

GEOGRAPHY (GEOG)

GEOG 104 Planet Earth: The Physical Environment (4 crs)

This course examines the physical processes that shape our environment, which we view as a complex model of interacting systems. Students will learn about the principles and mechanisms of climate and weather, soils, vegetation, ecosystems, and earth surface processes that sculpt physical landscapes. Also examined are the Earth's systems from a local to global scale as they relate to human interactions with the physical environment.

Attributes: GE IIC Natural Science-Geography, Lab Science, LE-K1 Natural Sciences, LE-K1L Natural Sciences with Lab, Special Course Fee Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 2

GEOG 111 Planet Earth: Human Geography (3 crs)

This integrative course examines interactions and relationships between people, places, and environments. It emphasizes how human practices engage with local and global change. The course takes a place-based approach to the analysis of population and health, migration, socioeconomic, identity, language, religion, foodways, economic development, politics, and urbanization.

Attributes: Foreign Culture, Cultural Diversity 1 cr., GE IIC Social Science-Geography, LE-I1 Integration, LE-K2 Social Sciences

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 135 Planet Earth: Our Digital Globe (3 crs)

This geography course explores tools and technologies for acquiring, analyzing, managing, and displaying geographic information in the social and environmental sciences. It introduces a variety of geospatial approaches, including geographic information systems (GIS), global positioning systems (GPS), remote sensing (RS), spatial analysis, and cartography (the science and art of map making).

Attributes: GE IIC Natural Science-Geography, LE-S3 Creativity

Grading Basis: A-F Grades Only

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 155 Economic Geography (3 crs)

This course explores the geographic variations of space, place, location, and scale regarding human economic activities. Issues such as globalization, production, and consumption provide a framework through which the interactions and interdependencies at local and global scales are examined.

Attributes: GE IIC Social Science-Geography, LE-K2 Social Sciences, LE-R2 Global Perspectives

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 178 Planet Earth: Conservation of the Environment (3 crs)

Prerequisite: No credit if taken after BIOL 180 or GEOL 204.

• *Satisfies Wisconsin conservation requirement for teaching certification in science and social science.*

This course examines conservation of the environment from a geographical perspective by approaching society's interdependent relationships with the natural world and its resources. Biophysical, cultural, and socioeconomic issues are addressed in order to better understand environmental problems and develop more effective and sustainable solutions to them.

Attributes: GE IIC Natural Science-Geography, LE-I1 Integration, LE-K1 Natural Sciences

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 200 Foundations of Geography (3 crs)

Prerequisite: Limited to Geography majors and minors and Geospatial Analysis and Technology majors

An introduction to the foundations, principles and primary geospatial techniques and analyses used in geography.

Lecture/Discussion Hours: 2

Lab/Studio Hours: 2

GEOG 220 World Regional Geography: Diversity & Globalization (3 crs)

Examines the cultural and environmental diversity of our interconnected world using geographical perspectives and tools. Topics include the spatial dimensions of traditional and popular culture, physical environments, nature-society interactions, population distribution and movement, languages and belief systems, socio-economic linkages, politics, urbanization, and other characteristics of the world's people and places.

Attributes: LE-K2 Social Sciences, LE-R2 Global Perspectives

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 270 Introduction to Urban and Regional Planning (3 crs)

Basic concepts and philosophies of urban and regional planning, land use, zoning, and sustainable urban development.

Attributes: LE-R3 Civic and Environmental Issues, Field Trip(s) Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 280 Introduction to Cartography and Visualization (3 crs)

• *GEOG 200 is recommended prior to enrollment in this course.*

Introduces the art and science of map production through a focus on cartographic design principles, techniques, and best practices. Historic and contemporary maps are examined through the lens of their design elements and cultural context to inform students as they design maps. Discussions centered on the ethics of collecting and analyzing spatial data provide a critical framework for applying cartographic visualization fundamentals in the production of digital reference and thematic map projects.

