

SPAN 4900-SPAN 4910. Special Problems. 1–3 hours each.

SPAN 4951. Honors College Capstone Thesis. 3 hours. Major research project prepared by the student under the supervision of a faculty member and presented in standard thesis format. An oral defense is required of each student for successful completion of the thesis. Prerequisite(s): completion of at least 6 hours in honors courses; completion of at least 12 hours in the major department in which the thesis is prepared; approval of the department chair and the dean of the school or college in which the thesis is prepared; approval of the dean of the Honors College. May be substituted for HNRS 4000.

SPAN 4970. Contemporary Spanish Culture Through Cinema. 3 hours. Study of different cultural topics relevant in contemporary Spain. Topics include women in contemporary Spanish cinema, religion and Spain in contemporary Spanish cinema, globalization, Spain and Spanish cinema. Prerequisite(s): SPAN 3110. May be repeated for credit as topics vary.

French

see Foreign Languages and Literatures

General Music

see Music

Geography

Archaeology, ARCH

ARCH 2500. Introduction to Archaeology. 3 hours. A survey of the techniques, methods and theories of archaeology. An important focus of the course is on the reconstruction of the culture and ecology of prehistoric societies in both the Old World and the New World. (Same as ANTH 2500.)

ARCH 2800. Archaeological Science. 3 hours. (3;2) Human prehistory and methods of scientific investigation; emphasizes archaeological cultures from early hominid sites in East Africa to entry of peoples into the New World. Course stresses methods of interdisciplinary research, including geology, paleoenvironmental reconstruction, paleodiet and artifact-faunal analysis. Labs employ artifacts and bones for study. *May be used to satisfy a portion of the Natural Sciences requirement of the University Core Curriculum.*

ARCH 2900. Special Problems. 1–3 hours.

ARCH 3650. Origins of Civilization. 3 hours. Comparative study of the cultural, technological and ecological patterns of change leading to urban civilizations. Surveys the archaeological evidence for the domestication of plants and animals, and the emergence of villages. The art, architecture, economic and sociopolitical characteristics of early civilizations in the Near East and Mesoamerica are examined. Prerequisite(s): ANTH 1010 or ANTH 2250 or ARCH 2500, or consent of department. (Same as ANTH 3650.)

ARCH 4620. Topics in Archaeology. 3 hours. Selected topics of interest and significance in archaeology. Subjects such as historic archaeology, Texas archaeology, New World

archaeology, Old World archaeology and Meso-American archaeology are potential topics offered during different terms/semesters. Prerequisite(s): GEOG 2110, GEOG 3190 and ARCH 2500, or consent of department. May be repeated for credit as topics vary.

ARCH 4810. Archaeological Field School. 6 hours. Comprehensive training in site survey, excavation techniques, laboratory processing, restoration and analysis of archaeological materials through direct participation in an archaeological field project. Prerequisite(s): ARCH 2500 or consent of department. Held off campus; room and board fees may be required. Usually offered only during the summer months and based on the availability of field projects. This course is taught in cooperation with the Institute of Applied Sciences. (Same as ANTH 4810.)

Geography, GEOG

GEOG 1170 (GEOG 1302). Culture, Environment and Society. 3 hours. (*Regional Science*) Exploration of the dynamic relations between culture and environment addressing ethnic diversity and conflict, development and underdevelopment, settlement patterns, movement of commodities and people (including refugees), and environmental degradation. *Satisfies the Social and Behavioral Sciences requirement of the University Core Curriculum.*

GEOG 1200 (GEOG 1303). World Regional Geography. 3 hours. (*Regional Science*) Geographical characteristics, major problems and role of major world regions; emphasis on Central and South America, Africa, Middle East and Asia. *Satisfies a portion of the Understanding the Human Community requirement of the University Core Curriculum.*

GEOG 1500. Geography of the DFW Metroplex. 3 hours. Introduces students to the field of geography by examining geographical dimensions of environmental, social and economic issues in the DFW Metroplex. Blends traditional lectures with interactive web-based learning exercises using Geographic Information Systems (GIS) software to analyze a variety of datasets.

