

ENVIRONMENTAL GEOSCIENCE

LEARNING OBJECTIVES:

1. Understand and articulate the ways in which Earth's interior and surface operate, and how these systems are connected to one another and inextricably bound to the evolution of life and current human activities.
2. Understand and view the current state of, and expected changes within, the earth system in the context of past changes experienced by our planet.
3. Apply understanding of earth and human systems to develop workable, scientifically based, human-centered solutions to building resilience to natural hazards, and our planet's most pressing environmental changes.

FOUNDATION & BREADTH:

- BIO 81 or BIOHOPK 81 or HUMBIO 2A & HUMBIO 2B or EARTHSYS 116 or BIOHOPK 175H
- CHEM 31A & 31B or 31M or GEOLSCI 2
- ECON 1
- GEOLSCI 1 or GEOLSCI 4 or EARTHSYS 117 or EARTHSYS 128
- MATH 19, 20, 21
- CME 100 or MATH 51 & 52
- GEOPHYS 110 or PHYSICS 41 & 45
- STATS: EARTHSYS 100A or ECON 102A or STATS 101 or STATS 110 or 116 or 141 or CME 106 or BIO 174H (no longer offered)
- ESS 164

The courses listed above do not need to be taken for a letter grade.

The courses listed below have to be taken for a letter grade.

- EARTHSYS 10
- EARTHSYS 111
- EARTHSYS 112
- EARTHSYS 210 A or B (Senior Capstone & Reflection)
- EARTHSYS 210P (Capstone Project) or EARTHSYS 199: Honors Program in Earth Systems
- EARTHSYS 260 (Internship)
- WIM: EARTHSYS 191, EARTHSYS 177C, EARTHSYS 149, BIOHOPK 47, BIOHOPK 175H or another designated WIM course in a related department - must be approved by an advisor. Your WIM course may not also count towards your track or electives, if counted as a WIM.

ENVIRONMENTAL JUSTICE, ETHICS, AND HUMAN RIGHTS

Complete ANY of the following Courses:

- ANTHRO 123C - "Third World Problems?" Environmental Justice Around the World
- EARTHSYS118 - Heritage, Environment, and Sovereignty in Hawaii
- EARTHSYS125 - Shades of Green: Exploring and Expanding Environmental Justice in Practice
- EARTHSYS194 - Topics in Writing & Rhetoric: Introduction to Environmental Justice: Race, Class, Gender and Place
- ENVRES 215A - Topics in International Justice, Rights, and the Environment
- ETHICSOC 136R - Introduction to Global Justice
- ETHICSOC171 - Justice
- ETHICSOC 178M - Introduction to Environmental Ethics
- RELIGST 7N - Religion, Ecology, and Environmental Ethics
- STS190 - Environment and Society

TRACK SUB-CATEGORIES: A total of six courses are required from the Environmental Geoscience focus areas.

The Solid Earth (must take 2)

GEOLSCI 102	Earth Materials: Introduction to Mineralogy
GEOLSCI 180	Igneous Processes
EARTHSYS 113	Earthquakes and Volcanoes

Earth's Surface (must take 2)

GEOLSCI 106	Sedimentary Geology and Depositional Systems
GEOLSCI 112	Geomorphology
ESS 224	Remote Sensing of Hydrology
ESS 148	Introduction to Physical Oceanography
ESS 155	Science of Soils
ESS 220	Physical Hydrogeology
EARTHSYS 106B	Sustainable and Equitable Water Management

ENERGY, SCIENCE & TECHNOLOGY

Evolution of Life on Earth (must take 1)

GEOLSCI 123	Evolution of Marine Ecosystems (Last offered 2017)
GEOLSCI 128	Evolution of Terrestrial Ecosystems
GEOLSCI 135	Sedimentary Geochemistry and Analysis (may no longer be offered)
ESS 255	Microbial Physiology

Resilient Earth (must take 1)

GEOLSCI 118X	Shaping the Future of the Bay Area (Sustainable Urban Systems Fundamentals)
--------------	---