

# GE - GEOGRAPHY (GE)

## **\*Course Fees are Per Credit Hour**

### **GE 1XX. Geography Elective. (1-3 Credits)**

#### **GE 102. Global Environments and Societies. (3 Credits)**

The geographic method of inquiry is used to examine, describe, explain, and analyze the human and physical environments of the major regions of the world. (Fall, Spring, Summer)

Course Fees: \$60

#### **GE 111. Physical Geography: Weather and Climate. (4 Credits)**

Study of the physical features of the earth's environment pertaining to weather, climate, biomes, and major water bodies with an emphasis on the interrelated processes that shape these features and the resulting distributions and global patterns that occur. Three class periods; one 2-hour laboratory period per week. Field trips may be a part of laboratory activities. (Fall, Spring, Summer)

Course Fees: \$60

#### **GE 111H. Honors Physical Geography: Weather and Climate. (4 Credits)**

In-depth study and analysis of the physical features of the earth's environment pertaining to weather, climate, biomes, and major water bodies with an emphasis on the interrelated processes that shape these features and the resulting distributions and global patterns that occur. Three class periods; one 2-hour laboratory period per week. Field trips may be a part of laboratory activities. (Fall, Spring, Summer)

Course Fees: \$60

#### **GE 112. Physical Geography-Landforms. (4 Credits)**

Study of the physical features of the earth's environment pertaining to landforms, physiographic regions, and soils with an emphasis on the interrelated processes that shape these features and the resulting distributions and global patterns that occur. Three class periods; one 2-hour laboratory period per week. Field trips may be a part of laboratory activities. (Fall, Spring, Summer)

Course Fees: \$60

#### **GE 112H. Honors Physical Geography: Landforms. (4 Credits)**

In-depth study and analysis of the physical features of the earth's environment pertaining to landforms, physiographic regions, and soils with an emphasis on the interrelated processes that shape these features and the resulting distributions and global patterns that occur. Three class periods; one 2-hour laboratory period per week. Field trips may be a part of laboratory activities. (Fall, Spring, Summer)

Course Fees: \$60

#### **GE 184. Digital Earth. (3 Credits)**

This class is designed to introduce students to innovative geospatial technologies and applications. Hands-on experience will be used to explore how computer-based tools and techniques are used to capture, store, process, visualize, and display the Earth. Using specialized computer software and web-based platforms, students will examine how insights provided by digital analysis of spatial data are used to solve local, regional, national, and global problems and make sound decisions. Previous technical experience is not necessary, only basic Windows operating system familiarity is required. (Fall, Spring, Summer)

Course Fees: \$60

#### **GE 184CH. Digital Earth - China Onsite. (3 Credits)**

This class is designed to introduce students to innovative geospatial technologies and applications. Hands-on experience will be used to explore how computer-based tools and techniques are used to capture, store, process, visualize, and display the Earth. Using specialized computer software and web-based platforms, students will examine how insights provided by digital analysis of spatial data are used to solve local, regional, national, and global problems and make sound decisions. Previous technical experience is not necessary, only basic Windows operating system familiarity is required. (Fall, Spring, Summer)

#### **GE 199. Service Learning. (3 Credits)**

This course is designed to introduce students to Service Learning through the integration of academic learning about local, national, and global issues with service work addressing those concerns. Approval of supervising department required. (Offered upon sufficient demand.)

Course Fees: \$60

#### **GE 203H. Honors Topics in Latino History, Culture, and Geography. (3 Credits)**

This course encompasses and synthesizes cultural, geographical, and historical elements and fosters critical thinking through an interdisciplinary perspective. Also listed as FL 203-H and HI 203-H but creditable only in field for which registered. Maximum of three semester hours credit. This course, open to students in the Honors Program, is, with departmental approval, also open to other qualified students. (Fall, even-numbered years)

Course Fees: \$60

#### **GE 224. Field Methods and Technology in Geography. (3 Credits)**

This course will prepare students for upper division classes by providing instruction in research methodology; field work design; data collection; data input through scanning and digital cameras; and data presentation and presentation methods. (Spring)

Course Fees: \$60

#### **GE 225. Maps and Map Interpretation. (3 Credits)**

A study of the history of maps and mapping; types and uses; chief sources; reading and interpretation; care and handling. (Fall, Spring)

Course Fees: \$60

#### **GE 260. People, Place, and Culture. (3 Credits)**

A conceptual approach to the study of humans, their distribution, economic systems, behavior patterns, value systems, and environmental perceptions, with emphasis given to the resulting patterns of cultural landscapes that characterize the earth. (Fall, Spring, Summer).

Course Fees: \$60

#### **GE 300W. Geographic Exploration. (3 Credits)**

This course explores the history of the discipline of geography from ancient times to the present, examining geography in Classical, Medieval, and Modern periods, with a concentration on recent developments in the field. The course also covers the history of exploration and the role of geographers in this process, as well as helping students to explore their own career paths. (Fall, Summer)

Course Fees: \$60

#### **GE 301. Geography of Europe. (3 Credits)**

Major European countries as types of the entire region. (Offered on sufficient demand)

Course Fees: \$60

**GE 302. Geography of Russia and Associated States. (3 Credits)**

The character of and basis for the regional diversity of physical resources, population, economic, cultural, and political resources in Russia, the Ukraine, Belarus, Moldova, Georgia, and Armenia. (Offered on sufficient demand)

Course Fees: \$60

**GE 303. Geography of the South. (3 Credits)**

The interrelationship between the southern environment and its people. (Offered on sufficient demand)

Course Fees: \$60

**GE 304. Geography of the United States and Canada. (3 Credits)**

The geographic factors of North America; the regional characteristics and regional interdependence. The goals of this course are to increase and better integrate knowledge of geographic patterns in the U.S. and Canada, and understand the regional variations and spatial differentiation in the U.S. and Canada. (Offered on sufficient demand)

Course Fees: \$60

**GE 305. Geography of Latin America. (3 Credits)**

The geographic factors of Latin America; emphasis on certain regions and areas as a basis of comparison with other regions in Latin America and with North America. (Offered on sufficient demand)

Course Fees: \$60

**GE 312. Geography of the Middle East. (3 Credits)**

An analysis of the distribution of resources and peoples of the Middle East, their relationships to each other and to the rest of the world. (Offered on sufficient demand)

Course Fees: \$60

**GE 313. Geography of Asia. (3 Credits)**

An analysis of the distribution of resources and peoples of Asia relationships to each other and to the rest of the world. (Offered on sufficient demand)

Course Fees: \$60

**GE 321. Economic Geography. (3 Credits)**

A study of the basic concept of natural resources, their relationship to world economies with the emphasis on primary production. (Fall)

Course Fees: \$60

**GE 321CH. Economic Geography - China Onsite. (3 Credits)**

A study of the basic concept of natural resources, their relationship to world economies with the emphasis on primary production. (Fall)

**GE 322. Business Geography. (3 Credits)**

An empirical and theoretical spatial analysis of the various economic, population and social facets of local, regional and global economies. In addition, this course covers concepts such as business site selection, market analysis, and product distribution through the analysis of imports and exports. (Offered on sufficient demand)

Course Fees: \$60

**GE 325. Cartography and Visualization. (3 Credits)**

This course is designed to introduce the elements of cartography and visualization with emphasis on map design, effective visualization of geographic data, phenomena, patterns and processes. Prerequisite: GE 184 or departmental approval. (Spring, Summer)

Course Fees: \$60

**GE 330. Meteorology. (3 Credits)**

Components of weather systems, atmospheric temperature, pressure, and humidity; interpretation of weather maps; elements of forecasting. Also listed as ES 330 but creditable only in the field for which registered. Field trips and/or term projects may be required. Prerequisite: ES 121 and ES 121L, or GE 111 or departmental approval. (Fall)

Course Fees: \$60

**GE 331. Climatology. (3 Credits)**

The physics of the air; the climatic classification of the earth's surface; and the relationship of climatological factors to man. Prerequisite: GE 111 or departmental approval. (Spring, Even-numbered years)

Course Fees: \$60

**GE 350. Geography of Africa. (3 Credits)**

A study of the physical and cultural resources of Africa, with emphasis on the problems of developing nations. (Offered on sufficient demand)

