

Minnesota State University Moorhead

GEOS 109L: Introductory Geology Lab

A. COURSE DESCRIPTION

Credits: 1

Lecture Hours/Week: 1

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 03 - Natural Science

This lab complements and expands on the principles in Geos 109 by engaging students in practices of recognizing and interpreting features in rocks and minerals, using petrological and stratigraphic information to reconstruct Earth's past, using experimental and field evidence to constrain and understand geological processes, interpreting geological features in map and cross-sectional view, insight into how to use geochemical data, and problem-solving for how to remediate environmental problems. MnTC Goal 3L

B. COURSE EFFECTIVE DATES: 02/10/2022 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Mineralogy
2. Petrology
3. Paleontology
4. Stratigraphy
5. Plate tectonics
6. Seismology
7. Geochemistry

D. LEARNING OUTCOMES (General)

1. Identify key features of minerals and recognize different types of minerals.
2. Use textural and other properties of rock to infer how the rock formed.
3. Construct geological profiles from map data.
4. Conduct an experiment and interpret experimental results.
5. Identify evidence for key geological interpretations such as past paleo environments or plate tectonics.
6. Interpret geochemical data in light of geochemical processes and cycles.

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