Attributes: LE-I1 Integration, LE-S3 Creativity

Lecture/Discussion Hours: 2

Lab/Studio Hours: 2

GEOG 288 Cultural Landscapes of North America (3 crs)

This course introduces ways of seeing and interpreting North American cultures and histories as revealed in our built environments—homes, highways, farms, factories, stores, recreation areas, small towns, city districts, regions, and more. The course encourages students to read landscapes as records of past and present social relations and bearers of cultural meanings. Emphasis is placed on U.S. landscapes.

Attributes: Cultural Diversity 2 cr., GE IIIC Social Science-Geography, LE-DDIV Design for Diversity, LE-R1 Equity, Diversity, and Inclusivity
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 291 Special Topics (1-3 crs)

Lecture/Discussion Hours: Variable Contemporary issues and special topics in geography not typically covered in introductory geography courses. Varies based on interest of students and faculty. May include field trips and experiences.

Repeat: Course may be repeated for a maximum of 6 credits
Lab/Studio Hours: 0

GEOG 301 Geography of Western Europe (3 crs)

Europe west of the former Soviet Bloc countries, with emphasis on physical, biotic, and cultural themes which unify the region. Includes the national level of regionalization. Utilizes aspects of history, politics, literature, and physical geography.

Attributes: Foreign Culture, GE IIIC Social Science-Geography, LE-I1 Integration, LE-R2 Global Perspectives
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 304 Introduction to Geomorphology (4 crs)

Prerequisite: GEOG 104 or GEOL 106 or GEOL 110 or GEOL 115.
An introduction to physical processes that affect the Earth's surface and the landforms that result. The techniques of investigating landforms (field/laboratory) and the fundamentals of communicating the results will be covered.

Attributes: LE-I1 Integration, LE-K1 Natural Sciences, LE-K1L Natural Sciences with Lab, Field Trip(s) Required, Special Course Fee Required
Lecture/Discussion Hours: 2
Lab/Studio Hours: 4

GEOG 308 Geography of Russia and Eastern Europe (3 crs)

Examination of natural and human resources, economic and political organization of Eastern Europe and the former Soviet Union. Special attention to ideological and institutional problems of population growth, nationalities, and regional development.

Attributes: Foreign Culture, GE IIIC Social Science-Geography, LE-I1 Integration, LE-R2 Global Perspectives
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 312 Space, Society, Subject (3 crs)

Prerequisite: Sophomore standing or instructor consent
• *Credit may not be earned in both ANTH 312 and GEOG 312.*

Broad introduction to social theory in anthropology and geography with an emphasis on contemporary theoretical approaches to social, spatial, and cultural dynamics and their intersections.

Attributes: Cultural Diversity 1 cr., GE IIIA Social Science-Anthropology, LE-DDIV Design for Diversity, LE-K2 Social Sciences, LE-R1 Equity, Diversity, and Inclusivity, Undergraduate/Graduate Offering
Lecture/Discussion Hours: 3
Seminar Hours: 0

GEOG 313 Culture and Transnational Dynamics (3 crs)

Prerequisite: Minimum sophomore standing or instructor consent. Credit may not be earned in both GEOG/ANTH 313/513 and GEOG/ANTH 351.
• *Credit may not be earned in both ANTH 313 and GEOG 313.*

Critical discussion of conceptual approaches to cultural processes, differences, and encounters from a transnational perspective.

Attributes: Foreign Culture, Cultural Diversity 1 cr., GE IIIA Social Science-Anthropology, LE-K2 Social Sciences, LE-R2 Global Perspectives, Undergraduate/Graduate Offering
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 319 Geography of the Middle East and North Africa (3 crs)

Examination of the physical, cultural, economic, and political geography of the Middle East and North Africa. Emphasis placed on understanding the region's people, places, cultures, nature-society relationships, and the roots of conflict.

Attributes: Foreign Culture, GE IIIC Social Science-Geography, Field Trip(s) Required, Special Course Fee Required
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 321 Geography of Latin America (3 crs)

• *Credit may not be earned in both GEOG 321 and LAS 321.*

The physical and cultural landscapes of Latin America, including North, Central, and South America and the Caribbean Islands, with attention to the major cultural, economic, social, and political currents of each region.

