

# GEOLOGY (GEOL)

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## GEOL 110 The Dynamic Earth 4.00

An introductory science class that emphasizes the foundational principles and concepts of geology. Topics include: minerals, rocks, Earth's internal structure, plate tectonics, geologic structures, the rock cycle, climate change, glaciers, groundwater, geologic structures, the rock cycle, climate change, glaciers, groundwater, geologic resources and earthquakes. One weekend field trip. (Lecture 3 hours, laboratory 2 hours).

### University Studies Requirements:

- UST: Lab Science

### Typically Offered:

- On-Campus: Fall;

## GEOL 120 Our Water Resources 4.00

The Water & Environment course is designed for all students and aim to train students broadly in water resources. The course will be emphasizing on surface water, groundwater, water use, water quality, dams, water allocation, water use conflict, and emerging water issues. Water resources will be linked to the environmental issues that facing our globe. Problem in global change related to the land surface and water through hydrological cycle, contamination, recharge-discharge, and water scarcity will be addressed. Students will work with various software (Aquachem, GIS, Excel) and learn through the lab and assignments problem solving skills.

### University Studies Requirements:

- Environmental Science
- UST: Lab Science

### Typically Offered:

- On-campus: Spring;

## GEOL 170 Earth Science for Teachers 2.00

Broad survey of basic concepts and principles of astronomy, geology, oceanography and meteorology. Emphasizes the relationship between Earth processes and the fundamentals of chemistry, physics, and biology. Designed especially for elementary education majors in order to fulfill an earth science requirement. This class does not meet the University Studies requirement for a laboratory science. (Lecture one hour, laboratory two hours.)

### Typically Offered:

- On-campus: Select Semesters;

## GEOL 189 Geology Elective 1.00-12.00

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

## GEOL 289 Geology Elective 1.00-12.00

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

## GEOL 289ES Geology Elective Environmental Science 1.00-12.00

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

## GEOL 289GA Geology Elective Global Awareness 1.00-12.00

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

### University Studies Requirements:

- UST: Global Awareness

## GEOL 289LS Geology Elective Lab Science 1.00-12.00

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

## GEOL 315 Climatology 3.00

Exploration of the processes that control Earth's climate and influence climate change affect the environment on timescales of hundreds of millions to tens of years. The first half of the course focuses on understanding the various components of the Earth system that affect climate. The second half emphasizes case studies and techniques useful for understanding climate change.

### Prerequisites:

Prerequisite for taking this course is completion of BIOL 130, CHEM 105, or GEOL 110.

### Typically Offered:

- On-campus: Spring, Even Years;

## GEOL 360 Geomorphology 4.00

Geomorphology is the study of landscapes and landforms. Geomorphology entails the systematic description of landforms, analysis of the processes that form them, and understanding their response to changes in climate, tectonics, human disturbance, and the progression of time. Includes field trips. (Lecture 3 hours, laboratory 2 hours)

### Prerequisites:

Prerequisite for taking this course is completion of GEOL 110 and completion or co-enrolled in GEOG 241 or instructor permission.

### Typically Offered:

- On-campus: Spring, Odd Years;

## GEOL 389 Geology Elective 1.00-12.00

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

**GEOL 400 Watershed Hydrology 4.00**

A study of water properties, occurrence, distribution, and movement and their relationship with the environment within each phase of the hydrological cycle. Examines water quantity and quality issues, and water management policies. Uses mix of lecture- and problem-based approaches. Students will be introduced to techniques used in addressing environmental problems such as flooding, water supplies, and groundwater contamination and evaluation. Recommended for science students interested in the environmental sciences and/or securing a position in the environmental field. (Lecture three hours, laboratory two hours.)

**Prerequisites:**

Prerequisite for taking this course is successful completion of CHEM 105 and either GEOL 110 or GEOL 120 or instructor consent. MATH 113 is recommended.

**Typically Offered:**

- On-campus: Select Semesters;

**GEOL 481 Special Topics 1.00-4.00**

In-depth study of specialized current topics in geology selected by the faculty on the basis of student/community interest. May include workshops, seminars, field trips, special problems, independent study, etc. May be repeated when topics are different. Offered on demand. Instructor consent required.

**Typically Offered:**

- On-campus: Select Semesters;

**GEOL 489 Geology Elective 1.00-12.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

**GEOL 489ES Geology Elective Environmental Science 1.00-12.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-S course.

**GEOL 489GA Geology Elective Global Awareness 1.00-12.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

**University Studies Requirements:**

- UST: Global Awareness

**GEOL 489LS Geology Elective Lab Science 1.00-12.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-S course.