

Common Course Outline for: GEOL 1101 – Physical Geology

A. Course Description

1. Number of credits: 4
2. Lecture hours per week: 3
Lab hours per week: 2
3. Prerequisites: None
4. Co-requisites: None
5. MnTC Goals: Goal 3 - Natural Science and Goal 10 – People and the Environment

This course is an introduction to materials and structure of the earth and processes acting internally and externally to change it. It includes identification of common rocks and minerals, as well as other laboratory activities.

B. Date last revised: March, 2015

C. Outline of Major Content Areas

- a. Minerals and Rocks
- b. Geologic processes
- c. How the Earth works
- d. Interactions between human activity and the natural environment

D. Course Learning Outcomes

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

1. Explain using scientific theories how geologic processes function and interact.
2. Demonstrate basic geological field knowledge through the identification of minerals and rocks and interpretation of topographic maps
3. Demonstrate, through lab activities, the ability to perform the scientific method (formulate hypotheses about geologic processes, collect and analyze measurements of the processes, and assess the validity of your hypotheses on the basis of your data analysis).
4. Communicate lab analyses and conclusions both orally, within lab work groups, and in the form of prepared written responses
5. Know the geologic time scale as the basis for interpreting Earth history.
6. Explain the fundamental interrelatedness of bio/physical systems and socio/cultural systems in terms of some of the ways in which people affect the environment and the ways in which humans adapt to natural systems.
7. Evaluate the range of responses that have been developed by various political and social institutions to meet the challenges of energy, mineral and water resource management.
8. Discuss appropriate human responses to issues related to environmental hazards.

E. Methods for Assessing Student Learning

Instructors may use any or all of the following, but are not limited to:

- a. Minimum of two fifty minute exams
- b. Lab exercises
- c. Any other additional work assigned

F. Special Information

- a. Students should consult their course syllabus for specific grading policies.