Attributes: Foreign Culture, GE IIIC Social Science-Geography, LE-I1 Integration, LE-R2 Global Perspectives, Undergraduate/Graduate Offering
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 322 Native Geographies (3 crs)

• *Credit may not be earned in both GEOG 322 and AIS 322.*

The historical and contemporary relationships of American Indians to place, including land use and environmental issues, Indigenous mapping techniques, sacred sites, territorial nationhood, and legal rights to ceded and sovereign lands. The course also provides insight into the unique cultures of Indigenous peoples around the world.

Attributes: Cultural Diversity 3 cr., GE IIIC Social Science-Geography, LE-DDIV Design for Diversity, LE-I1 Integration, LE-R1 Equity, Diversity, and Inclusivity, Undergraduate/Graduate Offering, Field Trip(s) Required, Special Course Fee Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 325 Geography of the United States and Canada (3 crs)

This course examines the United States and Canada through a regional analysis of physical landforms, weather and climate, environmental change, and the social, political, economic, and cultural processes that contextualize their dynamic human geographies. Historical and contemporary geographies of culturally diverse groups are emphasized.

Attributes: Cultural Diversity 1 cr., GE IIIC Social Science-Geography, LE-DDIV Design for Diversity, LE-I1 Integration, LE-R1 Equity, Diversity, and Inclusivity

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 335 Geographic Information Systems I (3 crs)

• *GEOG 200 is recommended prior to enrollment in this course.*

This course introduces the basic principles and concepts surrounding the use and application of Geographic Information Systems (GIS). Students will learn how to identify, organize, process, and analyze geospatial data representing geographic features of our world. With the use of state-of-the-art GIS technology, this course makes use of geospatial data representing the environment, economy, socio-cultural, political, and other spheres of our world. Moreover, students will learn how to think spatially, produce maps, analyze geospatial data, and communicate spatial information effectively.

Attributes: Undergraduate/Graduate Offering

Lecture/Discussion Hours: 2

Lab/Studio Hours: 2

GEOG 336 Geospatial Field Methods (3 crs)

Prerequisite: GEOG 335

Consent: Instructor Consent Required

Project-based hands-on learning will teach students field data collection techniques/methods for those interested in a career involving geospatial issues. Traditional and advanced geospatial technology are implemented in the course.

Attributes: Undergraduate/Graduate Offering, Field Trip(s) Required, Special Course Fee Required

Grading Basis: A-F Grades Only

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 337 Geographic Information Systems II (3 crs)

Prerequisite: GEOG 335

This course expands directly on knowledge gained in Geog 335, Geographic Information Systems I. Focus will be on gaining additional technical skills and applying them to answer more in-depth geospatial questions.

Attributes: Undergraduate/Graduate Offering

Lecture/Discussion Hours: 2

Lab/Studio Hours: 2

GEOG 338 Remote Sensing of the Environment (3 crs)

• *GEOG 200 is recommended prior to enrollment in this course.*

Descriptive interpretation of remote-sensing images from ground, aerial, and space platforms.

Attributes: Undergraduate/Graduate Offering

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 339 Applied Cartography and Geovisualization (3 crs)

This advanced map production course integrates cartographic design principles, techniques, spatial and temporal data analysis, and best practices with creative geovisualization products that analyze environmental and societal issues. Dynamic and interactive geovisualization products, including interactive web maps, infographics, and other visual storytelling projects, are emphasized.

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 340 Climatology (3 crs)

Prerequisite: GEOG 104

Comprehensive study of climatic phenomena with emphasis on global heat and water balances, daily weather analysis, climate classification, and climate change.

Attributes: Field Trip(s) Required, Special Course Fee Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 341 Weather and Society (3 crs)

Prerequisite: Minimum sophomore standing or consent of instructor.

This course provides the student with a theoretical and applied understanding of meteorological events and their subsequent impacts upon society.

