



## Geology Courses

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### **GEOL 1110 Physical Geology (4 credits)**

Introduction to modern geology. Study of rocks and minerals and the processes operating on Earth. Lecture and laboratory. Liberal Education Goal Areas 3 (LC) & 10.

### **GEOL 1120 Historical Geology (4 credits)**

Introduction to the history of Earth. Includes study of major fossil groups and significant geologic events with an emphasis on North America. Lecture and laboratory. Liberal Education Goal Area 3 (LC).

### **GEOL 2110 Mineralogy and Petrology (4 credits)**

Identification and occurrence of minerals and igneous, metamorphic and sedimentary rocks. Introduction to diagnostic tests including spectrometer and polarizing microscope. Lecture and laboratory. Prerequisites: GEOL 1110 and GEOL 1120.

### **GEOL 2730 Introduction to Planetary Science (4 credits)**

An introduction and examination of the solar system, planets, satellites, asteroids, comets, and meteorites. Atmospheric phenomena, magnetic fields, cosmic particles and the human presence in Space are included. Includes laboratory-like activities and exercises. Liberal Education Goal Area 3.

### **GEOL 2925 People and the Environment: Earth Science Perspective (3 credits)**

Application of the Earth Sciences in understanding the causes of, and solutions to, environmental problems. Environmental perspectives on geologic hazards. Liberal Education Goal Area 10.

### **GEOL 3120 Soils (4 credits)**

Introduction to principles of soil genesis, classification, physical and chemical properties, and biological significance. Lecture and laboratory. Prerequisites: BIOL 1211 and BIOL 1212 or consent of instructor. May not be offered every year.

### **GEOL 3211 Environmental Hydrology (3 credits)**

Factors affecting the occurrence and availability of ground and surface waters. Water budgets and the hydrologic cycle, watershed behavior and flood prediction. Types of aquifers and confining beds, aquifer properties, groundwater flow, introduction to groundwater chemistry; water law and management. Prerequisites: GEOL 1110 or GEOL 1120, MATH 1170 or equivalent, or consent of instructor.

### **GEOL 3212 Hydrogeology (3 credits)**

Groundwater flow to wells, aquifer test analysis, groundwater exploration techniques, application of computer models in groundwater studies, hydrogeologic field methods, contaminant hydrogeology, vadoze zone hydrology. Lecture and laboratory. Prerequisites: GEOL 3211 or consent of instructor. May not be offered every year.

### **GEOL 3400 Glacial and Pleistocene Geology (3 credits)**

Modern concepts of glaciology and glacial geology. Interpretation of the phenomena and effects on the landscape. Lecture and laboratory. Prerequisite: GEOL 1110.

### **GEOL 3500 Topics in Paleontology (3 credits)**

Introduction to major groups of organisms that are commonly preserved as fossils. Focus of class may vary between offerings; including invertebrate and vertebrate paleontology, introductory micropaleontology, palynology and pollen analysis. May be repeated as topics change. Lecture and laboratory. Prerequisite: GEOL 1120. (May not be offered every year.)

### **GEOL 3600 Stratigraphy and Sedimentation (3 credits)**

Study of sedimentary rocks. Recognition of the physical and biologic factors affecting deposition. Introduction to stratigraphic principles. Lecture and laboratory. Prerequisites: GEOL 1110, GEOL 1120, and GEOL 2110 (Might not be offered every year.)

### **GEOL 3700 Environmental Geophysics (3 credits)**

Introduction to geophysical processes and geophysical field methods commonly used in environmental evaluation. Interdisciplinary approach to an understanding of the physical environment. Lecture and laboratory. (Might not be offered every year.)

### **GEOL 4910 Directed Independent Study (3 credits)**

Arranged individual study.

### **GEOL 4970 Internship (3 credits)**

Graded Satisfactory/Unsatisfactory only. Student internships may be either full-time or part-time in a public or private agency appropriate to the degree objective. Internships consist of closely supervised periods of service that are arranged in advance of the course registration. Students should consult their advisor concerning prerequisites.

### **GEOL 4980 Research (3 credits)**

Research carried out by the student that is based on appropriate methodology and scholarship.

## All-University Courses

The course numbers listed below, not always included in the semester class schedule, may be registered for by consent of the advisor, instructor, or department chair, or may be assigned by the department when warranted. Individual registration requires previous arrangement by the student and the completion of any required form or planning outline as well as any prerequisites.

1910, 2910, 3910, 4910 DIRECTED INDEPENDENT STUDY  
1920, 2920, 3920, 4920 DIRECTED GROUP STUDY  
1930, 2930, 3930, 4930 EXPERIMENTAL COURSE  
1940, 2940, 3940, 4940 IN-SERVICE COURSE  
1950, 2950, 3950, 4950 WORKSHOP, INSTITUTE, TOUR  
1960, 2960, 3960, 4960 SPECIAL PURPOSE INSTRUCTION  
1970, 2970, 3970, 4970 INTERNSHIP  
1980, 2980, 3980, 4980 RESEARCH  
1990, 2990, 3990, 4990 THESIS