

Minnesota State University Moorhead

GEOS 345: Principles of Geomorphology & Hydrology

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites:

GEOS 110 - Water, Land & People: An Introduction to Physical Geography

Corequisites: None

MnTC Goals: None

This is an interdisciplinary course designed for students with an interest in Environmental Science with a moderate background in the physical sciences. It will include the following major topics: 1) The Earth's dynamic surface and major processes that influence the landscape types and evolution, 2) Landscape systems and types (soils, fluvial systems and drainage basins, glacial and periglacial landscapes, aeolian systems, and tectonic landscapes), 3) The influence of climate and humans on landscape types and evolution, 4) The principles of surface and groundwater hydrology, and 5) Water quality and the impact of humans on water resources. Upon completion of this course, students will have an appreciation and understanding of the geological influences on landscape and water resources, the human impact and influence on landscapes and water resources, and the influence of landscapes and water resources on society.

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

C. OUTLINE OF MAJOR CONTENT AREAS

1. Geomorphology and landscape evolution
2. Surface and groundwater hydrology

D. LEARNING OUTCOMES (General)

1. Students will have an appreciation of how geologic processes contribute to the evolution of landscapes.
2. Students will better understand how field work and laboratory analysis can be used to recognize landscape evolution.
3. Students will have an appreciation for how landscape contributes to the hydrologic character (both surface and groundwater) of a particular region.
4. Students will gain an understanding of how to characterize drainage basins.
5. Students will gain an appreciation of how to characterize groundwater aquifers and groundwater flow.
6. Students will learn the techniques to assess groundwater availability and potential pollutants through sampling and laboratory analysis.

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted