C-ID Descriptor
Environmental Geology

Descriptor Details

- **Descriptor Title**: Environmental Geology
- **Parent Descriptor**: Environmental Geology with Lab GEOL 131
- **C-ID Number**: 130
- **Units**: 3.0
- **Date of Last Revision**: 10/12/2017 04:43:50 PM PDT

General Description

An introduction to the fundamentals of Environmental Geology including the interactions between and impacts of humans with the environment in a geologic context. Course emphasizes the Earth system and connections between the geosphere, biosphere, atmosphere, and hydrosphere.

Prerequisites

No information provided

Corequisites

No information provided

Advisories

No information provided

Content

The Environmental Geology course must address all of the major categories listed below and at least 75% of the subtopics.

Formation of the Earth and Plate Tectonics

- Geologic Time and Earth History
- Plate Tectonics
- Geologic Structures

Earth Resources

- Rocks and Minerals
- Soils
- Water
- Energy
- Human Impacts
    - Exploitation and Use
    - Population
    - Waste

Earth Systems

- Rock Cycle
- Carbon Cycle
- Nitrogen Cycle
- Water Cycle
- Weather and Climate

Geologic Hazards

- Mass Wasting
- Flooding and Drought
- Earthquakes
- Tsunamis
- Volcanoes
- Pollution
- Groundwater Quality and Subsidence
- Extreme Weather
- Climate Change
- Sea Level Change

Additional

- Optional Field Trip

Lab Activities

No information provided

Objectives

At the conclusion of this course, the student should be able to:

1) Demonstrate a fundamental understanding of concepts, principles and interactions of Earth's systems including:

- Hydrologic Cycle
- Rock Cycle
- Plate Tectonics
- Geologic Hazards
- Impacts of Energy and Resource Usage
- Climate, Climate Change and the Greenhouse Effect
- Connectivity between geosphere, atmosphere, hydrosphere and biosphere

2) Articulate how human activities impact the environment

3) Recognize and understand how to mitigate geologic hazards

4) Explain the Scientific Method

5) Communicate complex course concepts effectively in writing and diagrams

Evaluation Methods

Shall include multiple measures of performance that may include, but are not limited to:

- Quizzes
- Exams
- Written Assignments
- Research Assignments

Textbooks

Environmental Geology (McGraw-Hill - Montgomery)

Geology and the Environment (Brooks Cole – Pipkin, Trent, Hazlett and Bierman)

Introduction to Environmental Geology (Pearson – Keller)