

Course Descriptions

FREN 3610
French Literature to 1700
 3:3:0 **On Sufficient Demand**
 • Prerequisite(s): Students need equivalent knowledge of FREN 3050
 Introduces chronologically to 1700 representative French authors. Emphasizes literary analysis and criticism. Completers should develop knowledge of literary history, acquire skills in interpreting literary texts, and deepen understanding of the French language. Presentations and class instruction conducted entirely in French.

FREN 3620
French Literature from 1700
 3:3:0 **On Sufficient Demand**
 • Prerequisite(s): Students need equivalent knowledge of FREN 3050
 Introduces chronologically from 1700 representative French authors. Emphasizes literary analysis and criticism. Completers should develop knowledge of literary history, acquire skills in interpreting literary texts, and deepen understanding of the French language. Presentations and class instruction conducted entirely in French.

FREN 4200
Advanced Business French
 3:3:0 **On Sufficient Demand**
 • Prerequisite(s): Students need equivalent knowledge of FREN 3200
 For those taking the exam leading to the Diplome de francais des affaires (DFA 2) awarded by the Chambre de Commerce et d'Industrie de Paris. Emphasizes case studies, marketing, resumes, cover letters, job interviews, computers, and the Internet. Taught entirely in French.

FREN 490R
Special Topics in French
 3:3:0
 • Prerequisite(s): FREN 2020 or instructor approval.
 Studies topic in detail not offered in other courses. Addresses key aspects of the topic. Engages students in critical analysis and discourse. Develops language skills requisite to such analysis and specific to the topic. Possible topics include French Film, Translation and Interpretation, Francophone Literature, Women's Texts, Courtly Love. Conducted entirely in French. May be repeated for up to nine credit hours towards graduation.

GEO—GEOLOGY

GEO 1010** **PP**
Introduction to Geology
 3:3:0 **Su, F, Sp**
 Studies planet earth: its materials, structure, dynamics, and surface features. Taken alone it is designed for non-science students who want a broad introduction to earth science and a greater appreciation of their physical surroundings. Taken in conjunction with laboratory exercises in GEOL 1015, the class is sufficiently rigorous to articulate as an introductory geology class.

GEO 1015
Introduction to Geology Laboratory
 1:0:2 **Su, F, Sp**
 Designed to be taken in conjunction with GEO 1010. Includes the identification of rocks, minerals, basic land forms and structures. Studies geologic

processes occurring in desert, glacial, mountainous and other environments. Taken with GEO 1010, the class will articulate as an introductory earth science class.

GEO 101H **PP**
Introduction to Geology
 3:3:0 **F, Sp**
 Studies the structural and dynamic systems of the earth that create our environment. Stresses geology and related topics chosen for astronomy and meteorology.

GEO 1020** (Cross-listed with: BIOL 1200) **PP**
Prehistoric Life
 3:3:0 **Sp**
 • Prerequisite(s): BIOL 1010 or GEO 1010 recommended
 Studies prehistoric life. Uses the concepts of biology and physical science. Studies major groups of ancient animals and plants as found in the rock record. Includes aspects and fundamental concepts of biology, ecology, and geology.

GEO 102H
Introduction to Geology Laboratory
 1:0:2 **F, Sp**
 Includes identification of basic land forms and structures. Studies the geologic processes occurring in desert, glacial, mountains, and other environments. Includes an extended outdoor activity to the Grand Canyon or Capital Reef National Park.

GEO 1080 **PP**
Introduction to Oceanography
 3:3:0 **F, Sp**
 Introduces the origin and development of the oceans, marine geology and its effect on life in the seas. Discusses waves, tides, currents, and their impact on shorelines, the ocean floor, and basins. Examines physical processes as they relate to oceanographic concepts. Includes media as an alternative to the actual oceanic experience. Completers should have a basic knowledge and appreciation of the ocean's impact to the world's ecology.

GEO 1085
Introduction to Oceanography Laboratory
 1:0:2 **F, Sp**
 A basic laboratory experience in the physical aspects of Oceanography. Introduces applied skills in Oceanography such as Marine Geology and Oceanographic Chemistry. Studies the physical parameters that allow marine life to flourish. Uses maps to study the structure of the sea floor and its relationship to plate tectonics. Provides hands-on experiences with salinity and marine chemistry.

GEO 1220 **PP**
Historical Geology
 3:3:0 **F**
 Examines the origin and development of the Earth. Studies the succession of animals and plants from trilobites through dinosaurs and eventually to man himself, following the changing earth environment in the process. Designed for non-science students who desire an understanding of the history of the Earth. Taken in conjunction with laboratory exercises in GEO 1225, the class is sufficiently rigorous to articulate as an introductory earth science class.

