Geography (GEOG)

GEOG 5020. Geoscience Perspectives on Global Climate Change. 3 Hours.
Prerequisite: GEOG/GEOL 1110 or GEOL 1113K or GEOL 1121K. Study of global climate change from the perspective of the geoscientist. Topics include whether or not global climate change is occurring, possible causes of global climate change, climate change in the geologic record, implications of climate change on the human population, and proposed methods and policies designed to limit or reverse processes believed to lead to global climate shange.

GEOG 5050. Computer Cartography and Image Analysis. 3 Hours.
An introducation to digital production of general and thermatic maps. Lectures and laboratory exercise cover principles of cartography and remote sensing as well as the manipulation and visualization of spatial data and imagery.

GEOG 5051. Introduction to Geographic Information Systems. 3 Hours.
Examines geographic information systems including methods of capture, storage, analysis, and display of spatially-refer- enced data. Laboratory exercises provide experience with typical GIS operations and applications.

GEOG 5052. Advanced Geographic Information System. 3 Hours.
Advanced applications of GIS including: overlay analysis, writing short macros for repetitive operations, spatial modeling and technical support of complex land use and natural resource management decision making. Laboratory exercises designed to form a cartographic and software portfolio for students.

GEOG 5053. Application Issues in Geographic Information Systems. 3 Hours.
Operational and planning issues in GIS. Students will learn which issues need to be considered when proposing and implementing a GIS and will have opportunities to evaluate how a GIS can be used to solve specific planning problems.

GEOG 5100. Regional Planning and Environmental Management. 3 Hours.
Introduction to planning for economic development, service provision and resource management at scales larger than municipalities with an emphasis on the evironmental impacts of planning policy and regulation.

GEOG 5120. Geosciences Field Trip. 3 Hours.
Prerequisites: GEOG 1113K or GEOL 1121K. Geology and geography of selected regions studied by readings on the region of interest during the first week followed by a two week field trip to points of interest. The interactions between geology, surficial processes, and organisms and how those interactions impact humans will be emphasized. Field trip destination is different each summer. Student fee required. Offered only during Summer I session.

GEOG 5150. Meteorology and Climatology. 3 Hours.
A detailed examination of atmospheric motions and climatic controls including, the Earth's radiation and energy balance air mass dynamics, wather systems, and past and present climates of the Earth.

GEOG 5200. History of Life. 3 Hours.
Principles of paleontology with emphasis on the history of life including vertebrates. Includes an account of the outstanding forms, of life from the beginning of earthtime to the present, and those paleontologically significant groups that are uncommon, different, or extinct today.

GEOG 5210. Introduction to Hydrology. 4 Hours.
An introduction to surface and sub-surface hydrology, examining components of the hydrologic cycle. Topics include local and global water balance, precipitation, interception and infiltration, runoff, stream flow, water storage, and groundwater. This course makes use of some mathematical equations.

GEOG 5300. Introduction to Process Geomorphology. 4 Hours.
An introduction to process geomorphology examining landforms and their formatiave processes. Topics include weathering and slope, fluvial, coastal, eolian, glacial, and periglacial processes and the application of soils to geomorphology. This course makes use of some mathematical equations. Field trip required.

GEOG 5310. Physiography of North America. 3 Hours.
The physiographic description, including the landforms, soils, structural framework, climate, plant and animal geography, natural resources, and the unique environmental problems of each major physiographic province of the United States and Canada, including Alaska, Hawaii, and Puerto Rico.

GEOG 5320. Geomorphology of Fluvial and Coastal Environments. 3 Hours.
An examination of processes and landforms in Fluvial (river) and coastal environments. Fluvial topics include channel geometry and pattern, characteristics of flow, sediment load bedforms, and floodplains. Coastal topics include the study of waves and tides, coastal sediment transport, beaches, and the effects of changing sea level. This course makes use of some mathematical equations.

GEOG 5410. Cultural Geography. 3 Hours.
A study of the Earth as the home of humankind, emphasizing the spatial and functional complexes of human geography. Topics to be considered are population, settlement form, settling processes, resources, and economic, political, and societal organizations.

GEOG 5510. Urban Community Planning. 3 Hours.
Principles and applications of planning for neighborhoods, towns and cities with an emphasis on the United States. Topics covered include: public services, land-use decision making, economic development, growth management and the role of non-government organizations.

GEOG 5610. Economic Geography. 3 Hours.
A study of area variations in human economic activities as related to production exchange, and consumption of economic goods and services. Emphasis is placed on location of economic activities and related theories.

GEOG 5710. Environmental Soil Science. 4 Hours.
Prerequisites: GEOG 1113K or GEOL 1121K, CHEM 1211, and CHEM 1211L. Soil properties, distribution, and classification, factors of soil formation, and the relation- ships, between soils, geomorphology, and the environment, stressing analysis and use of soils and soil databases for proper urban, agricultural, and environmental land use.

GEOG 5810. Introduction to Biogeography. 3 Hours.
Provides an overview about spatial and temporal patterns in the distributions of plant and animal species across the Earth's surface. Topics covered include ecosystem dynamics, biodiversity, competition and predation, interpreting past life, effects of climate change, and effects of community disturbances.

GEOG 5910. European Geography. 3 Hours.
Survey of European geography with a special emphasis on the European Union (EU). Topic areas covered include physical, economic, political, and cultural geography of Europe.

GEOG 5920. Geography of the Middle East. 3 Hours.
A survey of the nations of the Middle East with a special emphasis on the Arab-Israeli Conflict. Topic areas covered include physical, economic, political, and cultural geography of the Middle East.

GEOG 6700. Field Methods in Environmental Geography. 4 Hours.
Study of field techniques and field problems in physical geography. Course includes classroom presentations, field projects, field trips, and writing technical reports.

GEOG 6800. Internship in Environmental Geography. 3-6 Hours.
A supervised, practical experience using physical geography skills in an appropriate organization. Provides the student with an opportunity to apply skills learned during pursuit of environmental geography degree to real world situations. (Graded on an S/U basis).

GEOG 6900. Special Topics in Geography. 1-6 Hours.
Topic to be assigned by instructor; the course may be repeated more than once if the topics are different.

GEOG 6990. Directed Study in Geography. 1-6 Hours.
Study in area or subject not normally found in established courses offered by the department; may also allow students to explore in more detail and/or depth an area or subject covered by the department.