

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: GOL 105

Credits: 4

Course Title: Physical Geology

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 crystal deformation. This course completes a one-year laboratory science when followed by GOL 106. Prerequisite: satisfactory score on reading and writing placement tests or satisfactory completion of all developmental reading and writing courses. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

General Course Purpose: This course is designed to satisfy 4 credits of a laboratory science for the Science AS, Social Sciences AS, and Liberal Arts AA degree programs.

Course Prerequisites and Co-requisites:

Prerequisite: satisfactory score on reading and writing placement tests or satisfactory completion of all developmental reading and writing courses before enrolling in GOL 105.

Course Objectives:

Upon completing the course, the student will be able to

- a. Understand the origin, composition, and structure of Planet Earth;
- b. Understand the relationship between earth materials and active surface and subsurface processes;
- c. Understand the origin of non-renewable earth resources and their geopolitical importance;
- d. Understand the Dynamic Earth and plate tectonics;
- e. Understand the importance of humankind's inheritance from Planet Earth and our responsibilities as stewards of the planet.

Major Topics to Be Included:

- a. Composition of Planet Earth and Mineralogy
- b. The Rock Cycle, Igneous Rocks, and Volcanism
- c. Weathering, Soils, and Sedimentary Rocks
- d. Metamorphic Rocks
- e. Mineral and Energy Resources
- f. Mass Wasting, Rivers, Ground Water, Wind, Glaciers, and Shorelines
- g. Earth's Interior, Earthquakes, Mountain Building, and Continents
- h. Ocean Floors and Plate Tectonics

Effective Date of Course Content Summary: February 16, 2009