

# GEOGRAPHY (GEOG)

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## **GEOG 5000. Research Design. (3 Credits)**

A survey of research methods in geography. Topics include spatial sampling, hypothesis construction and testing and geographic modelling. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205000>)

## **GEOG 5010. Geography Proseminar. (1 Credit)**

Presentation by geography faculty of current research topics. **Enrollment Requirements:** Open to graduate students in Geography. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205010>)

## **GEOG 5100. Location Analysis. (3 Credits)**

Issues and approaches in location analysis. Topics include location theory and models; representation issues; use of geographic information systems (GIS) for data preparation, analysis and display; evaluation of service areas; land use allocation; accessibility and locational conflict; and implications for planning and public policy. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205100>)

## **GEOG 5220. Geography of Sustainable Development. (3 Credits)**

Conceptualizing international development; understanding theories, strategies and ideologies of development; and use of case studies to understand development in practice. Emphasis placed on the concept of sustainable development and sustainability, grassroots-driven approaches to development, the role of women, and geographic explanations as to how and why uneven development has occurred. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205220>)

## **GEOG 5230. Advanced GIS for Remote Sensing for Geoscience Applications. (3 Credits)**

(Also offered as EARTH 5230.) Research methods for using Geographic Information Systems, remote sensing, and image interpretation to investigate problems in geoscience. Includes research techniques for data acquisition, processing and analysis of Digital Elevation Models and satellite imagery. Geologic materials, processes, landforms and landscapes.

**Enrollment Requirements:** Not open to students who took EARTH 4230. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205230>)

## **GEOG 5240. Disaster Risk, Vulnerability, and Resilience. (3 Credits)**

Overview of geographical perspectives on disaster risk, vulnerability, and resilience using an integrated environmental, social, and infrastructural approach. The theory, methods, metrics, and tools necessary to measure and understand risk, vulnerability, and the resilience of societies worldwide.

**Enrollment Requirements:** Recommended preparation: Introductory course on natural hazards and disasters. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205240>)

## **GEOG 5340. Biogeography. (3 Credits)**

An examination of how physical environments, historical processes, and human activities shape current biogeographical patterns and influence future changes.

**Enrollment Requirements:** GEOG 1000 or GEOG 2300E or EEB 2244E or EEB 2245 or NRE 1000E. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205340>)

## **GEOG 5400. Climate Science and Society. (3 Credits)**

The science behind our changing climate, focusing on extreme weather events responsible for power outages, and society's perceptions of and responses to the climate crisis. Enrollment Restrictions: Limited to students in the MEEM or other online fee-based degree programs. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205400>)

## **GEOG 5500. Fundamentals of Geographic Information Science. (3 Credits)**

An introduction to the theory and methods for representing, acquiring, storing, manipulating, displaying, and analyzing geographic features in relation to the surface of the earth. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205500>)

## **GEOG 5505. Remote Sensing of Marine Geography. (3 Credits)**

Introduction to remote sensing applications in oceans and seas. Applications include image analysis of sea surface temperature, winds, altimetry, sea ice, chlorophyll, primary productivity, and bathymetry. Graduate section includes individualized projects. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205505>)

## **GEOG 5510. Applications of Geographic Information Systems. (3 Credits)**

Operational and management issues of geographic information systems (GIS) with emphasis on understanding GIS through use of software. Topics include the principal functional components of GIS including general GIS design and management theory, spatial and attribute data creation, database design and management, spatial analysis, cartographic production, and application design and implementation. Practical work includes analytical exercises using GIS culminating in an application project.

**Enrollment Requirements:** Recommended preparation: GEOG 5500. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205510>)

## **GEOG 5512. Introduction to Spatial Data Science. (3 Credits)**

Introduction to the fundamentals of spatial data science. Students will also learn how to apply a high-level programming language, R, for spatial data analysis, visualization, and modeling. **Enrollment Requirements:** GEOG 5500 or instructor consent. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205512>)

## **GEOG 5515. Web GIS. (3 Credits)**

Introduction to Internet GIS. The basics of system architecture, geospatial web services, mashups, key elements of mobile GIS solutions, the functionality of geoportals and web technologies, web mapping interoperability using universal data standards such as OGC (Open Geospatial Consortium) web services, and the current state of e-business and e-government web mapping interests. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205515>)

## **GEOG 5516. Fundamentals of Spatial Database Systems. (3 Credits)**

The theories and principles behind Spatial Database Systems. Students will learn how to design and implement spatial databases. **Enrollment Requirements:** Not open for credit to students who have passed GEOG 4516. View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205516>)

**GEOG 5518. Mobile GIS. (3 Credits)**

This course covers how to develop, test, and publish mobile GIS web and native apps across multiple mobile platforms (Android, iOS, etc.).

