

Earth Sciences (ERTH)

Earth Sciences (ERTH) Classes

ERTH 101 : Introduction to Geology

Credits: 3

Class Hours: 3 lecture

Prerequisites: Qualified for ENG 100 and MATH 82X.

Corequisite Courses:

ERTH 101L

Description: This course is a study of the principles of physical geology, the composition and structure of the earth, and the processes shaping the earth's surface. We'll study geology as it affects our lives and shapes our landscape including volcanoes, earthquakes, tsunamis, and other processes such as weathering and mountain building that evolve or act over extremely long time periods. The course also explores the very nature of science and scientific inquiry through the unifying theory of plate tectonics, a dramatic example of how new evidence and understanding can revolutionize a scientific discipline.

Semester Offered: Fall, Spring

Designation:

Diversification: Physical Sciences – DP

Course Student Learning Outcomes (CSLOs):

1. Describe how the atomic structure of minerals is related to large-scale properties of the minerals, materials formed from the minerals (e.g. lava, magma, and rocks), and even the character of entire landscapes.
2. Describe the theory of plate tectonics and how it can explain observed soil, rocks, geographic features, and hazards on varying time and space scales.
3. Formulate reasonable interpretations of geological processes using historical, descriptive, systems-oriented, and/or experimental approaches.
4. Describe the internal features of Earth and how these features are studied and inferred.
5. Describe the rock cycle including descriptions of the three major rock types, their origins, and processes by which rocks can change from one type to another.

ERTH 101L : Introduction to Geology Lab

Credits: 1

Class Hours: 3 lab

Prerequisites: Qualified for ENG 100 and MATH 82X.

Corequisite Courses:

ERTH 101

Description: This course explores basic procedures of geologic investigations into the structure and properties of Earth and its geologic processes. Field trips may be required.

Semester Offered: Fall, Spring

Designation:

Diversification: Lab (Science) – DY

Course Student Learning Outcomes (CSLOs):

1. Demonstrate knowledge of relevant techniques, laboratory methods, and field methods for problems in geology.
2. Describe the practical applications and limitations of science.
3. Identify rocks and minerals using scientific approaches and geologic knowledge and methods.

ERTH 130 : Geological Hazards

Credits: 3

Class Hours: 3 lecture

Prerequisites: Qualified for ENG 100.

Description: This introductory course covers the causes of, and effects from, earthquakes, tsunamis, volcanic eruptions, landslides, rockfalls, and other natural phenomena.

Semester Offered: Fall (every odd year), Spring (every odd year)

Designation:

Diversification: Physical Sciences – DP

Course Student Learning Outcomes (CSLOs):

1. Learn the ways potential natural hazards are observed and monitored.
2. Explain why it is hard to forecast or predict natural hazards.
3. Locate the dangerous places where these natural hazards have often occurred.
4. Demonstrate knowledge of what you and your community can do to prepare for natural hazards.
5. Explain the cause of natural hazards such as earthquakes, volcanoes, landslides, storms, waves, and meteor impacts.

ERTH 214 : Kaua'i and Ni'ihau Field Geology

Credits: 1

Class Hours: 3 lab

Prerequisites: "C" or higher in EARTH 101, EARTH 101L, or EARTH 130.

Comments: As with Windward CC, students completing or concurrently enrolled in EARTH 103 (GG 103) "Geology of the Hawaiian Islands" will be sufficiently prepared for the course. Students should contact the instructor for approval to enroll.

Description: This four-day field trip course on the island of Kaua'i studies the volcanological evolution and continuing geological history of Kaua'i and Ni'ihau volcanoes. Students traveling from other islands are responsible for air and ground transportation, meals, and lodging.

Semester Offered: Fall (every even year), Spring (every even year)

Designation:

Diversification: Lab (Science) – DY

Course Student Learning Outcomes (CSLOs):

1. Demonstrate understanding of geologic hazards, mitigation of these hazards, and benefits of Hawaiian volcanism and its relationship to island culture(s).
2. Demonstrate understanding through field observation with field and laboratory exercises, geological processes that construct, modify, and destroy the Hawaiian landscape.
3. Demonstrate understanding of current research and studies of Hawaiian volcanism through visits to appropriate museums and research and field sites.
4. Demonstrate understanding of geological time applied to Hawai'i, how geologic time is measured, and time-scales known.