Attributes: GE II Natural Sciences, LE-K1 Natural Sciences

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 345 Quaternary Environments (3 crs)

Prerequisite: GEOG 304

Causes, history, and effects of the Ice Ages, including the study of climatic changes, related oceanic and biological disruptions, Ice Age landforms; also, the characteristics and world distribution of modern glaciers.

Attributes: Field Trip(s) Required, Special Course Fee Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 350 Soils and the Environment (4 crs)

Prerequisite: GEOG 104 or GEOL 110 or GEOL 115; and GEOG 304 or GEOL 312.

Consent: Instructor Consent Required

Study of soil properties, formation processes, and classification with emphasis on fieldwork, application of soil information to resource management and land use, and technical report writing.

Attributes: Undergraduate/Graduate Offering, Field Trip(s) Required

Grading Basis: No Auditors

Lecture/Discussion Hours: 2

Lab/Studio Hours: 4

GEOG 352 Business Geographics (3 crs)

Business applications of geographic analysis. Emphasis on population geography, U.S. Census data, location, threshold and market area analysis, retail site location, and location allocation. Use of GIS software, large spatial databases, and database manipulation required.

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 354 Sustainable Placemaking and Community (3 crs)

Prerequisite: Minimum sophomore standing

- *A geography course is recommended prior to enrollment in this course.*

This course examines the geographic features of community and the role of geography in how community is built, maintained, and sustained. It examines the idea and practice of community at numerous scales (e.g., neighborhood, small town, metropolitan), the organizations and institutions supporting community, and the role of such geographical factors as mobility, landscape, sense of place, location, spatial interaction, culture, and environment. Regional emphasis is on people and places of the upper Midwest.

Attributes: LE-R3 Civic and Environmental Issues, Field Trip(s) Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 355 Biogeography (3 crs)

Prerequisite: GEOG 104, GEOG 178, or BIOL 180

- *GEOG 335 is recommended prior to enrollment in this course.*

This course introduces the identification, description, interpretation, and explanation of historical and contemporary patterns of biogeographical diversity, patterns, and processes on local, regional, and global scales. Geospatial field techniques are employed to collect and analyze local data used to understand the impacts of environmental change.

Attributes: Field Trip(s) Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 358 LiDAR Analysis & Applications (3 crs)

Prerequisite: GEOG 335 and GEOG 338.

Introduction to the visualization, processing & use of airborne & terrestrial LiDAR data for applications in environmental & socio-cultural settings.

Attributes: Undergraduate/Graduate Offering

Grading Basis: A-F Grades Only

Lecture/Discussion Hours: 2

Lab/Studio Hours: 2

GEOG 361 Environmental Hazards (3 crs)

The course focuses on environmental hazards and disasters (including geomorphic, atmospheric, and human): how the normal processes of the earth concentrate their energies and deal destructive blows to humans and their structures.

Attributes: GE IIC Natural Science-Geography, LE-I1 Integration, LE-K1 Natural Sciences, Field Trip(s) Required, Special Course Fee Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 363 Watershed Analysis (4 crs)

Prerequisite: GEOG 104 or GEOL 106 or GEOL 110 and GEOG 335

Watershed-based study of surface-water hydrologic processes and the factors (climate, soils, vegetation, land use) that affect them. Particular emphasis placed on investigations of watersheds in the Eau Claire area.

Attributes: Field Trip(s) Required, Special Course Fee Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 2

GEOG 364 Fluvial Processes and Landforms (4 crs)

Prerequisite: GEOG 104 or GEOL 106 or GEOL 110; and GEOG 304 or GEOL 312; and GEOG 335.

Study of river processes and the landforms that result from them, including how processes and landforms respond to natural and anthropogenic environmental change. Investigations of streams in the Eau Claire area emphasized.

Attributes: Field Trip(s) Required, Special Course Fee Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 2

GEOG 365 Tourism Geographies (3 crs)

This course examines the tourism industry through a spatial and temporal analysis of its various sectors at local, regional, national, and global scales. Topics include social, economic, and environmental sustainability, the development and promotion of natural and cultural destinations in urban and rural locations, tourist supply and demand, niche tourism activities, and modes of transportation used in the tourism industry.

