

North Hennepin Community College

GEOL 1130: Rocky Mountain Field Study

A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: *.*

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 03 - Natural Science

This course is designed for people interested in learning about basic principles of astronomy, geology, and meteorology in an applied setting. This course is offered as a component of our Outdoor Education Program, usually during summer session. Classes meet on campus for several weeks followed by 7-10 days in the Rocky Mountains and surrounding areas. Topics include: rock and mineral identification, geologic history of the area, geologic time, plate tectonics, topographic maps, surficial processes, physical processes of weather and astronomical features. Course is open to all students. (3 hours lecture, 3 hours lab)

B. COURSE EFFECTIVE DATES: 05/01/2000 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Students will be introduced to and work with the tools that geoscientists have used in their scientific practice to unravel our understanding of: 1) how the earth and solar system were formed, 2) the internal structure of the earth and the earth as a system and 3) the internal and external processes that shape the earth's surface and that can be natural hazards.

Course Outline

The course outline contains a description of the content, student competencies, MnTC goals, and assessments which are to be included in all sections. Instructors must include this information in their course mat

2. In addition to the topics of origin & evolution of the solar system and earth, students will be introduced to and practice using the scientific process and basic geologic concepts and content along with topographic and geologic maps to explore such topics as plate tectonics, rock and mineral identification, geologic time, earth system and cycles, landform development, climate change.

D. LEARNING OUTCOMES (General)

1. Describe and use the scientific method; explain what science is, how it works and the role of science in society; and discriminate/recognize science from pseudoscience by evaluating examples
2. Practice making observations, formulating scientific questions, developing hypotheses and means to test them, and predict outcomes related to their hypotheses
3. Describe/explain, using words and pictures: a) commonly accepted theories on the origin of our solar system, b) the subsequent development of and controls on the layered structure of earth, and c) the data/observations scientists used in support of such
4. Demonstrate, using words and pictures: a) an understanding of plate tectonic theory; b) how and why plate tectonics is considered the unifying theory in geology; and c) recognize its influence, by way of example, in formation of earth materials and landscape construction related to western North America
5. Explain and apply, using words and pictures, basic astronomic, geologic and meteorologic principles in a field setting
6. Develop an understanding of cyclicity and interaction in earth-atmosphere systems with emphasis on influence of terrane on meteorologic conditions and climate change.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 03 - Natural Science

1. Demonstrate understanding of scientific theories.
2. Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.
3. Communicate their experimental findings, analyses, and interpretations both orally and in writing.

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted