

TENNESSEE CONSORTIUM FOR INTERNATIONAL STUDIES
SYLLABUS OUTLINE

COURSE TITLE: Survey of Geology
COURSE NUMBER Geology 1030

Credit Hours: 4

Catalog Course Description: This course focuses upon the Earth's structure, function, physical processes, and location in space. Emphasis is given to the external and internal forces that mold the face of the Earth and its atmosphere.

How Program Site Will Be Incorporated into the Course: The program site will afford opportunities for fieldwork as well as classroom instruction. Students will experience firsthand the applications of the principles which underlie any study of geology as they visit related sites, including field sites and museums.

Prerequisites: None

Textbook(s) and Other Course Materials:

Physical Geology, Plummer & McGeary, 11th ed.

I. Week/Unit/Topic Basis: modify for number of weeks

| Week | Topic |
|-------------|---|
| 1 | Introduction to Earth Science; Minerals-Building Blocks of Earth; Earth's Interior |
| 2 | Rocks: Materials of the Solid Earth; Plate Tectonics; Geologic Time; Glaciers & Deserts |
| 3 | Mountain Building; Dynamic Oceans; Weathering Processes; |
| 4 | Earthquakes; Running & Groundwater |
| 5 | |
| 6 | |

II. Course Objectives*: Upon completion of this course, students will be able to:

- A. Explain the ways the Earth's complex systems of rock, oceans, air, & life are interconnected and how these systems have shaped human responses to environments through time, historically and in present.
- B. Define the theory of plate tectonics and describe the processes resulting from the movements of the plates, including the formation of mountain ranges, eruptions of volcanoes, ocean energy activity, and continental drift.
- C. Describe and illustrate processes and natural features of the Earth, including earthquakes, volcanic eruptions, floods, hurricanes, and mass wasting events, and justify the many ways in which knowledge of these can be used to minimize the hazards associated with them.
- D. Evaluate the uses of energy and material resources in order to better understand the consequences of misusing them.
- E. Examine and evaluate geological features of landscapes in various locations. Infer the causes of those features and produce and defend possible hypotheses related to the origins of those features based on geological concepts and principles presented in this course.
- F. Support the contention that geology ties the disparate sciences together, and offer examples of ways in which the study of geology can increase scientific literacy in other science disciplines.
- G. Evaluate specific physical features by bringing to bear all the information gleaned from lecture topics. Students will reconstruct a geological situation/history based on the features of specific geological formations.
- H.

*Roman numerals after course objectives reference TBR's general education goals.

III. Instructional Processes*:

Students will:

- 1. Students will visit sites in and around Cape Town over the course of their stay, and field trips to geological sites in the area will be routine. Visits to Cape Point, The Cape of Good Hope, Robbens Island, and local towns are planned.
- 2. Classes will be held for approximately three hours a day during the weeks abroad. Classes will convene at various locations including museums and local campuses as well as at the home site.
- 3. Students will travel to Johannesburg for several days and, while there, will visit several museums, exploring the history of the peoples and places of South Africa. Special attention will be paid to the geology of the Johannesburg area.
- 4. Guest speakers will be invited to address the students, thereby allowing them to

become more familiar with the people and issues of the region.

*Strategies and outcomes listed after instructional processes reference TBR's goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

IV. Expectations for Student Performance*:

Upon successful completion of this course, the student should be able to:

1. Identify the major concepts of geology.
2. Identify and classify common rocks, minerals, and fossils.
3. Identify the three main types of volcanoes and distinguish between intrusive and extrusive processes.
4. Understand the processes of weathering and mass wasting.
5. Explain the major concepts of uniformitarianism, cross-cutting, inclusions, original horizontality, lateral continuity, and superposition and how they are applied to rock strata interpretation.
6. List the major periods of geologic time and explain the evolutionary levels in each.
7. Explain the theories of continental drift, seafloor spreading, and plate tectonics, and how these are used in geological studies today.
8. Demonstrate understanding of the difference between relative time and absolute age.
9. Identify the various layers of the Earth's interior, the ocean's layers, and the layers of the atmosphere and explain how interactions between and among the layers occur.

*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:

A. Testing Procedures: Students will perform written analyses of outside readings.

Daily quizzes over material presented will be given.

Students will be required to keep a daily photo journal as well as a written journal, to be collected at the end of the course and returned after grading.

Students will make a very simple rock & mineral collection, identifying their specimens and what the specimens tell us about the various collection locales.

B. Research Paper: If applicable

Students will write papers about the region's geology, as a whole, when we move into the last week of the course. Using their collections, journals, outside readings, etc., they will summarize what they have learned about South Africa's geological story.

C. Other Evaluation Methods:

D. Grading Scale:

| | | |
|----------|---|----|
| 92-100 | = | A |
| 89-91 | = | B+ |
| 82-88 | = | B |
| 79-81 | = | C+ |
| 72-78 | = | C |
| 65-71 | = | D |
| Below 65 | = | F |

VI. Policies:

A. Attendance Policy:

Attendance is of utmost importance in study abroad courses. There are no unexcused absences permitted. Multiple unexcused absences are grounds for removal from the program. Being in class on time is also very important. Frequent tardiness will be considered an absence and appropriate action will be taken. Absences due to illness must be reported immediately to the program director.

B. Academic Dishonesty:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices: Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments. In addition to other possible disciplinary sanctions that may be imposed as a result of academic misconduct, the instructor has the authority to assign either (1) an F or zero for the assignment or (2) an F for the course.

VII. Instructional Hours:

This course will consist of a minimum of 37.5 full hours of formal instruction.