**GEOGRAPHY**

### Fall 2020 Schedule of Classes

**GEOG 1110**  
**WORLD GEOGRAPHY**  
- **9:30 - 10:45 a.m.**  
  - TR  
  - PROF. WELFORD  
- **3:30 - 4:45 p.m.**  
  - MW  
  - PROF. SIMENSON  
- **2 - 2:50 p.m.**  
  - MWF  
  - STAFF  
  - GSI  
  - PROF. FRYMAN  

- Reasons for and consequences of variations over surface of the earth of cultural, economic, physical, and other attributes of places.

**GEOG 1120**  
**HUMAN GEOGRAPHY**  
- **10 - 11:50 a.m.**  
  - MWF  
  - PROF. OWUSU  
- **11 - 11:50 a.m.**  
  - MWF  
  - PROF. OWUSU  
- **11 - 11:50 a.m.***  
  - MWF  
  - PROF. OBERLE  
- **8 - 8:50 a.m.**  
  - MWF  
  - PROF. OBERLE  

*First Year Only course, reserved for orientation freshman new from high school  
**Elementary and secondary education majors only

- Spatial perspectives on the dynamics of socio-cultural and human-environmental interactions, including processes, patterns, and systems examined from local through global scales of analysis. 
- This course analyzes ideas, works, and institutions through topics that include diversity, culture, environmental sustainability, globalization, population, and economies.

**GEOG 1210**  
**PHYSICAL GEOGRAPHY**  
- **6 - 8:50 p.m.**  
  - M  
  - PROF. STUFFLEBEAM  
- **11 - 11:50 a.m.**  
  - MWF  
  - PROF. DAHMS  
- **9:30 - 10:45 a.m.**  
  - TR  
  - STAFF  
  - PROF. STUFFLEBEAM  

- Increase your understanding of the Interconnected nature of Earth’s terrestrial-ocean-atmospheric systems, processes that control Earth’s physical systems, and methods used to investigate the Earth’s physical systems. Learn how solar energy is distributed throughout Earth’s system, important relationships between humans and Earth’s environmental systems, and how Earth’s climate and biophysical systems change over time.

**GEOG 1211**  
**PHYSICAL GEOGRAPHY LABORATORY**  
- **2 - 3:50 P.M.**  
  - M  
  - PROF. DAHMS  
- **2 - 3:50 P.M.**  
  - T  
  - PROF. DAHMS  
- **2 - 3:50 P.M.**  
  - W  
  - PROF. DAHMS  

- Explanation of patterns of solar energy receipt, atmospheric pressure, winds, and precipitation around the Earth. Emphasis on how solar energy, water, and crustal movements interact to determine characteristics of natural environments on Earth.

**GEOG 1310**  
**DIGITAL EARTH**  
- **8 - 8:50 a.m.**  
  - MWF  
  - STAFF  

- Survey of maps and map communication principles with a focus on digital maps and dynamic mapping applications. Emphasis on reading, analysis, and interpretation of information on maps.

**GEOG 2210**  
**MODERN CLIMATE CHANGE**  
- **9:30 - 10:45 a.m.**  
  - TR  
  - PROF. MAY  

- Brief overview of the climate system. Examination of the evidence for recent global and regional climate changes. Analysis of the importance of greenhouse gases, solar changes, aerosols, and cloud changes as contributors to climate changes. Course addresses the history of successes and failures of political and economic solutions to rein in climate change.

**GEOG 2320/6286**  
**DRONES MAPPING & COMMUNICATION**  
- **11 a.m. - 1:30 p.m.**  
  - TR  
  - PROF. DIETRICH  

- This course will provide an overview of aspects related to unmanned aerial systems (UAS) operations for both environmental mapping and communication purposes. Topics will include: Basic aviation knowledge, current UAS regulations, flight control systems, UAS platforms (e.g., hexacopter, octocopter), aerial mapping techniques, and aerial photography/video/videography for communications. Students will gain hands-on experience with data collection using a variety of UAS. Field trips are required.

**GEOG 3220**  
**ENVIRONMENTAL GEOGRAPHY**  
- **10 - 10:50 a.m.**  
  - MWF  
  - STAFF  

- Today we live in the Anthropocene, an era dominated by humans, but also by the positive yet destructive environmental feedbacks that are poised to completely reset the relationships between nature and society. The field of human-environmental geography is broad and includes geography’s two centuries of emphasis on humankind’s interaction with and modifications of natural systems, as well as newer interests in conflicts over natural resources and environmental change, assessments of the sustainability and the equity of primary production systems.