**Enrollment Requirements:** Not open for credit to students who have passed GEOG 4518.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205518>)

**GEOG 5519. Spatial Big Data Analytics. (3 Credits)**

Covers the collection, analysis, and visualization of spatial big data to support better decision-making in geographic contexts.

**Enrollment Requirements:** Instructor consent required. Not open for credit to students who have passed GEOG 4519.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205519>)

**GEOG 5520. GIS Modeling of the Urban Environment. (3 Credits)**

Survey of GIS methods and spatial analysis for studying spatial patterns of land use and human activity in an urban environment.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205520>)

**GEOG 5530. GIS for Health and Environment. (3 Credits)**

An exploration of how spatial data and Geographic Information Systems (GIS) can be used to understand and improve human and environmental health.

**Enrollment Requirements:** Recommended preparation: GEOG 5500.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205530>)

**GEOG 5540. Social Dimensions of Renewable Energy. (3 Credits)**

Geographic concepts and methodological tools guiding decision-making between potential energy futures. Spatial patterns of economic and social activity in the transition to low carbon energy.

**Enrollment Requirements:** GEOG 5500 or consent of instructor.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205540>)

**GEOG 5600. Spatial Data Analysis. (3 Credits)**

Univariate statistics focused on the use of spatial statistics, including geostatistics in geographical research. Problems specific to spatial data analysis are addressed.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205600>)

**GEOG 5610. Spatial Statistics and Modeling. (3 Credits)**

Advanced study in the methods and practice of multidimensional statistics and spatial modeling.

**Enrollment Requirements:** GEOG 5600.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205610>)

**GEOG 5620. Computer Applications in Spatial Analysis. (3 Credits)**

Advanced seminar in the design of Geographic Information Systems software for solving problems in spatial analysis.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205620>)

**GEOG 5890. Internship in Geography. (1-6 Credits)**

A fieldwork internship program under the direction and supervision of the geography staff. Students will be placed in agencies or industries where their academic training will be applied. One 8-hour work day per week (or its equivalent) for the host agency during the course of the semester will be necessary for three academic credits. A written report will be required. May be repeated for a total of 12 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205890>)

**GEOG 5895. Special Topics in Geography. (1-6 Credits)**

May be repeated with a change in content.

May be repeated for a total of 18 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%205895>)

**GEOG 6000. Themes in Geographic Thought. (3 Credits)**

Examination of the historical development of geography since the early nineteenth century. Emphasis on the last century of intellectual developments that have led to the emergence of contemporary geography as a research discipline.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%206000>)

**GEOG 6800. Practicum in College Teaching in Geography. (1 Credit)**

Guided development of college-level instruction. Drafting of course objectives, selection of texts, development of course and lecture outlines, selection of grading mechanisms, and incorporating feedback for improvement of instruction.

**Enrollment Requirements:** Open to graduate students in Geography.

May be repeated for a total of 3 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%206800>)

**GEOG 6810. Seminar on Spatial Analysis of Social Issues. (3 Credits)**

An exploration of the complex social processes connecting people, places, and the environment across space using quantitative and qualitative methods of spatial analysis. Topics may include sustainability, environmental justice, racial and gender disparities, transportation, health issues, and the dynamics of internal and international migration with a unifying theme to understand the interaction between social processes and spatial inequalities. May be repeated for a maximum of six credits.

**Enrollment Requirements:** Instructor consent.

May be repeated for a total of 6 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%206810>)

**GEOG 6815. Seminar on Geographic Information Science and Systems. (3 Credits)**

An exploration of Geographic Information Science (GISc) and Systems (GIS) theories, methods, and critiques for physical and social sciences. Topics may range from fundamental to emergent themes including measurement biases, uncertainties, qualitative GIS, spatial big data, human dynamics, and GeoAI. May be repeated for a total of six credits.

**Enrollment Requirements:** Recommended preparation: GEOG 5500 or 5510.

May be repeated for a total of 6 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%206815>)

**GEOG 6870. Seminar on Earth System Science. (3 Credits)**

This seminar highlights one or more aspects of UConn Geography's Earth System Science group's expertise in understanding interactions within and between the atmosphere, hydrosphere, geosphere, and biosphere. Topics may include climate modeling, paleoclimate analysis, and geomorphology with the purpose of understanding the Earth's climate system and/or the mechanics and evolution of mountains and landscapes around the world.

May be repeated for a total of 6 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%206870>)

**GEOG 6875. Seminar on Human-Environment Dynamics. (3 Credits)**

An exploration of transdisciplinary and multidisciplinary approaches in human-environment systems (HES) science to help solve complex human-environmental problems. Topics may include an understanding of challenges, methodologies, and potential solutions to human-environmental problems such as global environmental change, related critical physical, chemical, and biological systems, natural hazards and disasters, risk, resilience, and climate extremes from geographic perspectives.

May be repeated for a total of 6 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=GEOG%206875>)