

# Virginia Western Community College

## GOL 105

### Physical Geology

#### **Prerequisites**

A placement recommendation for ENG 111, co-enrollment in ENF 3/ENG 111, or successful completion of all developmental English requirements.

#### **Course Description**

Introduces the composition and structure of the earth and modifying agents and processes. Investigates the formation of minerals and rocks, weathering, erosion, earthquakes, and crustal deformation.

**Semester Credits: 4**

**Lecture Hours: 3**

**Laboratory Hours: 3**

#### **Required Materials**

No required materials.

#### **Course Outcomes**

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

- Understand the difference between minerals and rocks and how each contributes to the solid framework of the earth.
- Discuss the major properties of minerals and use simple laboratory tests to demonstrate these properties to identify common rock-forming minerals.
- Differentiate between the three main types of rocks and use simple laboratory tests to identify common rocks.
- Understand and describe processes shaping the earth (e.g. weathering, stream action, wind, glaciers, ground water, etc.)
- Understand the most important aspects of the earth's interior structure.
- Be aware of how plate tectonics influences the shaping of the earth through volcanism, earthquakes, and mountain building.
- Develop a better understanding of the earth's energy resources and how they influence our everyday lives.
- Utilize their basic knowledge of geology to live a more fulfilling and effective life as a global citizen.

**Topical Description**

(Outline chapters and sections to be covered in the class– may include timeline)

<u>Topics</u>	<u>Unit</u>
1. Understanding Earth: A Dynamic and Evolving Planet	1
2. Plate Tectonics: A Unifying Theory	2
3. Minerals—the Building Blocks of Rocks	3
4. Igneous Rocks and Intrusive Igneous Activity	4
5. Volcanoes and Volcanism	5
6. Weathering, Soil, and Sedimentary Rocks	6
7. Metamorphism and Metamorphic Rocks	7
8. Earthquakes and Earth's Interior	8
9. Deformation, Mountain Building, and the Continents	10
10. Mass Wasting	11
11. Running Water	12
12. Groundwater	13
13. Shorelines and Shoreline Processes	16

**Notes to Instructors**

None.