**GEOGRAPHY**

Department of Geography, Environment, and Spatial Sciences
College of Social Science

113 Introduction to Economic Geography
Fall, Spring. 3(3-0)
Spatial distribution of resources, population, enterprise, trade, consumption, and production. Interaction of those distributions at local to global scales.

151 Introduction to Human Geography
Fall, Spring. 3(3-0)
Systematic study of spatial patterns and processes that have shaped human use and alteration of the world.

201 Introduction to Plant Geography
Fall of even years. 3(3-0) R: Not open to graduate students.
Geographic distribution and characteristics of plants throughout the world; relationships between biomes and aspects of the physical environment (climate, soils, landforms, disturbance); plant ecology; human impacts on vegetation; optional field trip on campus.

203 Introduction to Meteorology
Fall. 3(3-0)

204 World Regional Geography
Fall. 3(3-0)
Economic, political, cultural, environmental, and technological processes and conditions that explain the diversity of world regions.

206 Physical Geography
Fall, Spring. 3(3-0)
Geographic and functional interrelationships within the physical environment: Earth-sun relationships, weather, climate, soils, vegetation and landforms (terrain characteristics).

206L Physical Geography Laboratory
Fall, Spring. 1(0-2) P: GEO 113 or GEO 151 or GEO 203 or GEO 204 or (GEO 206 or concurrently) or GEO 208 or GEO 211 or GEO 215 or GEO 221
Geographic aspects of weather, climate, soil, vegetation, and terrain. Interpretation and application of maps and remotely sensed imagery.

208 Physical Geography of the National Parks
Fall of odd years. 2(2-0)
Physical features such as geology, landforms, biota, and waters of United States and Canadian national parks, forests, seashores and lakeshores. Emphasis on formation and distribution.

211 Environmental Policy and Practice
Fall. 3(3-0)
Systematic study of environmental policy and resource management practices in the United States and the broader global context, emphasizing geographical and other social sciences perspectives.

214 Geography of Drugs
Fall of even years. 3(3-0)
Physical, ecological, and human geographies of drugs, drug crops, pharmaceuticals, alcohol, and their diffusions. Cultural geographies and geopolitical implications of drugs’ consumption, trade, and regulation and prohibition.

215 Sports Geography
Fall of odd years. 3(3-0)
Geographical variables that influence the location, character, and spread of sports at the national and global scale. Human cultures and diffusion. Themes associated with the geography of sports. Origin and spread of collegiate, professional, international, and Olympic sports.

221 Introduction to Geographic Information Information
Fall, Spring. 3(3-0)
Principles and methods of spatial data collection, handling, analysis, and display. Introduction to remote sensing, geographic information systems, and cartography.

221L Introduction to Geographic Information Laboratory
Fall, Spring, Summer. 1(0-2) P: GEO 221 or concurrently RB: Basic computer and math skills
Basic skills for working with Geographic Information Systems, remotely sensed imagery, design of maps, geospatial tools and technologies for data analysis and problem-solving.

235 Geography of Environment and Health-Spring
Fall, Spring. 3(3-0)
Geographic patterns of global health and environmental inequalities; the built, physical and social environment; urban design; infectious and chronic diseases.

259 Geography of Recreation and Tourism
Fall of even years. 3(3-0)
Cultural, physical, and biotic factors affecting the distribution of recreation and tourism resources and participation. U.S. and international examples and case studies.

286 Undergraduate Research in Geography
Fall of even years. 3(3-0)
Supervised research on a topic or topics determined by the instructor. Applications of geographic tools and theory.

302 Climates of the World
Fall of odd years. 3(3-0) RB: GEO 206 or GEO 203 R: Not open to freshmen.
Regional climates and underlying atmospheric circulation patterns. Climate classification, physical climatic processes, spatial and temporal aspects of climate, climate changes. Sources and use of climate data.

303 Severe and Hazardous Weather
Spring of even years. 3(3-0) P: GEO 203 or approval of department
Extratropical cyclones, freezing precipitation and ice storms, lake effect snowstorms, cold waves, blizzards, thunderstorms, tornadoes, downbursts, tropical cyclones, floods, drought, and heat waves.

306 Environmental Geomorphology
Fall of even years. 3(3-0) Interdepartmental with Geological Sciences. Administered by Geography. P: CSS 210 or GEO 206 or GEO 333 or GLG 201 or GLG 304 or ISP 203A
Relationships of running water, weathering, gravity, ice, waves, wind, and biota (including humans) to terrain and soils. Evolution of landscapes. Classical and modern interpretations.

314 Methods for Investigation of Urban Systems
Spring. 4(3-2) Interdepartmental with Urban Planning. Administered by Urban Planning. R: Open to students in the Urban and Regional Planning Major.
Models, approaches, and techniques for urban and regional problem analysis, research, program evaluation, and project management. Application of related computer software.

324 Remote Sensing of the Environment
Fall. 4(2-4) P: GEO 221 SA: GEO 224
Features and interpretation methods of remotely-sensed imagery, especially black-and-white and color infrared aerial photos. Basic features of radar, thermal, and multispectral imagery. Interpretation for agriculture, archaeology, fisheries, forestry, geography, landscape architecture, planning, and wildlife management.

325 Geographic Information Systems
Fall. 3(2-2) P: GEO 221 and GEO 221L Technical and theoretical issues in the design, implementation, and use of geographic information systems for research and applications.

326 Cartographic Design and Production
Fall. 4(2-4) P: GEO 221 and GEO 221L SA: GEO 423
Map design, layout, and usability. Typography and color theory. Techniques of map production, print and digital display.

330 Geography of the United States
Fall, Spring, Summer. 3(3-0) SA: GEO 230 Geographic examination of United States landscapes, cultures, and economies. Investigation of interactions between human, economic, and physical geographies in U.S. regions.

331 Geography of Canada
Spring. 3(3-0)
Geographic examination of Canadian landscapes, cultures, government structure, health care system, and economies. Interactions of human, economic, and physical geographies in Canada’s regions and sub-regions.

333 Geography of Michigan and the Great Lakes Region
Spring. 3(3-0) SA: GEO 233 Michigan’s physical, historical, and economic geography. Interrelationships between the physical environment (rocks, landforms, soils, climate, vegetation, hydrology) and historical and contemporary land uses. Demographic and agricultural patterns. Human history and settlement patterns. Contemporary recreational opportunities.

335 Geography of Latin America
Fall of odd years. 3(3-0)
Physical and human geography of Latin America. Current development issues, especially people-environment interaction in urban and rural areas. Topics include migration, urbanization, and industrialization.
GEO—Geography

336 Geography of Europe
Fall of even years. 3(3-0)
Major regions and nations, including their physical resources, peoples, political structures, and economies.

337 Geography of Asia-Pacific
Spring of odd years. 3(3-0)
Spatial patterns and processes of economic, urban, human and physical geography in eastern Asia, including China, Korea, Japan, Australia, New Zealand, the Indian subcontinent and other Asian countries. Contemporary regional development.

338 Geography of Africa
Fall. 3(3-0)
Physical and human geography of Africa. Current development issues, especially people-environment interaction in urban and rural areas. Topics include drought, agricultural patterns, hunger, rural development, migration, and urbanization.

339 Geography of the Middle East and North Africa
Spring of odd years. 3(3-0)

340 Geography of Eurasia
Spring of even years. 3(3-0)
Physical, ecological, and human geographies of the lands and peoples of the former Russian and Soviet empires and of neighboring regions.

363 Introduction to Quantitative Methods for Geographers
Fall. 3(3-0) RB: Completion of University mathematics requirement. SA: GEO 463 Quantitative techniques in the analysis and classification of spatial data.

372 Ecological Monitoring and Data Analysis
Spring, 3(2-2) Interdepartmental with Forestry. Administered by Forestry, P: ((MTH 124 or MTH 132) and completion of Tier I writing requirement) and (STT 201 or STT 224 or STT 231 or STT 421) SA: FOR 472 Design of ecological monitoring systems and analysis of resulting ecological data sets. Monitoring system design, model specification and implementation, and computational considerations from both a design- and model-based perspective. Hands-on introduction to statistical software.

401 Global Plant Geography
Fall of odd years. 3(3-0) P: GEO 201 or FOR 101 or FOR 204 or PLB 218 or IBIO 359 or approval of department R: Not open to freshmen. Patterns of global plant distributions. Plant-atmosphere interactions, ecological processes, biogeographic patterns and predictive models of plant distributions.

