

Minnesota State University Moorhead

GEOS 304L: Problems in Mineralogy & Petrology

A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: 2

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites:

This course requires either of these prerequisites

GEOS 109 - Processes & History of a Dynamic Planet

GEOS 209L - Problems in Introductory Geology

Corequisites: None

MnTC Goals: None

This independent study self-learning module provides a guided opportunity to practice applying concepts from GEOS 303 (Mineralogy and Petrology) through science reasoning challenges, real-world geology problems, and self-guided labs. Problems include labs in mineral identification in hand sample and under the microscope, interpretation of rocks under the microscope, practice in recognizing symmetry patterns, interpretation of phase diagrams, application of Goldschmidt's Rules, and mineral uses and refining constraints. Pre-requisite = GEOS 109 or 209L, co-enrollment in GEOS 303 Mineralogy and Petrology recommended.

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

C. OUTLINE OF MAJOR CONTENT AREAS

1. Mineralogy
2. Igneous, Sedimentary, and Metamorphic Petrology

D. LEARNING OUTCOMES (General)

1. Identify and interpret rocks and minerals in hand sample and under the microscope.
2. Interpret phase diagrams.
3. Identify symmetry patterns.

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted