

## GEG Geography

### **GEG 100 Cultural Geography (3-0) 3 crs.**

Provides a systematic or regional introduction to the basic concepts of human geography using spatial analysis/awareness with both traditional and digital map analysis. Examines the causes and consequences of the uneven distribution of human activity, covering themes such as population, culture, economic activity, development, and urban patterns. IAI S4 900N

### **GEG 101 World Regional Geography (3-0) 3 crs.**

Provides a thematic or regional introduction to the basic concepts of how world regions are constructed or classified. Using spatial analysis of both traditional and digital maps, factors will be explored to assess how regions evolve and are classified. Concepts will explore both developed and undeveloped regions connecting both human and physical geographical factors shaping and defining the classification of regions and interrelationships between them. IAI S4 906

### **GEG 103 The Developing World (3-0) 3 crs.**

Examines the regions of the world conventionally called "developing" or "emerging," including the spatial patterns of physical and cultural elements that impart unique identities within these regions using both digital and traditional maps to explore complex geopolitical relations and/or international conflicts among developing regions of the world. IAI S4 902N

### **GEG 104 The Developed World (3-0) 3 crs.**

Examines the regions of the world conventionally called "industrialized" or "developed," including the spatial patterns of physical, cultural elements, and/or international conflicts that impart unique identities within these regions. Uses spatial analysis of both digital and traditional maps to promote critical thinking of complex geographic relationships among regions of world. IAI S4 901

### **GEG 111 Physical Geography (3-0) 3 crs.**

Examines the spatial distribution of elements of Earth's four physical spheres: the atmosphere, the hydrosphere, the lithosphere, and the biosphere including landforms, climates, weather, vegetation, and soils. Consideration is given to the causes of these distributions and to their effects on human populations. IAI P1 909

### **GEG 112 Physical Geography Laboratory (0-2) 1 cr.**

Applies the scientific method of observation, hypothesis formation, and experimentation to Earth's four physical spheres: the atmosphere, the hydrosphere, the lithosphere, and the biosphere. IAI P1 909L

**Prerequisite:** Prior or concurrent enrollment in GEG 111 with a grade of C or better. (Physical Geography, IAI P1 909).

### **GEG 150 Introduction to Geospatial Technologies (2-2) 3 crs.**

Provides an introduction to geospatial technologies, such as Geographic Information Systems (GIS), Global Positioning Systems (GPS), and Remote Sensing through hands-on computer based exercises. The essential principles of map use and design, and spatial analysis are also included in this course. Fundamental desktop computer skills assumed. IAI S4 905

### **GEG 151 Geospatial Data Acquisition and Management (2-2) 3 crs.**

**This course is only offered in the spring term.**  
Introduces the concepts and problem solving capabilities of Geographic Information Systems (GIS). Spatial data sourcing and management will be learned using information acquired in the field or from other sources. Spatial analysis concepts will be introduced through hands-on exercises using GIS software.  
**Prerequisite:** GEG 150 with a grade of C or better.

### **GEG 152 Spatial Analysis (2-2) 3 crs.**

**This course is only offered in the spring term.**

Continues GEG 151. Emphasizes the practical application of Geographic Information Systems (GIS) technology to solve problems and answer questions. Increases level of proficiency using GIS and performing spatial analysis of data. Introduces GIS operational and management issues.

**Prerequisite:** GEG 151 with a grade of C or better.

### **GEG 153 Applied Geospatial Technologies (2-2) 3 crs.**

Consolidates the concepts and techniques acquired through prior coursework within the Geographic Information Systems (GIS) certificate. Students will analyze case studies, understand geospatial technology as a professional field, and apply geospatial technology methods and workflows in classroom projects.

**Prerequisite:** GEG 152 with a grade of C or better.

### **GEG 155 Geographic Information Systems (GIS) Internship (0.5-2.5 to 1-10) 1-3 crs.**

Provides a structured work experience in a supervised setting using GIS or other geospatial technologies. Students are exposed to the technical and managerial issues faced by a geospatial technician or analyst. Students prepare a written report at the end of the assignment.

**Prerequisite:** GEG 150 with a grade of C or better, and consent of program coordinator.

### **GEG 160 Drone Pilot Ground School (1-0) 1 cr.**

Provides knowledge about the regulations and procedures governing the legal operation of Small Unmanned Aerial Systems (sUAS) in the United States of America. Course content aligns with knowledge areas in the Federal Aviation Administration's (FAA's) Part 107 airman knowledge test for a Remote Pilot Certificate with a sUAS rating.

### **GEG 161 Introduction to Small Unmanned Aerial Systems (2-2) 3 crs.**

Introduces Small Unmanned Aerial Systems (sUAS) safety procedures, mission planning best practices, maintenance protocols, flight proficiency, and the fundamentals of sUAS image processing.

**Prerequisite:** Prior or concurrent enrollment in GEG 160 with a grade of C or better, or valid Federal Aviation Administration Remote Airman Certificate (Part 107).

### **GEG 162 sUAS Data Acquisition and Analysis (2-2) 3 crs.**

**This course is only offered in the fall term.**

Introduces students to the basic theories and techniques used to capture, process, analyze, and present Small Unmanned Aerial Systems (sUAS) data. Includes sUAS data applications, image and sensor characteristics, mission planning and safety best practices, data acquisition, post processing, and fundamental analysis.

**Prerequisite:** GEG 161 with a grade of C or better.

### **GEG 250 Introduction to Remote Sensing (2-2) 3 crs.**

**This course is only offered in the fall term.**

Provides an introduction to remote sensing of the Earth. Topics include the physical principles upon which remote sensing is based; history and future directions; sensors and their characteristics; image data sources; image classification, interpretation and analysis techniques; and the integration of workflow outputs into GIS (Geographic Information Systems).

**Prerequisite:** GEG 150 with a grade of C or better.