402 Agricultural Climatology
Fall of even years. 3(3-0) Interdepartmental with Biosystems Engineering. Administered by Geography, P: MTH 110 or MTH 116 R: Not open to freshmen or sophomores. Relationships between climate and agriculture in resource assessment, water budget analysis, meteorological hazards, pests, crop-yield modeling, and impacts of global climate change.

403 Dynamic Meteorology (W)
Spring of odd years. 3(3-0) P: (MTH 234 and GEO 203) and completion of Tier I writing requirement RB: GEO 405 R: Open to juniors or seniors or master's students or doctoral students. Principles of fluid dynamics and their application to the atmosphere.

405 Weather Analysis and Forecasting
Spring of even years. 4(3-2) P: GEO 203 and (MTH 110 or MTH 116) Dynamic and thermodynamic principles of atmospheric science applied to the development and evolution of extratropical cyclones. Laboratory sessions include analysis of current observations and satellite imagery.

407 Regional Geomorphology of the United States
Spring of odd years. 3(3-0) RB: GEO 306 or GLG 201 or GLG 412 or ISP 203A or ISP 203B Geomorphic characteristics of physiographic regions of the United States.

408 Soil Geomorphology
Fall of odd years. 4(3-2) P: CSS 210 or GEO 306 or GLG 201 or GEO 206 or ISP 203A or ISP 203B or ISP 203L or approval of department R: Not open to freshmen. Soil formation and its relationship to landforms and landscapes. Common geographic relationships among soils, landforms, and vegetation. Description, analysis, and genesis of soils, surficial processes and landscapes.

409 Global Climate Change and Variability
Fall of odd years. 3(3-0) P: GEO 203 or GEO 206 Analysis of climate change and variability at various time and space scales. Climate systems, paleoclimatology, global warming, climate models, and climate impact assessment.

410 Geography of Food and Agriculture
Fall of even years. 3(3-0) RB: GEO 113 or GEO 151 or GEO 204 or GEO 206 R: Not open to freshmen or sophomores. Spatial patterns of contemporary global agriculture and food systems. Human-environment geography of select agricultural practices and food systems. Effects of agricultural practices on natural and human resources.

411 Stream Systems and Landforms
Spring of even years. 3(3-0) RB: GEO 206 or GEO 306 or GLG 201 or GLG 431 R: Not open to freshmen or sophomores. Themes associated with stream systems. Evolution of drainage basins and channel hydrology. The nature of flowing water, stream discharge, and flooding. Controls of stream behavior. Channel patterns and landform development. Character of Michigan stream systems. Field project.

412 Glacial Geology and the Record of Climate Change
Spring. 4(3-2) Interdepartmental with Geological Sciences. Administered by Geologi- cal Sciences, RB: GLG 201 or GEO 306 or GEO 408 or GLG 301 R: Not open to freshmen or sophomores. In-depth analysis of glacial geology and the record of climate change, with emphasis on North America and Europe. Field trip required.

413 Urban Geography
Spring. 3(3-0) Interdepartmental with Urban Planning, Administered by Geography. R: Not open to freshmen or sophomores. Theories and models of urban spatial form. Underlying structures and processes. Socio-spatial dimensions of modern urbanism. Differentiation and loca- tional conflict in residential, commercial, and industrial space.

414 Geography of Transportation
Fall of odd years. 3(3-0) Interdepartmental with Urban Planning. Administered by Geography. P: GEO 113 R: Not open to freshmen. Spatial principles of transportation. Theories of interaction, network structures, and location-allocation models. Role of transport and transport planning.

415 Location Theory and Land Use Analysis
Fall of even years. 3(3-0) Interdepartmental with Urban Planning. Administered by Geography. P: GEO 113 or UP 201 RB: EC 201 or EC 202 R: Not open to freshmen or sophomores. Classical and neoclassical, static and dynamic mod- els of industrial location and spatial organization. Land rent theory. Central place theory. Multi-locational organization. Growth transmission.

418 The Ghetto
Fall of odd years. 3(3-0) Interdepartmental with Urban Planning. Administered by Geography. R: Not open to freshmen or sophomores. Analysis of the ghetto including its spatial organiza- tion and structure. