

# GEOG-GEOGRAPHY (GEOG)

## GEOG 1110G. Physical Geography

### 4 Credits (3+3P)

This course introduces the physical elements of world geography through the study of climate and weather, vegetation, soils, plate tectonics, and the various types of landforms as well as the environmental cycles and the distributions of these components and their significance to humans.

#### Learning Outcomes

1. Define, describe, illustrate, distinguish among or explain the use of maps, map scale, globes, map projections, and remote sensing.
2. Define, describe, illustrate, distinguish among or explain the various elements of the earth's atmosphere, earth's relation to the sun, incoming solar radiation, the ozone layer, the primary temperature controls, and the unequal heating of land and water.
3. Define, describe, illustrate, distinguish among or explain the weather makers (air temperature, air pressure, humidity, clouds, precipitation, visibility, and wind [including pressure gradient, the Coriolis force, and friction]).
4. Define, describe, illustrate, distinguish among or explain air masses, pressure systems, the various fronts and associated types of storms, weather symbols, monsoons, the various forms of precipitation, along with causes and effects of lightning.
5. Define, describe, illustrate or explain the hydrologic cycle, the characteristics and influences of the oceans and continents on the weather, the Southern Oscillation (i.e., El Nino), the effects of land/water distribution, and climates and their global distribution.
6. Define, describe, illustrate or explain the biosphere, including organisms (flora and fauna), food chains, ecosystems and relationships. Define, describe, illustrate or explain soils in terms of soil-forming processes, components, properties, and classification.
7. Define, describe, illustrate or explain the structure of the earth, the internal processes, weathering and mass wasting, fluvial processes, characteristics and processes of arid regions, processes of coastal and Karst topographical regions, the processes and characteristics of glaciation (mountainous and continental).
8. Define, describe, illustrate, distinguish among or explain specific impacts by humans on weather, climate, and on the ecosystem at large.
9. Perform tests and collect data to analyze and classify weather, climate and landforms characteristics, processes, and impacts both quantitatively and qualitatively. This includes reading and extracting basic information from maps, diagrams, remote sensing devices, graphs, and tables. 1
10. Apply critical thinking skills such as inductive, deductive, and mathematical reasoning to solve problems using the scientific method. This includes interpreting maps, graphs and photos. 1
11. Recognize and discuss the effect of human activity on climate, climate change, the greenhouse effect, and on landforms at large. 1
12. Synthesize information from external, current sources and personal observations and discuss their relationships to class material.

## GEOG 1115G. Maps and GIScience

### 3 Credits (3+3P)

Explore the principles of Geographic Information Science (GIScience) and its applications in solving human, natural, and socio-environmental challenges. Learn to evaluate geospatial data and technologies; analyze their significance, implications, and applications; and communicate insights effectively. Topics include map use, spatial data analysis,

Geographic Information Systems (GIS), remote sensing, and Global Navigation Satellite Systems (GNSS).

**Co-requisite:** GEOG 1115L.

#### Learning Outcomes

1. Explain key concepts and methods of geographic information science (GIScience).
2. Articulate the significance of geographic information in decision-making processes that address human, natural, and socio-environmental challenges.
3. Evaluate the ethical, socio-environmental, and legal implications of geospatial data, technologies, and applications.
4. Evaluate spatial and aspatial data to assess human, natural, and socio-environmental problems, as well as potential solutions.
5. Communicate effectively in written and oral formats.

## GEOG 1115L. Maps and GIScience Laboratory

### 1 Credit (1P)

Gain hands-on field and laboratory experience with geospatial tools, including Geographic Information Systems (GIS), remote sensing, and Global Navigation Satellite Systems (GNSS). Manage, collect, analyze, interpret, and visualize spatial data to solve real-world problem, and develop your own GIScience research report. Corequisite: GEOG 1115G

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#### Learning Outcomes

1. Collect spatial and aspatial data using various web and mobile apps.
2. Apply spatial and aspatial quantitative methods for data management, visualization, analysis, interpretation, and spatial problem-solving.
3. Create functional and aesthetically pleasing maps.
4. Develop a GIScience research report.
5. Communicate effectively in written and oral formats.

