STUDENT VOICE

Geological and Environmental Sciences is one of the most valuable majors offered at Pacific and develops in students their ability to solve real environmental challenges. Our rigorous academic program prepares students for success by integrating career-oriented professional development, certifications, and training into academic courses. Many of our students participate in research and publish their results by the time they graduate.

Students in our department are immersed in experiences driven by our hands-on approach to learning. Our majors travel to a range of regional and international destinations, including Scotland, the Chilean Patagonia, Hawaii, the Colorado plateau, and a variety of locations throughout the west coast of North America. Many of our majors work closely with faculty on award-winning research projects that can take students to exotic geologic locales, including western Ireland, Japan, the ancient Appalachian Mountains of upstate New York, the Marshall Islands, and the high Sierra Nevada.

Geological and environmental scientists investigate Earth’s mysteries while advancing a clean environment, reducing the impact of natural disasters, and providing resources for modern life. Many of our graduates continue their education in top-tier graduate schools or pursue successful and lucrative careers in a wide range of fields, including government, geotechnical or environmental consulting, law, medicine, and public policy.

“I had the opportunity to go on a week-long field trip with the Geological and Environmental Sciences department through the Colorado Plateau. It was one of the most amazing experiences I’ve ever had. We went to more than ten national parks, I saw snow for the first time, and I learned how to ride a bike at the Grand Canyon.”

OLIVIA SUE
BS Geological and Environmental Sciences
Foundational Courses

BIOL 051. Principles of Biology. 5 Units.
BIOL 061. Principles of Biology. 5 Units.
CHEM 023. Elements of Chemistry. 4 Units.
CHEM 024. Fundamentals of Chem. 4 Units.
CIVL 60. Water Quality. 4 Units.
MATH 035. Elementary Statistical Inference. 4 Units.
MATH 037. Introduction to Statistics and Probability. 4 Units.
MATH 51. Calculus I. 4 units.
PHYS 23. General Physics I. 5 Units.
PHYS 25. General Physics II. 5 Units.
PHYS 53. Principles of Physics I. 5 units.
PHYS 55. Principles of Physics II. 5 units.

Core Courses

GESC 043. Environmental Science for Informed Citizens. 4 Units.
GESC 045. Soil, Water, and War. 4 Units.
GESC 051. Dynamic Planet. 4 Units.
GESC 053. Earth and Life Through Time. 4 Units.
GESC 061. Geology of California. 4 Units.
GESC 035. Environment: Concepts and Issues. 4 Units.
GESC 106. Earth Materials. 5 Units.
GESC 103. Global Change. 4 Units.
GESC 148. Critical Zone Science. 4 Units.

Field Methods

GESC 161. Geologic Field Methods. 4 Units.
BIOL 171. Biological Field Methods. 4 Units.
GESC 162. Hydrologic Field Methods. 4 Units.

Breadth Courses

GESC 110. Igneous and Metamorphic Petrology. 4 Units.
GESC 112. Sedimentary Petrology. 4 Units.
GESC 114. Structural Geology. 4 Units.
BIOL 175. Ecology. 5 Units.
BIOL 176. Ecology and Conservation Biology. 4 Units.
BIOL 072. Vertebrate Biology. 4 Units.
BIOL 074. Biology of Insects. 4 Units.
BIOL 076. Marine Biology. 4 Units.
BIOL 077. Marine Birds and Mammals. 4 Units.
BIOL 079. California Flora. 4 Units.
GESC 178. Freshwater Ecology. 4 Units.
GESC 149. Environmental Hydrology. 4 Units.
GESC 132. Foundations of Water Resources Law. 3 Units.
GESC 137. Environmental Law. 4 Units.
CIVL 171. Water and Environmental Policy. 3 Units.
ECON 157. Environmental and Natural Resource Economics. 4 Units.
INTL 174. Global Environmental Policy. 4 Units.

Experiential Learning

GESC 187. Internship in Geosciences. 2-4 Units.
GESC 197. Undergraduate Research. 1-4 Units.
BIOL 197. Undergraduate Research. 1-4 Units.

Capstone

GESC 185. Capstone Seminar in Geological and Environmental Sciences. 4 Units.