology

<b>Courses recommended for the first year:</b> <ul style="list-style-type: none"> <li>• GEOL Gateway course (GEOL-101, GEOL-104, GEOL-105, GEOL-123)</li> </ul>
<b>Contact:</b> Dr. Kelsey Arkle, Co-Chair Dept. of Environment, Geography, and Geoscience (kelseyarkle@augustana.edu) <b>**All students are welcome to attend weekly Udden Geology Club meetings for camaraderie, cookies and presentations! Fridays at 4:30pm Swenson Geosciences, Room 106**</b>

### The Major in ENVIRONMENTAL GEOLOGY

#### Required Courses

Course Number	Course Name	Learning Persp.	Prerequisites	Usually offered: F, J, SP, SU*	Credits
<b>One Gateway Course:</b> GEOL-101 GEOL-105 GEOL-123	Physical & Environmental Geology Geology of the Grand Canyon Caribbean Geology of Bonaire	PN	none	F, J, SP, SU*	4
GEOL-201	History of Life	PN	GEOL Gateway or BIOL-140	F	4
GEOL-205	Minerals and the Environment (ideally sophomore year)	PN	none	F	4
GEOL-240	Structural Geology and Tectonics		GEOL Gateway or consent	SP alternating years	4
GEOL-309	Geomorphology/Paleoclimatology		none	SP alternating years	4
GEOL-350	Sedimentology/Stratigraphy		none	F alternating years	4
GEOL-360	Petrology		none	F alternating years	4
2 elective courses (8 credits) from:					
GEOL-104	Gemology		Varies		4
GEOL-321	Island Geology in Bonaire				4
GEOL-322	Mojave Geology in CA				4
GEOL-325	Conservation Paleoecology				4
GEOL-330	Hydrogeology				4
GIST-273	Intro GIS for Natural Sciences				4
ESGE-306	Soil Science				4
ESGE-300	Sustainability Prob.& Solutions				4
GEOL-450	SI: Research Methods (junior year)			SP	2
GEOL-451	Senior Inquiry 2		GEOL-450	F	2
GEOL-452	Senior Inquiry 3		GEOL-451	SP	0-2



## The Minor in ENVIRONMENTAL GEOLOGY

Course Number	Course Name	Learning Persp.	Prerequisites	Usually offered: F, J, SP, SU*	Credits
<b>One Gateway Course:</b> GEOL-101 GEOL-104 GEOL-105 GEOL-123	Physical & Environmental Geology Gemology Geology in Rockies Caribbean Geology of Bonaire	PN	none	F, J, SP, SU*	4
3 additional courses (12 credits) from GEOL-201 GEOL-205 GEOL-240 GEOL-309 GEOL-321 GEOL-322 GEOL-325 GEOL-350 GEOL-360 GIST-273 ESGE-306 ESGE-300	Geology electives 200+ level:  History of Life Minerals and Environment Structural Geology & Tectonics Geomorphology/Paleoclimatology Island Geology in Bonaire Mojave Geology in CA Conservation Paleoecology Sedimentology/Stratigraphy Petrology Intro. GIS Soil Sciences Sustainability Prob. & Solutions		varies		12
GEOL-399	Directed Study			F, SP	1

### Major Overview

Geology is the science of Earth and environmental materials and processes. Geology is a critical subject to study as part of a broad **environmental science** curriculum, as it encompasses natural resources, surficial materials, and Earth systems. Geologic records provide us with an understanding of climates and cycles. The subject 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, soil, groundwater and surface water quality and availability, and mineral resources upon which our society is based. Geology is inherently interdisciplinary, incorporating fundamental principles of physics, chemistry, biology and mathematics to understand the geological systems of the Earth and solve complex issues facing society. Many geology students augment their major with additional courses, minors, or majors in environmental studies, biology, chemistry, math, statistics, data analytics, computer science and physics.

Geology majors are well-prepared for entry-level jobs in environmental consulting or the energy industry. About half of the students completing the geology major pursue graduate school in geosciences or environmental sciences, and many graduates pursue careers in geoscience, environmental science, environmental consulting, education or business. Each student should discuss her/his career or academic goals with the faculty advisors in order to choose appropriate elective courses. Check out Wikipedia's long list of "geoprofessions," and take a look at what recent Augustana geology graduates are doing: <https://www.augustana.edu/academics/areas-of-study/geology>. Students interested in majoring in geology should schedule a meeting with the department chair. All students interested in the geosciences and environmental sciences are encouraged to attend weekly meetings of the Udden Geology Club to learn more about the discipline and career opportunities. Students majoring in geology are encouraged to enroll in our J-term field courses to Bonaire (2026, 2028) and the Mojave Desert (2025, 2027).

\*Fall, J term, Spring, Summer; see [Academic Calendar](#) for specific dates

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