GEOG 1710 (GEOL 1401). Earth Science. 3 hours. (3;2) (*Earth Science*) Principles and processes of physical geography. Introduction to mapping, weather and climate, soil and vegetation, and landforms of rivers, coasts and deserts. *May be used to satisfy a portion of the Natural Sciences requirement of the University Core Curriculum.*

GEOG 2110. Foundations of Geographic Research. 3 hours. Introduction to research for entry-level geography majors. Journal articles are examined in detail with reference to exploring research design and implementation. Students also develop an area of research interest, choose a specific topic, and formulate research questions from which hypotheses are developed. Culminates in the development of a research plan and prospectus for a topical research question. Prerequisite(s): GEOG 1710 or GEOL 1610, and GEOG 1170 or GEOG 1200; or consent of department.

GEOG 2900. Special Problems. 1–3 hours. Individual readings and laboratory research projects in geology, earth and regional sciences.

GEOG 3010. Economic Geography. 3 hours. (*Regional Science*) Geographic principles applied to understanding regional specialization of economic activity. National and international variations in agriculture, energy, manufacturing, service activities and commodity flows. Prerequisite(s): GEOG 2110, GEOG 3190 and either GEOG 1170 or GEOG 1200, or consent of department.

GEOG 3100. Geography of the United States and Canada. 3 hours. (*Regional Science*) Regional analysis of the physical and human geography of the United States and Canada. Satisfies a portion of the *Understanding the Human Community* requirement of the *University Core Curriculum*.

GEOG 3190. Quantitative Methods in Geography. 3 hours. Application of statistical techniques and mathematical models to spatial analysis, including both point and areal patterns. Examples drawn from both earth and regional science. Prerequisite(s): MATH 1680 or consent of department.

GEOG 3750. Geography of Contemporary Sub-Saharan Africa. 3 hours. (*Regional Science*) Deals with the problems and prospects of development in Sub-Saharan Africa; examines the opportunities, constraints and dilemmas of Sub-Saharan Africa's physical and cultural landscape, contemporary problems and the challenge and prospect of development and globalization. Prerequisite(s): GEOG 2110 or consent of department. Satisfies a portion of the *Understanding the Human Community* requirement of the *University Core Curriculum*.

GEOG 3800. Geography of Texas. 3 hours. (*Regional Science*) The physical geography of Texas and the human response to the physical environment.

GEOG 4030. British Isles Field School. 6 hours. Application of geographical field techniques in the British Isles and Ireland. The field school is centered on five basics sites – Plymouth, Cork, Galway, Aberystwyth and Edinburgh. At each site, students conduct one-day human and physical geography field exercises. Topics include mapping historic changes in commercial functions in Plymouth; combining field mapping, air photo and map analysis to measure coastal erosion in Cork; field survey of rural service provision in Tipperary County; physical and human dimensions of flood hazard in Aberystwyth; comparison of medieval, Georgian and modernist town planning in Edinburgh. Duration of field work is approximately three weeks. Prerequisite(s): GEOG 1710 or GEOL 1610, and GEOG 1170 or GEOG 1200, or consent of department.

GEOG 4040. Ghana Field School. 6 hours. (*Regional Science*) Geography of health and economic development in Ghana. Trip includes visits to herbalists, hospitals and rural clinics, a gold mine, slave castles, and industrial sites such as cocoa processing plants and timber mills. Duration of field work is approximately three weeks. Prerequisite(s): GEOG 3750 or consent of department.

GEOG 4050. Cartography and Graphics. 3 hours. (1;2) Construction and interpretation of topographic maps; thematic mapping of geographically referenced data; field mapping and surveying techniques; introduction to global positioning systems and computer cartography.

GEOG 4060. Applied GIS: MapInfo Professional®. 3 hours. (1;2) An introduction to conceptual and practical aspects of geographic information systems. Emphasis on applications, using socio-demographic and business examples. Topics include: importing and mapping census data, creating and editing map attribute databases, geocoding, buffering, aggregating data, thematic maps and applications. Prerequisite(s): GEOG 2110 and GEOG 3190, or consent of department.

GEOG 4120. Medical Geography. 3 hours. (*Regional Science*) Locational aspects of disease and health care, spatial patterns of diseases, health facilities, health care

policies and problems. Prerequisite(s): GEOG 2110, GEOG 3190 and either GEOG 1170 or GEOG 1200, or consent of department.

GEOG 4170. Map-Air Photo Analysis. 3 hours. Evaluation and interpretation of aerial photography and satellite images from the most common sensing devices. Digital processing of satellite data on microcomputer. Prerequisite(s): GEOL 1610 or GEOG 1710 or consent of department.