Attributes: GE IIIC Social Science-Geography, LE-K2 Social Sciences, LE-R2 Global Perspectives, Field Trip(s) Required, Special Course Fee Required
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 366 Geography International Immersion Experience (1-3 crs)

Consent: Instructor Consent Required

- *Preparatory prerequisite course may be required.*

Place-based analysis using field and interdisciplinary methods to learn about the environments, society and culture of the immersion region. International field sites, experiences and special topics may vary by semester.

Attributes: Foreign Culture, Field Trip(s) Required, Special Course Fee Required
Varies by Term/Section
Repeat: Course may be repeated for a maximum of 6 credits
Grading Basis: A-F Grades Only

GEOG 367 Landscape Analysis: Cultural (3 crs)

Prerequisite: Minimum sophomore standing.

Geographic analysis of cultural landscapes by means of field experiences.

Attributes: GE IIIC Social Science-Geography, Field Trip(s) Required
Repeat: Course may be repeated for a maximum of 6 credits
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 368 Geography Field Seminar (3 crs)

Prerequisite: Limited to geography majors and minors or consent of instructor. Minimum junior standing.

Place-based analysis using geographic methods and field investigations. Field sites and research topics will vary from semester to semester.

Attributes: Field Trip(s) Required, Special Course Fee Required
Varies by Term/Section
Repeat: Course may be repeated for a maximum of 6 credits
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 369 Geography of Food (3 crs)

Prerequisite: Minimum sophomore standing.

- *A geography course is recommended prior to enrollment in this course.*

Explores the geography and spatial dimensions of food, with attention to the cultures and environments from which they emerged, changing nature/society relationships, and the implications of globalization, economic growth, and technological innovations.

Attributes: Foreign Culture, GE IIIC Social Science-Geography, LE-I1 Integration, LE-K2 Social Sciences, Field Trip(s) Required, Special Course Fee Required
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 370 Quantitative Methods in Geography (3 crs)

Prerequisite: GEOG 335. Limited to geography majors and minors.

An introduction to the quantitative methods commonly used in geography with an emphasis on interpretation of results produced by geospatial and statistical software. Topics include measures of central tendency, mean center, hypothesis testing, regression analysis, spatial analysis, and spatial autocorrelation.

Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 375 Environmental Quality (3 crs)

- *GEOG 178 or BIOL 180 is recommended prior to enrollment in this course.*

Society's impact on the quality of the environment. The role of cultural attitudes, population, economic systems, technology, and political institutions in creating environmental problems.

Attributes: GE III Social Science, Special Course Fee Required
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 377 U.S. Environmental and Sustainability Policy (3 crs)

- *Credit may not be earned in both ENV 377 and GEOG 377.*

Students will study U.S. environmental and sustainability law and policy to assess the roles of science, key actors, and values in policymaking.

Attributes: GE IIIG Social Science-Interdisciplinary Study, LE-K2 Social Sciences, LE-R3 Civic and Environmental Issues, Field Trip(s) Required
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 378 International Environmental Problems and Policy (3 crs)

- *Credit may not be earned in both GEOG 378 and ENV 378.*

Examination of the threats to the global environment and the response of the international community.

Attributes: Foreign Culture, GE IIIC Social Science-Geography, LE-I1 Integration, LE-R3 Civic and Environmental Issues
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 379 Geography of Wisconsin (3 crs)

A geographic analysis of Wisconsin and its people, with emphasis on cultural and environmental characteristics, patterns of land use, and changing ways of life.

Attributes: GE III Social Science, LE-I1 Integration, LE-K2 Social Sciences, Undergraduate/Graduate Offering, Field Trip(s) Required, Special Course Fee Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 390 Geospatial Applications of UAS (3 crs)

Prerequisite: GEOG 335

- *GEOG 338 is recommended prior to enrollment in this course.*

This course introduces Unoccupied/Unmanned Aerial Systems (UAS) and their applications in the natural and built environment. Topics include UAS sensors and platforms, the ethics of UAS use, sensors calibration and boresighting, flight planning and flying of UAS, data processing software, data quality and accuracy, and the production of ortho-rectified imagery, multispectral imagery, digital terrain, surface models, and other geospatial deliverables.

Attributes: Undergraduate/Graduate Offering, Field Trip(s) Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 395 Directed Studies (1-3 crs)

Consent: Department Consent Required

Directed study of a geographic problem approved by the supervising instructor and the Department Chair.

Attributes: Undergraduate/Graduate Offering

Repeat: Course may be repeated

GEOG 399 Independent Study - Juniors (1-3 crs)

Prerequisite: Limited to geography majors and minors. Minimum junior standing.

Consent: Department Consent Required

An intensive study of a geographic topic resulting in a quality paper or report suitable for publication.

Repeat: Course may be repeated

GEOG 401 Capstone Seminar (3 crs)

Prerequisite: Core courses (except capstone courses) required for all geography majors.

Designed to integrate theory and methodology, quantitative, and cartographic techniques, and field work to serve as a "capstone experience" for geography majors. Literature review, research design, data collection, and presentation skills are stressed.

Attributes: LE-S3 Creativity, Capstone Course

Repeat: Course may be repeated for a maximum of 6 credits

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 435 Geographic Information Systems III (3 crs)

Prerequisite: GEOG 335

This course builds upon the concepts and approaches introduced in Geographic Information Systems II (GEOG 337). Topics may include interpolation, cluster analysis, spatio-temporal data analysis, scripting, and automation. Students will complete a course project in which they identify a spatial problem, collect data, complete an analysis, and produce a professional report.

Attributes: Undergraduate/Graduate Offering

Lecture/Discussion Hours: 2

Lab/Studio Hours: 2

GEOG 438 Remote Sensing Data Analytics (3 crs)

Prerequisite: GEOG 338

Explores the principles and techniques of collecting, processing, and extracting information from remotely sensed data to facilitate geospatial intelligence sharing in support of sustainable planning and management.

Attributes: Field Trip(s) Required

Lecture/Discussion Hours: 2

Lab/Studio Hours: 2

GEOG 444 Legal Geographies of Race in the U.S. (3 crs)

Prerequisite: Minimum junior standing, or consent of instructor

- *A previous class in the social sciences or humanities is recommended.*

This course provides an introduction to the subdiscipline of legal geography. Explores the interactions between race and the law in the United States, with a specific focus on how U.S. law (re)produces racial inequalities. We examine how U.S. law has constructed race itself and provided differing rights based on racial categories. Students will consider the various institutions and processes that have come together to shape our contemporary racial landscape through the lens of law.

Attributes: LE-DDIV Design for Diversity, LE-K2 Social Sciences, LE-R1 Equity, Diversity, and Inclusivity

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 445 Historical Geography (3 crs)

Prerequisite: GEOG 178 or BIOL 180.

Examines how human activities have impacted the natural world, how attitudes toward nature have shifted over time, and how human activities and attitudes have altered our landscape. Emphasis is on United States environmental history.

Attributes: GE IIIC Social Science-Geography, Field Trip(s) Required, Special Course Fee Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 446 Political Geography (3 crs)

A systematic analysis of the distribution of political activity and the relationship of that pattern to other spatial phenomena. Emphasis on national states and international problems.

Attributes: GE IIC Social Science-Geography, LE-K2 Social Sciences, LE-R2 Global Perspectives

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 455 Web Geographic Information Systems (3 crs)

Prerequisite: GEOG 335

An introduction to Web GIS, the programming concepts underpinning construction and implementation of high quality web and mobile solutions.

Attributes: Undergraduate/Graduate Offering

Lecture/Discussion Hours: 2

Lab/Studio Hours: 2

GEOG 470 Urban Geography (3 crs)

Considers (1) cities as systems of service, trade, and manufacturing centers; (2) the internal structure of cities with emphasis on residential, commercial, and industrial patterns. North American urban places and solutions are stressed.