GEO 1225
Historical Geology Laboratory
 1:0:2 **F**
 Designed to be taken in conjunction with GEO 1220. Identifies fossils in correlation with their paleoenvironments and geologic time periods. Illustrates and duplicates methodology of the science of historical geology. Taken with GEO 1220, the class will articulate as an introductory earth science class.

GEO 202R (Cross-listed with: BIOL 202R)
Science Excursion
 1:0:2 **F, Sp**
 For students interested in the natural world. For students interested in the natural world. Explores a wide variety of topics in science, including geology, botany, astronomy, zoology, ecology, and archeology. Consists of a minimum of a four-day field trip. Participants should gain an increased understanding of several fields of scientific study. Graded as credit/no credit. May be repeated as many times as desired for interest, however a maximum of 3 credits may count toward graduation.

GEO 204R (Cross-listed with: BIOL 204R) **PP**
Natural History Excursion
 3:1:6 **Su**
 For students interested in the natural world. Promotes an in-depth look at a wide variety of topics in science, including geology, botany, astronomy, zoology, ecology, and archeology. Consists of 15 hours of lecture plus an appropriate field trip. Participants should gain an interdisciplinary understanding of science and nature.

GEO 3080
Earth Materials
 4:3:3 **F**
 • Prerequisite(s): GEO 1010, GEO 1015; CHEM 1210 (or other chemistry course) recommended.
 Investigates geologically significant rocks and rock-forming minerals. Includes origins, occurrences, and associations of several rocks and minerals. Includes hand sample and microscopic methods of identifying rocks and minerals in the laboratory. Involves field trips, possibly including weekend trips.

GEO 3200
Geologic Hazards
 4:3:2 **F**
 • Prerequisite(s): GEO 1010, GEO 1015
 Investigates the ways in which geologic hazards (including earthquakes, landslides, and volcanoes) impact civilization. Studies the causes of these hazards, how to assess whether each of these hazards is a concern at a particular site, and how each type of hazard can be planned for. Includes field-based exercises.

GEO 3210
Environmental Geology
 4:3:2 **Sp**
 • Prerequisite(s): GEO 1010, GEO 1015
 Investigates several of the geologic resources that are important for our society including water, soil, mineral, and fossil fuel resources. Studies the known reserves and trends in usage of each of these resources. Covers issues associated with soil and water pollution. Includes field-based exercises.

GEO 3400
Forensic Geology
4:3:3

- Prerequisite(s): CHEM 1210 and CHEM 1215 or higher
- Corequisite(s): CHEM 1220 and CHEM 1225 recommended

Provides a survey of the uses of geology in solving crime. Emphasizes actual criminal cases, hands-on laboratory activities, and critical observation skills. Covers mineral-forming processes in rock, soil, and sediment, and teaches minerals identification with a hand lens and microscope. Examines some or all of the following: mineral pigments related to art forgery and cosmetics; imitation amber and other gems; environmental pollution; and crimes in archeology. Serves as an introduction to trace analysis.

GEO 3700
Structure and Tectonics
4:3:3

Sp

- Prerequisite(s): GEO 1010, GEO 1015; MATH 1060 (or other course dealing with trigonometry) recommended.

Investigates the fundamentals of global plate tectonics and rock deformation. Includes applications to petroleum geology, environmental geology, and engineering geology. Explores geometric techniques of structural analysis in the laboratory. Involves field trips, possibly including weekend trips.

GEO 4080
Petrology
4:3:3

- Prerequisite(s): GEO 3080, CHEM 1220

Intended for students pursuing graduate school in geology or a career in geology such as mining or petroleum geology. Examines mineral equilibrium in igneous, sedimentary, and metamorphic rocks as it pertains to the genesis of these rocks. Introduces students to techniques of petrographic microscopy. Surveys the use of analytical tools in researching igneous and metamorphic rocks, including the use of isotopes for dating and for tracing the origin of magma and the use of the electron microprobe for determining temperatures of metamorphism. Examines the diagenesis of sandstones.

GEO 4200 (Cross-listed with: BIOL 4200, CHEM 4200)
Teaching Methods in Science
3:3:0

Sp

- Prerequisite(s): Acceptance into Secondary Education program; senior-level standing

Examines objectives, instructional methods, and curriculum for teaching science in the secondary school. Includes developing, adapting, evaluating, and using strategies and materials for teaching biological and physical sciences. Explores special needs of the learners and characteristics specific to the science discipline.