Course Fees: \$60

**GE 354. Remote Sensing. (4 Credits)**

Course is designed to introduce students to remote sensing science and technology Course focuses on concepts and technologies such as principles of remote sensing, remote sensing platforms and sensors, and remote sensing applications for urban and natural environments. classification and accuracy assessment Through a series of hands-on computer-based lab exercises, students develop an understanding of the tools and techniques used to acquire, display, process, and analyze remotely sensed data Three class periods, one 2-hour laboratory period per week. Prerequisite: GE 184. (Fall)

Course Fees: \$60

**GE 359. Special Course. (1-6 Credits)**

Course number reserved for special courses offered from time to time in response to special circumstances. The courses are discipline specific with variable credit and when offered, they are identified by department content and credit. (Offered on sufficient demand)

Course Fees: \$60

**GE 369. Special Course. (1-6 Credits)**

Course number reserved for special courses offered from time to time in response to special circumstances. The courses are discipline specific with variable credit and when offered, they are identified by department content and credit. (Offered on sufficient demand)

Course Fees: \$60

**GE 384. Geographic Information Systems. (4 Credits)**

The study and application of concepts and technologies in geographic information systems and geographic information science including data conceptualization, database design and management, analysis operations, spatial problem solving, and professional system management. Analysis will be conducted in a commercial state-of-the-art Geographic Information Systems software suite. Three class periods; one 2-hour laboratory period per week. Prerequisite: GE 184. (Fall, Summer)

Course Fees: \$60

**GE 389. On-Campus Internship. (3 Credits)**

Course Fees: \$60

**GE 390. Urban Geography. (3 Credits)**

This course is concerned with cities and neighborhoods with a particular focus on form and function. The course explores aspects that make American cities and neighborhoods distinctive and how these distinctive identities evolve. After exploring the evolution of cities in the US, students learn about the internal spatial structure of and the functional linkages within and between American cities. At the end of the course, students can identify and explain political, economic, social, cultural and technological forces that cause American cities to prosper, stagnate or decline. (Spring)

Course Fees: \$60

**GE 399. Departmental Service Learning. (1-6 Credits)**

This course is designed to provide students the opportunity to integrate academic learning about vital service issues within a specific discipline with service work addressing those issues. This course may be repeated for a maximum of six credits. Approval of supervising department required. (Offered upon sufficient demand.)

Course Fees: \$60

**GE 402. Geopolitics. (3 Credits)**

Geopolitics examines the intersection of geography, international relations, and politics and explores the geographic factors that explain foreign relations, state behavior, and transnational and global issues such as military conflict, terrorism, international crime, food, and water security, energy security, and environmental degradation. Students are trained in negotiation and policy-making skills, and participate in a multi-day simulation exercise. (Fall, even-numbered years)

Course Fees: \$60

**GE 403. Nature and Society Interactions. (3 Credits)**

This course involves a global analysis of human-environment issues including human's impact on the environment and the environment's impact on humans. Topics addressed may include, but are not limited to global warming, overpopulation, environmental degradation, environmental hazards and disasters, and effective natural resource use. One field trip required. (Spring)

Course Fees: \$60

**GE 404. Environmental Hazards. (3 Credits)**

Natural and technological events continue to impact people and places across the globe. This course draws upon hazard and disaster experiences to address the nature, impact and social responses to environmental hazards. Course focus is on the relationship between nature, society, and technology and analyzes how people and places experience, cope with, and recover from environmental hazards. (Fall).

Course Fees: \$60

**GE 410. Integration of Geography and History. (3 Credits)**

The integration of the spatial concepts of geography with the chronological concepts of history. Also listed as HI 410 but creditable only in field for which registered. (Offered on sufficient demand)

Course Fees: \$60

**GE 415. Quantitative Methods in Geography. (3 Credits)**

Course provides an introduction to quantitative methods used by geographers to analyze and interpret geographic data and solve geographic problems. Topics include descriptive statistics, hypothesis formulation and testing, sampling strategies, correlation, regression, and spatial pattern analysis. Examples will be drawn from temporal and spatial relationships in physical and human geography. (Fall)

