

Common Course Outline

ERSC 121

Physical Geology

3 Credits

Community College of Baltimore County

Description

ERSC 121 – 3 credits – Physical Geology provides an overview of how the Earth works, including its composition, structure, surface features and dynamic processes. Students investigate minerals and rocks, volcanoes, weathering and erosion, running water and groundwater, deserts, shorelines, faulting and earthquakes, mountain building and plate tectonics. Students participate in field trips outside of class hours. For students needing a lab, ERSC 122 Physical Geology Laboratory serves as the accompanying lab.

3 Credits

Prerequisites: ACLT 052 or ACLT 053; and MATH 082

Overall Course Objectives

Upon completion of this course students will be able to:

1. use geologic terms to describe the features and natures of objects examined in geology;
2. apply scientific methods in solving problems related to geology;
3. explain the effects of interactions among processes operating within the geosphere, hydrosphere, atmosphere, and exosphere;
4. present geologic information using written and/or oral communication;
5. analyze and present geologic data numerically and graphically;
6. interpret geologic data using mathematical methods;
7. compare and contrast how people of diverse cultures have been affected by geologic processes unique to their geographical region;
8. examine and analyze how results from various observations and technologies are used in the solution of geologic problems;
9. find, evaluate, use and cite appropriate resources to research geology topics;
10. evaluate professional behavior within the scientific community and explain the ramifications of misconduct, and
11. use technology to gather data or research topics and/or problems in geology.

Major Topics

- I. Earth cycles
- II. Crystals and minerals
- III. Volcanoes and intrusive igneous activity
- IV. Weathering and the formation of sedimentary rocks

- V. Metamorphism
- VI. Geologic time
- VII. Mass wasting
- VIII. Running water and groundwater
- IX. Deserts and shorelines
- X. Deformation, earthquakes, and Earth's interior
- XI. Seafloor topography
- XII. Continental drift and plate tectonics
- XIII. Global topics in geology and their relationships to a diverse world
- XIV. Western standards of academic and scientific integrity

Course Requirements

Grading procedures will be determined by the individual faculty member but will include the following:

Grading/exams

- A minimum of 4 exams and 5 quizzes
- A minimum of one activity requiring student collaboration
- A minimum of 5 written assignments
- Attendance will be taken each class period as per college policy but no points will be rewarded solely for attendance. However, assignments may be given that can only be completed within a certain class period.

Written Assignments

A minimum of 5 written assignments, the length and nature of which will be determined by the individual instructor. The assignments may be completed in-class or may be assigned for homework, depending on the subject matter. One written assignment will account for a minimum of 10% of the overall course grade. Students are required to use appropriate academic resources.

Extra Credit: Extra and bonus points awarded in the course should not exceed 2% of the overall course grade.

Other Course Information

This course is an approved General Education course in the Biological and Physical Sciences category. Successful completion of this course and the companion laboratory, ERSC 122, Physical Geology Laboratory, fulfills the laboratory requirement and equals 4 credits.