Attributes: Cultural Diversity 1 cr., Field Trip(s) Required, Special Course Fee Required

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 491 Advanced Special Topics (1-3 crs)

Consent: Department Consent Required

Lecture/Discussion Hours: Variable Contemporary issues and special topics in geography. Varies based on interest to students and faculty. May include field trips and experiences.

Attributes: Special Course Fee Required Varies by Term/Section

Repeat: Course may be repeated for a maximum of 6 credits

Lab/Studio Hours: 0

GEOG 498 Geography Internship (1-3 crs)

Consent: Department Consent Required

- *Application and approval required by supervising instructor, agency representative and department chair prior to start of internship.*

Application of geographic knowledge and skills in supervised professional activities relevant to the student's area of emphasis. Involves active reflection tied to the student's academic and career and interests. Option to pursue service learning where applicable.

Attributes: Service-Learning Optional, Capstone Course, Internship

Repeat: Course may be repeated for a maximum of 6 credits

GEOG 499 Independent Study - Seniors (1-3 crs)

Prerequisite: Limited to geography majors and minors. Minimum senior standing.

Consent: Department Consent Required

Same as GEOG 399, except for senior majors only.

Repeat: Course may be repeated

GEOG 512 Space, Society, Subject (3 crs)

- *Dual-listed with ANTH/GEOG 312/512. Credit may only be earned in one of these courses.*

Broad introduction to social theory in anthropology and geography with an emphasis on contemporary theoretical approaches to social, spatial, and cultural dynamics and their intersections.

Grading Basis: No S/U Grade Option

Lecture/Discussion Hours: 3

Seminar Hours: 0

GEOG 513 Culture and Transnational Dynamics (3 crs)

Prerequisite: Credit may not be earned in both ANTH/GEOG 313/513 and ANTH/GEOG 351.

- *Dual-listed with ANTH/GEOG 313/513. Credit may only be earned in one of these courses.*

Critical discussion of conceptual approaches to cultural processes, differences, and encounters from a transnational perspective.

Grading Basis: No S/U Grade Option

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 521 Geography of Latin America (3 crs)

- *Dual-listed with LAS/GEOG 321/521. Credit may only be earned in one of these courses.*

The physical and cultural landscapes of Latin America, including North, Central, and South America and the Caribbean Islands, with attention to the major cultural, economic, social, and political currents of each region.

Grading Basis: No S/U Grade Option

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 522 Native Geographies (3 crs)

- *Dual-listed with GEOG/AIS 322. Cross-listed with GEOG/AIS 522. Credit may only be earned in one of these courses.*

The historical and contemporary relationships of American Indians to place, including land use and environmental issues, Indigenous mapping techniques, sacred sites, territorial nationhood, and legal rights to ceded and sovereign lands. The course also provides insight into the unique cultures of Indigenous peoples around the world.

Attributes: Field Trip(s) Required, Special Course Fee Required

Grading Basis: No S/U Grade Option

Lecture/Discussion Hours: 3

Lab/Studio Hours: 0

GEOG 535 Geographic Information Systems I (3 crs)

- *Dual-listed with GEOG 335. Credit may not be earned in both courses. GEOG 200 is recommended prior to enrollment in this course.*

This course introduces the basic principles and concepts surrounding the use and application of Geographic Information Systems (GIS). Students will learn how to identify, organize, process, and analyze geospatial data representing geographic features of our world. With the use of state-of-the-art GIS technology, this course makes use of geospatial data representing the environment, economy, socio-cultural, political, and other spheres of our world. Moreover, students will learn how to think spatially, produce maps, analyze geospatial data, and communicate spatial information effectively.

Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 2
Lab/Studio Hours: 2

GEOG 536 Geospatial Field Methods (3 crs)

- Prerequisite: GEOG 335/GEOG 535
Consent: Instructor Consent Required
- *Dual-listed with GEOG 336. Credit may not be earned in both courses.*

Project-based hands-on learning will teach students field data collection techniques/methods for those interested in a career involving geospatial issues. Traditional and advanced geospatial technology are implemented in the course.