Course Fees: \$60

**GE 420. Principles of Urban and Regional Planning. (3 Credits)**

This course introduces planning both as a profession and also as an important element of city, county, and regional government. Focusing on American planning experience, GE 420 covers the fundamentals of spatial decision-making at various levels of government. Substantive areas covered in the course include: the legal basis of planning, organizational structure of planning agencies in the US, comprehensive planning, social issues in planning, tools of land use regulation, growth management techniques, smart growth, transportation planning, environmental planning and urban design. (Fall)

Course Fees: \$60

**GE 430. Biogeography. (3 Credits)**

Science of documenting and understanding spatial patterns of biological diversity. This course will introduce student to concepts used in understanding historical, ecological, and geological processes that contribute to past and present biological distributions including the historical development of biogeographic concepts, plate tectonics, evolution, phytogeography, the fossil record, niche theory, and patterns of disjunction. Applications of biogeography to contemporary issues will also be discussed including global climate change, conservation, invasive species, and human population growth. A field trip is required. Prerequisites: GE 112 or BI 112. (Offered upon sufficient demand)

Course Fees: \$60

**GE 435. Regional Geomorphology. (3 Credits)**

Field-based exploration of the landforms and features. Focus is on the examination and understanding of various landforms and the processes that shape these features. Course requires travel. By permission of instructor. Other travel expenses required. (Offered on sufficient demand)

Course Fees: \$60

**GE 450. Fundamentals of Sustainability. (3 Credits)**

This course provides the foundational principles undergirding the concept of sustainability from a geographical perspective. Course activities involve tracing the history and development of sustainability and the role of the environment, economy and social issues in sustainability. Participants are exposed to a variety of applications of sustainability at the local, national and international levels, preparing them to be advocates for wise use of resources. (Fall)

Course Fees: \$60

**GE 454. Advanced Remote Sensing. (3 Credits)**

This course is designed to introduce advanced concepts, applications and technologies of Remote Sensing. Instruction includes major remote sensing systems, applications, advanced digital image processing techniques. Prerequisites: GE 184 and GE 354. (Spring)

Course Fees: \$60

**GE 460. Advanced Cultural Geography. (3 Credits)**

A conceptual approach to the study of human-environment systems within the frame-works of cultural geography including cultural landscape, ecological perspectives, environmental perception and behavior, and environmental stress. Prerequisite: GE 102 or departmental approval. (Offered on sufficient demand)

Course Fees: \$60

**GE 464. GIS Programming. (3 Credits)**

Geographic Information Systems (GIS) are powerful computational tools for solving spatial problems. GIS programming serves the purpose of customizing GIS applications and streamlining spatial analysis by assembling functions provided by the underlying GIS platforms. This course introduces students to Model Builder and Geoprocessing script programming with Python in ArcGIS. Topics include GIS programming environment, programming syntax and styles, interface customization and a variety of GIS routines and functions that can be assembled through programming. Prerequisite: GE 384. (Fall)

Course Fees: \$60

**GE 468. Geography of Beer, Wine, and Spirits. (3 Credits)**

Course examines geographic factors that account for the historical development and regional variation of beer, wine, and spirits. Students are introduced to the practices of viticulture, hop and grain cultivation, enology, brewing, and distilling. The major cultural, economic, political, and environmental aspects of beer, wine, and spirits in major world regions are analyzed. No class activities will involve alcohol consumption and/or tasting. (Spring, odd-numbered years)

Course Fees: \$60

**GE 472. Historical Geography of the United States. (3 Credits)**

The role of geographic conditions in the settlement and subsequent development of the United States. Also listed as HI 472 but creditable only in field for which registered. (Offered on sufficient demand)

Course Fees: \$60

**GE 474. Web GIS. (3 Credits)**

Combining the power of the internet and GIS has increased applications of GIS in e-business, e-government, e-science, and daily life. GE 474 introduces students to the basic knowledge of, and advances in, Internet/ Web GIS. The course focuses on the principles, methods, applications and state-of-the-art Web GIS techniques and platforms. Using a hands on approach, students perform GIS data operations, query maps, analyze spatial data via the internet, and ultimately develop Web GIS apps for diverse audiences. Prerequisite: GE 384 or departmental approval.

(Spring)

Course Fees: \$60

**GE 484. Advanced GIS. (3 Credits)**

These course focuses on advanced topics in geographic information science (GIS) including surface analysis, location analysis, network analysis, geo-computation methods and modeling, and big data analytics. Through a series of hands-on self-paced GIS lab exercises, students are introduced to 64-bit ERSI Desktop GIS Platform - ArcGIS Pro. The ultimate goal is to equip upperclassmen with industry-level advanced analytical and practical skills in GIS and spatial analysis. Prerequisites: GE 184 and GE 384. (Spring)

Course Fees: \$60

**GE 485. GIS Applications. (3 Credits)**

This course builds on the core concepts and techniques covered in the course Geographic Information Systems (GIS) to provide an advanced skill set in a number of application areas of GIS. Using a hands-on approach, students use specialized GIS software to complete projects which focus on GIS applications in business, marketing, local government, urban planning and community development, environmental management, resource planning, hazards, federal government, logistics, and other fields. Topical area(s) are determined by the instructor of record. Prerequisite: GE 384 or departmental approval. (Fall)

Course Fees: \$60

**GE 486. Remote Sensing Applications (Remote Sensing for Hazards Analysis). (3 Credits)**

This course is designed to introduce advanced concepts, applications and technologies in Remote Sensing for Hazards Analysis. The main emphasis of this course is satellite remote sensing applications in Hazards studies, such as flood/drought, tornadoes/hurricanes, urban heat, and wild fires. The course may be modified according to students' interests. Prerequisites: GE 184, GE 354, GE 384. (Spring)

Course Fees: \$60

**GE 487. Geography Capstone Project. (3 Credits)**

The objective of the course is to allow the student to design a research project by formulating a geography research question, acquiring and analyzing geographic data and answering the geographic question. Offered primarily to seniors under the direction of a geography professor. The activities of the student, the timeline for completion, and evaluation for the research agenda will be determined by consultation with the professor of record for the course. (Fall, Spring, Summer)

Course Fees: \$60

**GE 494. Geography Internship. (1-3 Credits)**

Open to majors or minors in geography. Provides for special field experience by working in cooperation with a public or private agency for a minimum average of ten hours per week. In addition, weekly seminars will be held to evaluate the student's progress. The student will be required to maintain a daily journal regarding their work assignments, accomplishments and daily experiences. A written report must be provided to the departmental faculty at the end of the semester. Departmental approval required. International students must receive approval from the Office of International Affairs prior to course registration. (Fall, Spring, Summer)

Course Fees: \$60

**GE 495. Geography Internship. (1-3 Credits)**

Open to majors or minors in geography. Provides for special field experience by working in cooperation with a public or private agency for a minimum average of ten hours per week. In addition, weekly seminars will be held to evaluate the student's progress. The student will be required to maintain a daily journal regarding their work assignments, accomplishments and daily experiences. A written report must be provided to the departmental faculty at the end of the semester. Departmental approval required. International students must receive approval from the Office of International Affairs prior to course registration. (Fall, Spring, Summer)

Course Fees: \$60

**GE 496. Geography Internship. (1-3 Credits)**

Open to majors or minors in geography. Provides for special field experience by working in cooperation with a public or private agency for a minimum average of ten hours per week. In addition, weekly seminars will be held to evaluate the student's progress. The student will be required to maintain a daily journal regarding their work assignments, accomplishments and daily experiences. A written report must be provided to the departmental faculty at the end of the semester. Departmental approval required. International students must receive approval from the Office of International Affairs prior to course registration. (Fall, Spring, Summer)

Course Fees: \$60

**GE 497. Special Topics. (1-4 Credits)**

A study of one or more selected topics in applied geography. Topics vary according to the needs of the student and the current professional environment. (Fall, Spring, Summer)

Course Fees: \$60

**GE 499. Independent Study-Practicum. (3 Credits)**

Open to senior majors on approval of the department head. Provides for independent study and research under departmental determination, supervision, and evaluation. (Fall, Spring, Summer)

Course Fees: \$60