GEOG 4210. Urban Geography. 3 hours. (*Regional Science*) The urban geography of advanced nations. Specific topics include urban systems analysis, the internal geography of cities and contemporary spatial and social changes in urban areas. Prerequisite(s): GEOG 2110 and either GEOG 1170 or GEOG 1200, or consent of department.

GEOG 4220. Applied Retail Geography. 3 hours. (*Regional Science*) Survey of the geographic principles and techniques used in the analysis of retail markets and locations. Examines the key characteristics of modern urban markets and commercial economies, and how geography makes a contribution to effective planning for retail firms. Prerequisite(s): GEOG 2110 and either GEOG 1170 or GEOG 1200, or consent of department.

GEOG 4240. Meteorology. 3 hours. (*Earth Science*) Weather elements and controls; air masses and upper air wind flow; emphasis on atmospheric storm systems. Prerequisite(s): GEOG 1710 and GEOG 2110, or consent of department.

GEOG 4250. Climatology. 3 hours. (*Earth Science*) Description and analysis of world climates; major classifications, controls, regional distribution and change. Prerequisite(s): GEOG 1710, GEOG 2110 and GEOG 3190, or consent of department.

GEOG 4350. Geomorphology. 3 hours. (*Earth Science*) Processes of landform analysis. Glacial, desert, fluvial and other settings are reviewed along with basic processes of construction, erosion and weathering. Prerequisite(s): GEOG 2110, GEOG 3190 and either GEOL 1610 or GEOG 1710, or consent of department.

GEOG 4400. Introduction to Remote Sensing. 3 hours. (2;1) Principles of remote sensing technology, including the physical principles of remote sensing, aerial photography, airborne and space-borne multispectral and hyperspectral imaging, and thermal and microwave imaging. Analytical techniques and applications of remotely sensed data in geography and other fields. Teaches skills for handling both analog and digital remote sensing data through visual interpretation and computer-based digital image processing. Prerequisite(s): GEOG 2110 and either GEOG 1710 or GEOL 1610, or consent of department.

GEOG 4410. Location-Allocation Modeling. 3 hours. (*Regional Science*) Introduction to location-allocation models for service delivery. Covering, p-median, p-center and hierarchical models and their applications; data accuracy, aggregation and distance problems in location-allocation modeling. Prerequisite(s): GEOG 2110, GEOG 3190 and CSCE 1010, or consent of department.

GEOG 4420. Conservation and Resource Management. 3 hours. (*Regional Science*) Addresses issues associated with conservation and management of natural resources. Includes case studies in a variety of geographical scales: global, regional and especially local. Explores sustainability and its role in fostering responsible conservation and resource management. Prerequisite(s): GEOG 2110 or consent of department.

GEOG 4500. Introduction to Geographic Information Systems. 3 hours. (1;0;2*) *These hours are combined lab and lecture. Introduces the concepts and applications of computer-based spatial data handling, known as geographic information systems (GIS) technology. Illustrates the essential methods of GIS and its applications in fields including geography, business, administration, planning and environmental science. Students gain application skills via a series of practical exercises illustrating problem-solving strategies using up-to-date GIS software packages. Prerequisite(s): consent of department.

GEOG 4520. Intermediate Geographic Information Systems. 3 hours. (1;0;2*) *These hours are combined lab and lecture. Step-by-step approach to spatial data integration and analysis, and cartographic presentation. Topics include data models and structures, map algebra, surface analysis, 3-dimensional rendering, network analysis, sharing and distributing maps, and design and implementation of a GIS project in an area pertinent to the student's interests. Prerequisite(s): GEOG 2110 and GEOG 4500 (with a grade of C or better), or consent of department.

GEOG 4550. Advanced Geographic Information Systems. 3 hours. (1;0;2*) *These hours are combined lab and lecture. Advanced spatial analysis through the use of specialized software and the design and development of spatial databases and applications. The course includes project planning, database development, data manipulation and analysis, model building, internet mapping, and other advanced topics in spatial analysis. Students gain advanced application skills through practical exercises and implementation of a GIS project in an area pertinent to the student's interests. Prerequisite(s): GEOG 2110, GEOG 3190 and GEOG 4520 (with a grade of C or better), or consent of department.

GEOG 4560. Introduction to GIS Programming. 3 hours. (1;0;2*) *These hours are combined lab and lecture. Modern GIS embraces the concept of open systems, which means GIS software can be customized to fit specific requirements of individual implementation environments. To meet the high demand of this kind, this course introduces basic concepts and skills of object-oriented programming and GIS customization. Students gain programming skills in accessing maps, data layers, features and geometric objects through laboratory exercises. Prerequisite(s): GEOG 4500 or consent of department.

GEOG 4570. Special Topics in GIS. 3 hours. (2;1) Current topics and techniques in geographic information systems to complement core course work. Examples include multiuser geospatial data management, web-based map delivery, GIS programming, spatial statistics, applications for specific careers fields and other topics. Course content reflects recent trends in GIS research and the job market. Topics vary by semester. Prerequisite(s): consent of department.

GEOG 4580. GIS in Health. 3 hours. Spatial analysis, geographic information system (GIS) and computational methods for public health applications including disease mapping, disease clustering and exposure modeling. Location-allocation methods for measuring access to health care services also are discussed.

GEOG 4750. Fluvial Geomorphology. 3 hours. (*Earth Science*) Examines the role of rivers as geomorphologic agents. Includes discussion of the systems approach to fluvial geomorphology; fluid mechanics of open-channel flow, sediment and solute transport, channel morphology and river adjustments to environmental change at various

time scales. Prerequisite(s): GEOG 2110, GEOG 3190 and either GEOL 1610 or GEOG 1710, or consent of department.

GEOG 4800. Geography Capstone. 3 hours. Capstone course required of all geography majors. Requires comprehensive research paper. Problem solving by application of geographic concepts, methodologies and techniques. Examples drawn from physical and human geography. Prerequisite(s): GEOG 2110 and GEOG 3190 (with a grade of C or better), plus 9 advanced hours in geography, and junior or senior standing.

GEOG 4900-GEOG 4910. Special Problems. 1-3 hours each.

GEOG 4920. Cooperative Education in Geography. 3 hours. Job experience in a government agency and/or business for geography majors. Requires participation in a formal project. Prerequisite(s): a minimum of 12 hours completed in the major, a 2.5 GPA in the major and consent of the internship director. May apply toward Group A, Group B or Techniques group at discretion of advisor. May be repeated for credit.

GEOG 4951. Honors College Capstone Thesis. 3 hours. Major research project prepared by the student under the supervision of a faculty member and presented in standard thesis format. An oral defense is required of each student for successful completion of the thesis. Prerequisite(s): completion of at least 6 hours in honors courses; completion of at least 12 hours in the major department in which the thesis is prepared; approval of the department chair and the dean of the school or college in which the thesis is prepared; approval of the dean of the Honors College. May be substituted for HNRS 4000.

GEOG 4960. Geography Institute. 3 hours. For students accepted by the university as participants in special institute courses. May be repeated for credit as topics vary.

Geology, GEOL

GEOL 1610 (GEOL 1403). Introductory Physical Geology. 3 hours. (3;2) A systematic introduction to geology; internal and external processes that contribute to the earth's rock record; includes consideration of minerals, the earth's interior, volcanoes, mountain building, and terrestrial and oceanic sedimentation. *May be used to satisfy a portion of the Natural Sciences requirement of the University Core Curriculum.*

GEOL 3000. Geology of Texas. 3 hours. Rocks, minerals, fossils and geologic history of Texas; the state's stratigraphic sequence, structural geology and mineral resources; field trips. Prerequisite(s): GEOL 1610 or GEOG 1710 or consent of department.

GEOL 3020. Historical Geology. 3 hours. Topics to include stratigraphy, sedimentology, plant and animal fossils, geologic time, continental drift, tectonics, former seas and past environments. Emphasis on geologic history of North America. Field trips. Prerequisite(s): GEOG 2110 and GEOL 1610, or consent of department.

GEOL 4630. Soils Geomorphology. 4 hours. (3;2) Methods and applications of soils and landform analysis. Soils classification, formation processes and relationships to landforms and vegetation are stressed. Methods of soils description, mapping and physical-chemical analysis are taught, and applications to study of landscape change and land-use planning are emphasized. Prerequisite(s): GEOG 2110 and GEOG 4350, or consent of department.

GEOL 4650. Environmental Geology. 3 hours. Geologic aspects of land-use planning; earthquakes, landslides, volcanoes, coastal processes, streams and flooding, soils, groundwater, and waste disposal; planning for the future. Prerequisite(s): GEOG 2110 and either GEOL 1610 or GEOG 1710, or consent of department.

GEOL 4710. Geoecology. 3 hours. The structure and function of geocosystems, examining the dynamic interrelationships of geologic, biologic, climatic and human factors, as components of the global system. Investigates the development of different ecosystems from an evolutionary perspective, while specific processes are considered by integrating concepts and methods from physics, chemistry, biology and geology. The human components of geocosystems are addressed with perspectives from ecological anthropology and human geography. A significant part of the course is an individual project culminating in a research paper. Prerequisite(s): GEOG 1710 and 8 hours in each field of physics, chemistry and biology, and consent of department.

GEOL 4850. Introduction to Groundwater Hydrology. 3 hours. Topics to include principles of groundwater flow; aquifer properties and characteristics; geology of groundwater occurrence; groundwater development and methods for assessing and remediating groundwater contamination. Emphasis on application of basic principles. Prerequisite(s): GEOG 2110, GEOG 3190, MATH 1100 or equivalent, and either GEOL 1610 or GEOG 1710, or consent of department.

Geology

see Geography

German

see Foreign Languages and Literatures

Health Promotion

see Kinesiology, Health Promotion and Recreation

Hebrew

see Foreign Languages and Literatures

Higher Education

see *Graduate Catalog*

History

History, HIST

HIST 1050 (HIST 2321). World History to the Sixteenth Century. 3 hours. From the origins of civilization to the 16th century. *Satisfies a portion of the Understanding the Human Community requirement of the University Core Curriculum.*

HIST 1060 (HIST 2322). World History from the Sixteenth Century. 3 hours. World civilization from 1500 to the present. *Satisfies a portion of the Understanding the Human Community requirement of the University Core Curriculum.*

HIST 1075. Honors World History to the Sixteenth Century. 3 hours. From the origins of civilization to the 16th century. Prerequisite(s): acceptance into the Honors College. *Satisfies a portion of the Understanding the Human Community requirement of the University Core Curriculum.*

HIST 1085. Honors World History from the Sixteenth Century. 3 hours. World civilization from 1500 to the present. Prerequisite(s): acceptance into the Honors College. *Satisfies a portion of the Understanding the Human Community requirement of the University Core Curriculum.*

HIST 2610 (HIST 1301). United States History to 1865. 3 hours. From colonial origins through the Civil War.

HIST 2620 (HIST 1302). United States History Since 1865. 3 hours. From the Civil War to the present.

HIST 2675. Honors United States History to 1865. 3 hours. From colonial origins through the Civil War. Prerequisite(s): acceptance into the Honors College.

HIST 2685. Honors United States History Since 1865. 3 hours. From the Civil War to the present. Prerequisite(s): acceptance into the Honors College.

HIST 2900-HIST 2910. Special Problems. 1–3 hours each. Prerequisite(s): consent of department chair.

HIST 3150. Historical and Cultural Development of the Mexican-American Community. 3 hours. Historical evolution of Mexican-American culture, social structure, family patterns and community organizations, and their effects on education, economic and religious institutions.

HIST 3450. Islam and its Empires. 3 hours. The dynamic social, political, religious, economic and cultural histories of the Islamic empires, beginning with pre-Islamic Arabia (4th–7th centuries) and ending with the height of Ottoman imperial authority (16th century). The emergence of Islam in Arabia and the world of Muhammad, its founder; the expansion of the Arab and non-Arab Islamic empires.

HIST 3460. Modern Middle Eastern History. 3 hours. The historical foundations of contemporary ideologies, conflicts and cultures in the modern Middle East. Explores the role of imperialism in shaping the modern Middle East; explores the impact of religion and political ideologies on contemporary conflicts over space and resources; and examines how popular culture can influence political and social events through modern history.

HIST 3650. Representative American Leaders, Colonial Period to 1865. 3 hours. Examination and evaluation of major figures in the settlement and growth of the United States.

HIST 3660. Representative American Leaders Since 1865. 3 hours. Examination and evaluation of major figures during the Gilded Age and the 20th century.

HIST 3710. Diplomatic History of the United States to 1900. 3 hours. Diplomatic problems and general international relations.

HIST 3720. Diplomatic History of the United States from 1900 to 1945. 3 hours. Diplomatic problems and general international relations.

HIST 3750. Greek Civilization. 3 hours. From the Minoans to 146 BCE.