Geology Courses

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 1910 Directed Independent Study (3 credits)
Arranged individual study.

GEOL 1920 Directed Group Study (3 credits)
Arranged group study.

GEOL 1930 Experimental Course (3 credits)
A course proposed for inclusion in the University curriculum. May not be offered more than two times as an experimental course.

GEOL 1940 In-Service Course (3 credits)
A course for practitioners seeking additional training or expertise in their current vocation or profession. The in-service format typically includes an educational experience in which a University faculty member and a group of students concentrate on working toward the resolution of a specific problem.

GEOL 1950 Workshop, Institute, Tour (3 credits)
An intense, credit-granting academic experience of short duration (usually from two days to two weeks) that is not listed in the current University curriculum. Provides for the practical application of theoretical learning within a group setting, and may include the development of methods and skills and the discussion of ideas and principles.

GEOL 1960 Special Purpose Instruction (3 credits)
A course intended for specific groups or organizations outside the University community.

GEOL 1970 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 1980 Research (3 credits)
Research carried out by the student that is based on appropriate methodology and scholarship.

GEOL 1990 Thesis (3 credits)
A thesis written by the student that reports extensive original research carried out by the student and demonstrates appropriate methodology and scholarship.

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 or GEOL 1120 or consent of instructor.

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 2910 Directed Independent Study (3 credits)
Arranged individual study.

GEOL 2920 Directed Group Study (3 credits)
Arranged group study.

GEOL 2925 People of 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 2930 Experimental Course (3 credits)
A course proposed for inclusion in the University curriculum. May not be offered more than two times as an experimental course.

GEOL 2950 Workshop, Institute, Tour (3 credits)
An intense, credit-granting academic experience of short duration (usually from two days to two weeks) that is not listed in the current University curriculum. Provides for the practical application of theoretical learning within a group setting, and may include the development of methods and skills and the discussion of ideas and principles.

GEOL 2960 Special Purpose Instruction (3 credits)
A course intended for specific groups or organizations outside the University community.

GEOL 2970 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 2980 Research (3 credits)
Research carried out by the student that is based on appropriate methodology and scholarship.

GEOL 2990 Thesis (3 credits)
A thesis written by the student that reports extensive original research carried out by the student and demonstrates appropriate methodology and scholarship.

GEOL 3120 Soils (4 credits)
Introduction to principles of soil genesis, classification, physical and chemical properties, and biological significance. Lecture and laboratory. Prerequisites: (BIOL 1400 or BIOL 1120) and (GEOL 1110 or BIOL 1500) or consent of instructor. May not be offered every year.

GEOL 3121 Environmental Hydrology (3 credits)
The course provides a basic understanding of the principles and processes governing the movement of water through the hydrologic cycle, including atmospheric moisture flow, surface runoff, infiltration, and groundwater flow. Environmentally relevant applications based on case studies will be studied. The course include coverage of global issues related to water resources, sustainable development, and climate change. Prerequisites: GEOL 1110 and MATH 1170 or equivalent, or consent of instructor.

GEOL 3122 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, vadose 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 or consent of instructor.

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 or GEOL 1120, and GEOL 2110.

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 3910 Directed Independent Study (3 credits)
Arranged individual study.

GEOL 3920 Directed Group Study (3 credits)
Arranged group study.

GEOL 3930 Experimental Course (3 credits)
A course proposed for inclusion in the University curriculum. May not be offered more than two times as an experimental course.

GEOL 3940 In-Service Course (3 credits)
A course for practitioners seeking additional training or expertise in their current vocation or profession. The in-service format typically includes an educational experience in which a University faculty member and a group of students concentrate on working toward the resolution of a specific problem.

GEOL 3950 Workshop, Institute, Tour (3 credits)
An intense, credit-granting academic experience of short duration (usually from two days to two weeks) that is not listed in the current University curriculum. Provides for the practical application of theoretical learning within a group setting, and may include the development of methods and skills and the discussion of ideas and principles.

GEOL 3960 Special Purpose Instruction (3 credits)
A course intended for specific groups or organizations outside the University community.

GEOL 3970 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 3980 Research (3 credits)
Research carried out by the student that is based on appropriate methodology and scholarship.

GEOL 3990 Thesis (3 credits)
A thesis written by the student that reports extensive original research carried out by the student and demonstrates appropriate methodology and scholarship.

All-University Courses

GEOL 4910 Directed Independent Study (3 credits)
Arranged individual study.

GEOL 4920 Directed Group Study (3 credits)
Arranged group study.

GEOL 4930 Experimental Course (3 credits)
A course proposed for inclusion in the University curriculum. May not be offered more than two times as an experimental course.

GEOL 4940 In-Service Course (3 credits)
A course for practitioners seeking additional training or expertise in their current vocation or profession. The in-service format typically includes an educational experience in which a University faculty member and a group of students concentrate on working toward the resolution of a specific problem.

GEOL 4950 Workshop, Institute, Tour (3 credits)
An intense, credit-granting academic experience of short duration (usually from two days to two weeks) that is not listed in the current University curriculum. Provides for the practical application of theoretical learning within a group setting, and may include the development of methods and skills and the discussion of ideas and principles.

GEOL 4960 Special Purpose Instruction (3 credits)
A course intended for specific groups or organizations outside the University community.

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.

GEOL 4990 Thesis (3 credits)
A thesis written by the student that reports extensive original research carried out by the student and demonstrates appropriate methodology and scholarship.

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 prior 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