GEOGRAPHY FIELD TRIP COURSES

2000 Utah's Backyard: An Introduction to Field-Based Physical Geography (3)
This course provides a hands-on introduction to the local environment, the factors that determine the state of our physical environment, and the in-house research programs at the University of Utah currently investigating the physical environment. The course includes four mandatory day-long field trips where you will observe, characterize, and analyze different landscapes, biological communities, and the physical processes in order to better understand the physical geography of the region around the university. You will learn about some of the physical geography data types & research methods employed in our department, and the relevance of questions being investigated. This course will teach you to better appreciate where we live, and the opportunities available in physical geography at the U. Specific topics to include, basic map interpretation skills, biogeography, geomorphology, climatology, hydrology, methods and basis for reconstructing past environments (i.e. paleoclimatology/paleoecology), remote sensing applications, and natural hazards. Class activities will include a mix of lectures, lab activities, and group discussions.

3000 Geo-Excursions in Utah (4)
Get outside and see how field science is done!. In this course, you'll see some of Utah's excellent scenery and you'll experience firsthand how geoscientists collect data on site. Learn by doing! This class is centered around weekly lectures and four Friday all-day field trips. Topics of the class will vary by semester. Current topics include: snow processes and hydrology of the Wasatch Mountains, and Utah's scenic landforms such as the Great Salt Lake and the Uinta Mountains. This class is repeatable two times for credit if taken from different instructors.

3200 Geomorphology: Mountains, Rivers, Deserts (4) Cross listed as ENVST 3200. Prerequisite: GEOG 1000 or instructor's consent. Fulfills Physical/Life Science Exploration.
Meets with GEOG 5200. Graduate students should enroll in GEOG 5200 and will be held to higher standards and/or more work. Why does Utah look different than Kansas? How did the Grand Canyon form? This course explores Earth's surface systems to see how landforms are created and modified over time. These systems include mountain building, and erosion and deposition by rivers, glaciers, landslides, wind, and shoreline processes. Analysis of landforms and processes will be directed towards understanding how the surface of the Earth got to be the way it is, and how it is changing. Comparison of different landforms will be used to illustrate how different processes operate. For example, mountain valleys carved by glaciers are significantly different than those carved by rivers. This course offers explanations for differences such as this, and explores reasons for changes that take place in landforms. Field trips will provide an opportunity to see local examples of different processes and their resulting landforms.

Meets with GEOG 5230. Graduate students should enroll in GEOG 5230 and will be held to higher standards and/or more work. Fire is an inherently geographical process. Fire can affect landscapes on spatial scales from local to subcontinental and fire can affect, and be affected by processes that occur in our day or over millennia. The past, present and future role of wildland fire is a major concern to scientists, land managers, and the public. Concerns over issues such as forest health and sustainability, especially in light of global change, have added urgency to understanding the role of fire in ecosystems. To understand the interaction of fire and ecosystems the following topics will be covered in this course: the history of humans and fire, fire physics, fire weather, wildlands fuels, fire ecology including the effects of fire on plants and soils, methods of obtaining fire history including historical documents, dendrochronology, and paleoecological proxy, fire regimes, how humans have evolved with fire, how humans have modified fire, fire management, fire problems in urban-wildland interface, and future fire regimes.
3290 Water in Utah (3) Recommended Prerequisite: GEOG 1000.
Meets with GEOG 5290. Graduate students should enroll in GEOG 5290 and will be held to higher standards and/or more work. In this course we will study different aspects of how and where water occurs in Utah, and how it is used. We will start by examining climate systems and how precipitation and temperature vary across the region. We will evaluate rainfall and snowmelt runoff events, long-term trends in stream discharge and examine where, when, and how often floods occur. Next we will see how river processes operate to create unique landforms, and examine how these landforms change over time. We will also examine how humans have altered the flow of natural channels by constructing dams and flood control structures. Additional topics may include ground water flow and storage, pollution, water development, and water conservation. This course includes a field trip.

3292 Snow and Ice (3)
Meets with GEOG 5292. Graduate students should enroll in GEOG 5292 and will be held to higher standards and/or more work. This course provides a survey of topics on snow and ice from a physical geography prospective. The formation, physical characteristics and spatial distribution of land cover types such as seasonal-snow, glaciers and sea ice will be investigated. Special attention will be given to mountain snow environments. A half-day Saturday morning field trip in the canyons along the Wasatch Front will provide local examples of snow pack stratigraphy, wind redistribution, avalanche paths, and landscape morphology shaped by previous glaciations.

3310 Introduction to Natural Hazards (3) Cross listed as ENVST 3310. Prerequisite: MATH 1030 or 1050 or an equivalent. Fulfills Physical/Life Science Exploration.
Is your house on the Wasatch Fault? Is it likely to be flooded, or buried by a landslide? This course examines the physical principles of naturally occurring geologic processes, methods of investigating hazards, techniques for assessing risk, and methods of mitigation. Course focuses on landslides, earthquakes, floods, and debris flows. Lectures will draw on Utah examples of these hazards, and present current understanding of the magnitude of the hazard, areas at risk, recurrence intervals, and mitigative measures. Field trips and projects will be directed towards identifying local areas where hazards exist.

3330 Urban Environmental Geography (3) Cross listed as ENVST 3330. Fulfills Physical/Life Science Exploration.
This course explores how physical environments impact urban development and how urban development in turn influences physical environments. The course applies earth systems science to urban issues. Students explore the interrelation of both, dynamic physical environments and urban setting. Cities across the globe and Salt Lake City are used to illustrate the interrelatedness of the geosphere, hydrosphere, atmosphere, biosphere, and anthrosphere. The course will also explore an array of topics, including air and water pollution, waste management, and urban farming and discuss strategies to make cities more sustainable.

3350 Resource Conservation and Environmental Management (3) Cross listed as ENVST 3350. Fulfills Social/Behavioral Science Exploration.
The class approaches resource conservation and environmental management from a geographic perspective and focuses on human-environmental interactions. The course considers the challenges currently facing resource conservationists, the science used to recognize environmental problems, and possible methods to prevent or mitigate the overuse of natural resources. Expert guest speakers and a field trip are incorporated into the class.

5260 Snow Dynamics and Avalanche Studies (4) Cross listed as ATMOS 5260.
Field sessions require clothing and equipment that allow students to participate in outdoor activities. Students must be able to ski or snowshoe, climb steep terrain, and safely ski back down. Two lectures or discussions weekly combined with one full afternoon in field. Second lecture meets at Alta Town Library before field session. Provides thorough background in technical avalanche forecasting procedures. Study of conditions leading to snow avalanches, broader aspects of snow in all its phases.
5712 Paleoenvironmental Field Methods for Geographers (3) Prerequisite: GEOG 3200/5200 or instructor consent.

Meets with ANTH 5712. This course will be conducted in conjunction with the University of Utah's summer program in archaeological field methods (ANTH 5712), held at Range Creek Canyon. This ten-day field course is designed to teach methods used by paleo-researchers for reconstructing past environments on a local to regional scale. Students will receive training in a variety of field techniques including survey, mapping, site description, and soil identification. Paleoenvironmental methods currently being applied in Range Creek include packrat midden analysis, bog and sediment coring, and alluvial stratigraphy, and students will participate in actual data collection contributing to the current project.

5810 Field Seminar (4 to 12) Cross listed as ENVST 5810.

Meets with GEOG 6810. Graduate students should enroll in GEOG 6810 and will be held to higher standards and/or more work. Repeatable for credit. One or more field trips. Student responsible for selected aspects of cultural and/or environmental patterns and processes.