

# GEOLOGY (GLG) - ROCK COUNTY

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## Courses

### GLG 100 Introduction to Geology 3 Units

A brief study of minerals, rocks, fossils, geologic maps, & the processes creating & modifying the surface & subsurface features of earth. Field trip(s) may be required. May not be taken for credit by students who have had GLG 101.

### GLG 101 Physical Geology 4-5 Units

Study of the physical nature of Earth: the processes in operation above, on & beneath the surface that continue to shape its physical evolution (e.g. volcanism, plate tectonics, faulting & earthquakes, glaciation, rivers); the origin & nature of common minerals & rocks & their distribution in the world; landscapes & their origins (e.g. mountain ranges, glacial forms, river valleys, etc.). Lab work includes the study of rocks & minerals, the interpretation of geological & topographic maps & aerial photographs, along with data, map & chart analysis. Two or four hours of lab per week depending on the credit. Field trip(s) may be required. May not be taken for credit by students who have had GLG 100

### GLG 102 Historical Geology 4-5 Units

Study of the history of the Earth, beginning with its place in the solar system. An Intro to common rocks & minerals, to geological principles & reasoning, & to concepts of geologic time. Study of how the physical Geo. of Earth has changed through time & how the changes in the rock record tell of seas, mountain ranges, deserts, & ice ages through geologic time. Study of the fossil record & how life on Earth has changed to cope with the varying physical Env.s of Earth. Two or four hours of lab per week depending on the credit. Field trip(s) may be required.

### GLG 104 Landscapes of North America 3 Units

(GEO 104 & GLG 104 are the same) A general Surv. of the characteristics & origins of major natural/physical regions of North America, with emphasis on national parks & monuments & other public areas. Field trip(s) may be required

### GLG 107 Introduction to Maps and Air Photos 3 Units

(GEO 107 & GLG 107 are the same course.) The use & interpretation of aerial photos & other forms of remote sensing & the basics of map reading, analysis & interpretation including a brief Intro to the principles of map design & construction. Emphasis on topographic & thematic maps & air photos.

### GLG 135 Introduction to Environmental Geology 3 Units

The physical Env. & our interaction with it. Emphasis on Earth processes affecting humans, such as flooding, erosion, groundwater, landslides, & earthquakes. The impact of humans upon the Env. along with the application of the Sci. of geology to these impacts. Field trip(s) may be required. May not be taken for credit by students who have had GLG 169.

### GLG 150 Planetary Geology 3 Units

This is an Introductory course covering various subjects related to geology of planets, moons, & other small bodies in our solar system. In this course, students will learn formation, evolution & present nature of these planetary bodies using a geologic & astrophysical approach. To understand other planetary bodies, or our solar system as a whole, it is essential to examine geological processes occurring in Earth, then generalize how such processes can be applied to other planets. Therefore, a brief overview on these processes will be given during the beginning stage of the course. The course will also cover smaller planetary bodies such as asteroids, comets & meteorites, which are very important in understanding geological process in our solar system. It meets the Natural Sci. requirement for a liberal arts degree at the University of Wisconsin Colleges.

PREREQ: HIGH SCHOOL ALGEBRA

### GLG 169 Environmental Geology 4-5 Units

The physical Env. & our interaction with it. Emphasis on earth processes affecting humans, such as flooding, erosion, groundwater, landslides & earthquakes. The impact of humans upon the Env. along with the application of the Sci. of geology to these impacts. Air, water & soil pollution studied from a physical-chemical standpoint. The depletion of energy & mineral resources & the need for humans to design with nature. Two or four hours of lab per week depending on the credit. Field trip(s) may be required. May not be taken for credit by students who have had GLG 135.

### GLG 170 Disasters-Living on the Edge 3 Units

(Same as GEO 170) Study of various Environmental hazards, their causes, impacts on humans, & mitigations. Core topics are natural hazards (earthquakes, volcanoes, flooding, landslides, tornadoes, hurricanes), & anthropogenic hazards (climate change/global warming, nuclear hazards, & overpopulation). Additional topics may be covered: coastal hazards, pollution of groundwater, air, soil, & water, other atmospheric hazards (extreme weather, droughts), impacts from space, extinctions, biohazards, chemical hazards, & terrorism.

### GLG 180 Forensic Geology 3-4 Units

Study of geology & how the geologic Sci.s contribute to the solving of crimes. The course includes examination of rocks & minerals, sediments, soil, fossils, pollen, maps & air photos as well as various geologic techniques such as optical microscopy, scanning electron microscopy, x-ray diffraction & ground-penetrating radar. The geologic subjects & techniques will be covered from a forensic point of view. The course includes hands-on approaches & development of critical observation skills. Field trip(s) required.

### GLG 251 Introduction to Soil and Water Resources 4 Units

Course material is presented in an interdisciplinary manner providing a comprehensive examination of the physical, chemical, & biological properties of soil & water resources, & how these are linked to watershed processes & land use practices on the landscape level.

### GLG 270 Global Climate Change: Past, Present, and Future 3 Units

This course will examine contemporary scientific thought on the cycles of climate change, understanding of past climate conditions, the current state of the atmosphere, & predictions for future change & adaptation strategies. Close emphasis will be placed on evidence for climate change through cultural evidence for change (journals, historical documents) as well as physical evidence & proxies (tree rings, fossils, ice cores, sediments). Past periods of climate change will be analyzed in order to understand how life was affected during those events as well as to set the context to better understand scientific thought on current & future climate trends.

**GLG 291 Geological Field Study 1-6 Units**

Formal classroom study of an area of geologic interest followed by field study of the area. May be taken for credit more than once.

**GLG 294 Internship in Geology 1-3 Units**

An internship designed to provide students with opportunities to apply knowledge & skills learned in Geology courses to professional situations & to gain experience working in a geology-related institution (planning office, department of natural resources, mapping service, state & county soil office, geology/natural or earth Sci. museum, petroleum industry, etc.). The internship is intended for advanced students with prior Geology coursework. Students will work under the supervision of a faculty member & receive credit based on hours employed & completion of a final report summarizing how their experiences reflect classroom learning & how they will apply their experience in future work. Repeatable for a maximum of six credits.

**GLG 297 Special Topics in Geology 1-3 Units**

Designed to cover topics not ordinarily covered in existing courses, or that cannot be accommodated in existing course formats. The topics selected in this course will depend on competencies of available staff & will be announced in the course timetable. May be taken more than once for credit if topics are different.

PREREQ: CONSENT OF INSTRUCTOR

**GLG 299 Independent Study 1-3 Units**

Individual study under the supervision of an instructor. May involve seminar presentation. May be taken more than once if topic is different.

PREREQ: CONSENT OF INSTRUCTOR

**GLG 309 Geomorphology 3 Units**

Principles & analysis of geomorphic processes & resulting l&forms. Field trip.

PREREQ: ONE OF THE FOLLOWING: GLG 100, GLG 101, GLG 135, GLG 169, GEO 120, GEO 124

**GLG 343 Glacial and Pleistocene Geology 3 Units**

Principles, characteristics, & work of glaciers; events of the Pleistocene Period. Field trips.

PREREQ: ONE OF THE FOLLOWING: GLG 100, GLG 101, GLG 135, GLG 169, GEO 120, GEO 124