**GEOG 3310/6286**  
**GEOGRAPHIC INFO SYSTEMS I**  
- **3:30 - 4:45 p.m.**  
  - TR  
  - PROF. PETROV  
- **5:30 - 8:20 p.m.**  
  - T  
  - PROF. PETROV  

- Fundamental concepts and operations of Geographic Information Systems with applications. Lectures are supplemented by computer-based projects. Lecture, 2 periods, lab 2 periods.
## GEOGRAPHY

**Fall 2020 Schedule of Classes**

### GEOG 4120/5120  DEMOGRAPHY & POPULATION
- **Time:** 11 a.m. - 12:15 p.m.
- **Days:** TR
- **Instructor:** PROF. PETROV
- **Prerequisite(s):** junior standing.

Geographic perspectives on demography and migration in a changing world. Patterns, processes, and models of population structure, change, distribution, and movement. Relationships with complex spatial mosaic of socioeconomic and environmental systems. Elements of population analysis and geodemographics.

### GEOG 4150/5150  REGIONAL GEOGRAPHY: LATIN AMERICA
- **Time:** 9 - 9:50 a.m.
- **Days:** MWF
- **Instructor:** PROF. OBERLE

Study of geography of selected region including evolution and dynamics of its cultural, social, economic, political, and environmental dimensions. May be repeated on different regions.

### GEOG 4159/5159  CLIMATE CHANGE & SOCIAL JUSTICE
- **Time:** 1 - 1:50 p.m.
- **Days:** MWF
- **Instructor:** PROF. MILLSAPS

This is a participatory action research focused class where students engage in research on climate change social justice issues in and around Iowa.

### GEOG 4230/5230  RIVERS
- **Time:** 3:30 - 4:45 p.m.
- **Days:** TR
- **Instructor:** PROF. DIETRICH

Runoff processes, stream discharge, sediment transport, drainage basins, properties of alluvium, channel changes, floodplains, terraces, human adjustments to floods, human impacts on rivers, and river water quality.

### GEOG 4350/5350  GLOBAL POSITIONING SYSTEM FIELD SURVEY METHODS
- **Time:** 2 - 4:30 p.m.
- **Days:** MW
- **Instructor:** PROF. LIANG

Prerequisite(s): junior standing.

Utilization of global positioning system (GPS) to collect, process, and analyze geographic data. GPS theory and techniques including field survey experiences. Applications within an integrated geographic information system (GIS) framework.

### GEOG 4360/5360  THEMATIC CARTOGRAPHY
- **Time:** 9:30 - 10:45 a.m.
- **Days:** TR
- **Instructor:** PROF. LIANG

Prerequisite(s): junior standing.

Application of cartographic principles and techniques in compiling thematic maps. Emphasis on cartographic production; essentials of computer mapping and map reproduction. Lecture, 2 periods; lab, 2 periods.

### GEOG 4370/5370  REMOTE SENSING ENVIRONMENT
- **Time:** 12 - 1:15 p.m.
- **Days:** MW
- **Instructor:** PROF. LIANG

Prerequisite(s): junior standing.

Examination of physical basis of Remote Sensing and various sensing systems available for monitoring, mapping, measuring, and identifying phenomena on the earth’s surface. Emphasis on non-photographic systems operating within the electromagnetic continuum. Various modes of multispectral scanning. Lecture, 2 periods; lab, 2 periods.

### GEOG 4390/5390  GIS PROGRAMMING
- **Time:** 2 - 3:15 p.m.
- **Days:** TR
- **Instructor:** PROF. DEGROOTE

Gain in-demand spatial data skills while learning applied scripting/programming in ArcGIS Pro, ArcGIS Online, and Google Earth Engine. Learn automated spatial data processing, analysis, and visualization while learning Python fundamentals. Prior programming experience is not required.

### GEOG 4560  PROFESSIONAL SEMINAR
- **Time:** 5 - 5:50 p.m.
- **Days:** W
- **Instructor:** PROF. MILLSAPS

Prerequisite(s): junior standing.

Issues and opportunities involved in transition from undergraduate to professional life. Design and completion of essential documents including resume, professional portfolio, graduate program applications, and standardized examinations.

### GEOG 6000  GRADUATE COLLOQUIUM
- **Time:** 3 - 3:50 p.m.
- **Days:** F
- **Instructor:** PROF. DIETRICH

Weekly presentations by a faculty member, visitor or student. May be repeated for max of 2 hours.

### GEOG 6550  SEMINAR: HISTORY GEOGRAPHIC THOUGHT
- **Time:** 5:30 - 8:20 p.m.
- **Days:** T
- **Instructor:** PROF. MILLSAPS

Topics listed in Schedule of Classes. May be repeated on different topics.

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University of Northern Iowa.