

# G 160: Geology: Oregon Coast

Designed to introduce the relationships between the biology and geology of the Oregon Coast.

## Addendum to Course Description

Geology: Oregon Coast (G160) is a one-term course that explores the geologic history of the Oregon Coast and the relationships between geology and the plants and animals of the Oregon Coast. Students will go on a three-day field trip around the Oregon Coast to get hands-on experience of concepts covered in the lecture portion of the class.

Students are expected to be able to read and comprehend college-level science texts and perform basic mathematical operations in order to successfully complete this course.

## Field Based Learning Statement

Earth and space sciences are based on observations, measurements and samples collected in the field. Field-based learning is recommended by numerous professional Geology organizations, including the American Geological Institute and the National Association of Geoscience Teachers. Field-based learning improves both metacognition and spatial/ visualization abilities while helping to transfer basic concepts to long-term memory by engaging multiple senses at the same time. Spatial thinking is critical to success in STEM (Science, Technology, Engineering, and Math) disciplines. Field work may include:

1. Developing skills in site characterization.
2. Application of key terms and concepts.
3. Measurement and data collection.
4. Interpretation of data and observations, and fitting them to a larger context.

Field work may be physically challenging and may require overland travel on foot or other means to field sites, carrying equipment and supplies, and making measurements in unusual or awkward positions for a length of time. Field work may include inherent risks (uneven terrain, variable weather, insects, environmental irritants, travel stress, etc.). Field work can be adapted to individual abilities.

## Evolution Statement

Regarding the teaching of basic scientific principles (such as geologic time and the theory of evolution), Oregon Coast Community College affirms the following statements about what constitutes science.

- Science is a non-dogmatic and self-correcting investigatory process. A scientific theory is neither a guess, dogma, nor myth. Instead, theories are explanations for natural phenomena based on a preponderance of evidence. Theories developed through scientific investigation are not decided in advance but can be and often are revised through observation and experimentation.
- The theory of evolution meets the criteria of a scientific theory. In contrast, "creation science," "intelligent design," or similar designations are neither self-examining nor investigatory. "Creation science" is not considered a legitimate science, but a form of religious advocacy and pseudoscience. This position is established by legal precedence (*Webster v. New Lenox School District #122*, 917 F.2d 1004).
- Geology/General Science instructors at Oregon Coast Community College will teach the basic geologic principles (such as geologic time and the theory of evolution) not as absolute truth, but as the most widely accepted explanation for our observations of the world around us. Instructors will not teach that "creation science" is anything other than pseudoscience.
- Because "creation science", "scientific creationism", and "intelligent design", and similar designations are essentially religious doctrines that are at odds with open scientific inquiry, Oregon Coast Community College stands with such organizations such as the National Association of Geoscience Teachers, the American Geophysical Union, the Geological Society of America, and the American Geological Institute in excluding these doctrines from our science curriculum.

# Course Student Learning Outcomes

After completion of this course, students will:

- Apply an understanding of basic ecological principles to the plant and animal species living on the Oregon Coast to appreciate the complexity of factors that influence the "web of life" and our place within it.
- Apply a basic knowledge of geological processes that formed this region to the impact this geology has on the biological organisms found here.
- Use scientific field research equipment.
- Communicate effectively orally and in writing.
- Successfully apply basic geological concepts in future coursework.

Credits: 2

Program: [Geology](#)