

# Minnesota State University Moorhead

## GEOS 109: Processes & History of a Dynamic Planet

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 03 - Natural Science

This course provides an introduction to physical and historical geology, including the nature of the earth, its description and the processes that govern its formation and change; rocks and minerals that make up the earth, their characteristics and how they form, and how those rocks reveal Earth's past. The course addresses aspects of mineralogy, petrology, structural geology, plate tectonics, volcanology, seismology, stratigraphy, weathering and erosion, paleontology, paleogeographic reconstruction, and geochemistry. MnTC Goal 3.

**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. Explain the origin and nature of the physical features and properties of the Earth, including rocks and minerals and structures at all scales, including plate tectonic structures, internal layers of the Earth, and structural features.
2. Understand how our understanding of the Earth's past, present, and future arise from observational evidence in the field and laboratory.
3. Infer Earth's geological past based on field observations and experimental work.
4. Understand the relationships between Earth processes and human activities.

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

Goal 03 - Natural Science

1. Demonstrate understanding of scientific theories.
2. Communicate their experimental findings, analyses, and interpretations both orally and in writing.
3. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted