C-ID Descriptor
Historical Geology

Descriptor Details

- **Descriptor Title**: Historical Geology
- **Parent Descriptor**: Historical Geology with Lab GEOL 111
- **C-ID Number**: 110
- **Units**: 3.0
- **Date of Last Revision**: 10/12/2017 04:43:50 PM PDT

General Description

An introduction to Earth's history and the life it supports. Subjects include geologic dating, global tectonics, stratigraphy, fossils, biological evolution, the planet's origin and the processes that have influenced paleogeography during the past 4.6 billion years.

Prerequisites

No information provided

Corequisites

No information provided

Advisories

Introduction to Geology or Physical Geology

Content

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

Plate Tectonics

- Formation and Origin of the Earth
- Driving Mechanisms
- Plate Boundaries
- Hot Spots
- Crustal Evolution and Deformation
- Supercontinent Cycle

Earth’s Materials

- Minerals
- Igneous, Sedimentary and Metamorphic Rocks
- Rock Cycle

Fossils

- Modes of Formation
- Classification
- Ecology, Evolution and Extinction

Dating Methods

- Geologic Time
- Relative Dating
- Absolute Dating

Stratigraphy

- Catastrophism and Uniformitarianism
- Interpretation of sedimentary rock sequences

Paleogeography

- Archaean, Proterozoic and Ediacaran geologic and tectonic events
- Paleozoic geologic and tectonic events
- Mesozoic geologic and tectonic events
- Cenozoic geologic and tectonic events
- Recent geologic and tectonic events

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 and principles of Historical Geology including:

- Fossilization
- Ecology, Evolution and Extinction
- Plate Tectonics
- Geologic Time and Dating Methods
- The Supercontinent Cycle and Paleo-Climate

2) Explain formation of and basic properties of fossils, minerals and rocks

3) Explain the tectonic processes that shape the Earth over geologic time

4) Interpret sequences of geologic events

Evaluation Methods

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

- Quizzes
- Exams
- Written Assignments
- Research Assignments

Textbooks

Earth System History (WH Freeman – Stanley)

The Earth Through Time (Wiley - Levin)

Historical Geology (Brooks Cole – Wicander and Monroe)

Visualizing Earth History (Wiley - Babcock)