GEO 425R
Geology for Teachers
1 to 5:1 to 5:0 to 10

Su, F, Sp

- Prerequisite(s): Departmental Approval

For licensed teachers or teachers seeking to recertify, an update course in geology or basic geology courses for earth science or integrated science endorsements from the Utah State Office of Education. Teaches principles of geology and pedagogy of teaching geology for teachers in

public or private schools. Emphasis will be placed on correlation with the Utah Core Curriculum, the National Science Education Standards, and the Benchmarks of Project 2061. Topics will vary.

GEO 4500
Sedimentary Geology
4:3:2

Sp

- Prerequisite(s): GEO 1010, 1015; CHEM 1210 (or other chemistry) recommended.

Focuses on the three main facets of "soft rock" geology: sedimentology, petrology, and stratigraphy. Explores the origin, classification, and occurrence of sedimentary rocks, as well as their distribution in space and time as represented in the rock record. Emphasis on description and interpretation of sedimentary rocks and application of fundamental stratigraphic principles. Includes lab exercises and field trips.

GEO 4510
Paleontology
4:3:2

F

- Prerequisite(s): GEO 1010; BIOL 1010 or BIOL 1610; GEO 4500 recommended.

Focuses on systematics of the major groups of past life represented in the fossil record, including taxonomy, biogeography, and phylogeny. Explores the utility of fossils in paleoecology, paleoclimatology, and biostratigraphy. Emphasis on the application of fundamental evolutionary principles for understanding diversification, extinction, and morphological trends in the 4 billion year history of evolution of life on Earth. Includes lab exercises and field trips.

GEO 4600
Field Experience
4:0:12

Su

- Prerequisite(s): GEO 3080, GEO 3700, and GEO 4500.

An intensive field course giving students hands-on experience with several aspects of earth science field work. Involves field work for 8 to 10 hours per day, three to five days per week, for four to six weeks.

GEO 482R (Cross-listed with: ENVT 482R)
Geologic/Environmental Internship
1 to 3:0:5 to 15

- Prerequisite(s): GEO 1010 or ENVT 1110, and 12 credit hours of any GEO, GEOG, or ENVT courses, and declared major in any Earth Science program

Engages students in supervised geologic or environmental work in a professional setting. Requires approval by the Chair of the Department of Earth Science. Includes maintaining a journal of student experiences and preparing a paper summarizing their experience. A maximum of 3 credit hours may be counted toward graduation.

GEO 495R
Independent Study
1 to 4:0:3 to 12

Su, F, Sp

- Prerequisite(s): GEO 1010 and GEO 1015

Requires an independent study program to be developed with one or more Earth Science faculty member and approved by a committee of Earth Science faculty. Includes some combination of literature review, field work, numerical analysis, and/or laboratory analysis. Involves the preparation of a written report. An oral presentation may also be required. May be repeated for up to four credits.

GEOG—GEOGRAPHY

GEOG 1300
Survey of World Geography
3:3:0

SS

Su, F, Sp

For students who wish to have a better understanding of the world in which we live. Studies major countries of the world with special emphasis on location, physical environment, culture, resources, and current events.

GEOG 1400
Introduction to Human Geography
3:3:0

SS

Not 09-10

Examines the theoretical aspects of human activity across the Earth's surface. Discusses the analytical frameworks for understanding the interactions of social, cultural, economic and political systems. Topics include population dynamics, international development, human conflicts, and urbanization.

GEOG 2100
Geography of the United States
3:3:0

SS

On Sufficient Demand

Surveys primarily the regional geography of the United States and, secondarily, of Canada. Explores subregions of each country in detail. Includes topics such as culture, environment, economy, urbanization, transportation systems, territory and political borders.

GEOG 2200
Geography of Europe
3:3:0

On Sufficient Demand

Provides a regional survey of Europe including topics such as economic development, environment, politics, society and culture. Explores the place of Europe in geopolitical and global economic systems. Discusses internal relationships within the European Union, Eastern Europe and Russia.

GEOG 2500
Geography of Latin America and the Caribbean
3:3:0

On Sufficient Demand

Surveys the Americas south of the United States. Explores each subregion of Latin America and the Caribbean in detail. Includes topics such as development, environment, indigenous peoples, history, and national political and financial crises.

GEOG 3010
Economic Geography
3:3:0

On Sufficient Demand

A course encompassing the study of humankind's economic activities on the earth, including hunting, gathering, agriculture, mining, manufacturing, forestry, fishing, high technology, and world trade. Studies population, environmental issues, urban patterns, and travel and tourism. Uses lectures, oral response, field trips, and audiovisual aids.

GEOG 3110
Urban Geography
3:3:0

On Sufficient Demand

- Prerequisite(s): GEOG 1300 preferred

Focuses on the origins, growth, structure and function of cities. Examines social and political dimensions of urban life and the emergence of new urban spaces around the world. Includes case studies in the decline of urban industrial America and the rise of Sunbelt and Edge Cities.