## GEOG 1120G. World Regional Geography

### 3 Credits (3)

Overview of the physical geography, natural resources, cultural landscapes, and current problems of the world's major regions. Students will also examine current events at a variety of geographic scales.

#### Learning Outcomes

1. Identify, describe, illustrate, distinguish among or explain the basic concepts of geography, the major world regions, areal differences and similarities, the processes that shape geography natural and human, the use of maps, and the key topics of geographical interpretation (e.g., location, world importance, population, political status, resources, etc.).
2. Identify, describe, illustrate, distinguish among or explain the regional groups of Europe, its historical background, its languages and religions, major features, the diversified economy, political structures, and impact on globalization.
3. Identify, describe, illustrate, distinguish among or explain the regional groups of Russia and its satellite nations, its historical background, their languages and religions, major features, their diversified economies, political structures, current problems, and impact on globalization.
4. Identify, describe, illustrate or explain the regional nations of Middle East, their historical background, their languages and religions, the major features, the diversified economies and political structures, the current problems.
5. Identify, describe, illustrate, distinguish among or explain the regional groups of Asia, their historical background its languages

and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.

6. Identify, describe, illustrate, distinguish among or explain the regional groups of the Pacific World, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.
7. Identify, describe, illustrate, distinguish among or explain the regional groups of Africa, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.
8. Identify, describe, illustrate, distinguish among or explain the regional groups of Latin America, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization.
9. Identify, describe, illustrate, distinguish among or explain the regional groups of Anglo-America, their historical background its languages and religions, major features, the diversified economy and political structures, current problems, and impact on globalization. 1
10. Collect data to analyze or classify the region various historical developments and trends relating to globalization 1
11. Apply critical thinking skills in predicting future developments and impacts in economics, cultural diversity, and political stability globally. 1
12. Recognize and discuss current political "hot-spots," their causes, and potential results with regards to globalization. 1
13. Synthesize information the data into a comprehensive world-view.

### **GEOG 1130G. Human Geography**

#### **3 Credits (3)**

This course serves as an introduction to the study of human geography. Human geography examines the dynamic and often complex relationships that exist between people as members of particular cultural groups and the geographical "spaces" and "places" in which they exist over time and the world today.

#### **Learning Outcomes**

1. Locate on maps, globes, and other technologies various geo-political spaces and places around the world, including in the United States.
2. Describe the primary concepts, theories, methods and terms prevalent in the field of human geography.
3. Apply core geographic concepts to the spatial patterns demonstrated in real-world scenarios.
4. Identify the relationships that influence human-environment interaction in a specific location at a specific time.
5. Define and utilize key concepts to explain human social and cultural change over time and across geographical space.
6. Explain the geographic context of a current event or conflict.
7. Identify a current event that illustrates a core cultural geographic concept.
8. Think critically, discuss, and write about the relationships of the natural world to human geography.

### **GEOG 1150G. Introduction to Environmental Studies**

#### **3 Credits**

This course provides an introduction to core environmental issues and how these have been debated over time. In the process, it is intended to help you read critically, write effectively, and to reflect on your own environmental concerns in relation to the analytical as well as the cultural, social, and political perspectives that have been brought to bear on environmental issues over time. Through extensive exposure

to environmental issues, solutions, and institutions, the course will help prepare you for a professional career relating to environmental management and policy.

#### **Learning Outcomes**

1. Survey the major environmental issues facing humankind.
2. Assess the conflicts or perceived conflicts between society and the environment.
3. Evaluate the relationships between the environment and the economy.
4. Analyze potential solutions.
5. Develop clear and effective communicators skills.

### **GEOG 2130. Map Use and Analysis**

#### **3 Credits (2+3P)**

Exploration of the cartographic medium. Development of critical map analysis and interpretation skills, and map literacy. Comprised of traditional lecture, labs, and map use projects.

### **GEOG 2996. Special Topics**

#### **1-3 Credits**

Specific subjects to be announced in the Schedule of Classes. May be repeated for a maximum of 12 credits.

#### **Learning Outcomes**

1. Varies