Attributes: Field Trip(s) Required
Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 537 Geographic Information Systems II (3 crs)

- Prerequisite: GEOG 335/GEOG 535
- *Dual-listed with GEOG 337. Credit may not be earned in both courses.*

This course expands directly on knowledge gained in Geog 335, Geographic Information Systems I. Focus will be on gaining additional technical skills and applying them to answer more in-depth geospatial questions.

Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 2
Lab/Studio Hours: 2

GEOG 538 Remote Sensing of the Environment (3 crs)

- *Dual-listed with GEOG 338. Credit may not be earned in both courses. GEOG 200 is recommended prior to enrollment in this course.*

Descriptive interpretation of remote-sensing images from ground, aerial, and space platforms.

Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 550 Soils and the Environment (4 crs)

- Consent: Instructor Consent Required
- *Dual-listed with GEOG 350. Credit may not be earned in both courses.*

Study of soil properties, formation processes, and classification with emphasis on fieldwork, application of soil information to resource management and land use, and technical report writing.

Attributes: Field Trip(s) Required, Special Course Fee Required
Grading Basis: A-F Grades Only
Lecture/Discussion Hours: 2
Lab/Studio Hours: 4

GEOG 558 LiDAR Analysis & Applications (3 crs)

- Prerequisite: GEOG 535 and GEOG 538.
Introduction to the visualization, processing & use of airborne & terrestrial LiDAR data for applications in environmental & socio-cultural settings.

Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 2
Lab/Studio Hours: 2

GEOG 579 Geography of Wisconsin (3 crs)

- *Dual-listed with GEOG 379. Credit may not be earned in both courses.*

A geographic analysis of Wisconsin and its people, with emphasis on cultural and environmental characteristics, patterns of land use, and changing ways of life.

Attributes: Field Trip(s) Required, Special Course Fee Required
Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 590 Geospatial Applications of UAS (3 crs)

- Prerequisite: GEOG 335
- *GEOG 338 is recommended prior to enrollment in this course.*

This course introduces Unoccupied/Unmanned Aerial Systems (UAS) and their applications in the natural and built environment. Topics include UAS sensors and platforms, the ethics of UAS use, sensors calibration and boresighting, flight planning and flying of UAS, data processing software, data quality and accuracy, and the production of ortho-rectified imagery, multispectral imagery, digital terrain, surface models, and other geospatial deliverables.

Attributes: Field Trip(s) Required
Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

GEOG 595 Directed Studies (1-3 crs)

- Consent: Department Consent Required
- *Dual-listed with GEOG 395.*

Directed study of a geographic problem approved by the supervising instructor and the Department Chair.

Repeat: Course may be repeated
Grading Basis: No S/U Grade Option

GEOG 635 Geographic Information Systems III (3 crs)

Prerequisite: GEOG 335/GEOG 535

- *Dual-listed with GEOG 435. Credit may not be earned in both courses.*

This course builds upon the concepts and approaches introduced in Geographic Information Systems II (GEOG 337). Topics may include interpolation, cluster analysis, spatio-temporal data analysis, scripting, and automation. Students will complete a course project in which they identify a spatial problem, collect data, complete an analysis, and produce a professional report.

Grading Basis: No S/U Grade Option

Lecture/Discussion Hours: 2

Lab/Studio Hours: 2

GEOG 655 Web Geographic Information Systems (3 crs)

Prerequisite: GEOG 335/GEOG 535

- *Dual-listed with GEOG 455. Credit may not be earned in both courses.*

An introduction to Web GIS, the programming concepts underpinning construction and implementation of high quality web and mobile solutions.

Grading Basis: No S/U Grade Option

Lecture/Discussion Hours: 2

Lab/Studio Hours: 2

GEOG 797 Independent Study/Graduate (1-3 crs)

Consent: Department Consent Required

An intensive study of a geographic topic resulting in a paper suitable for publication.

Repeat: Course may be repeated

Grading Basis: No S/U Grade Option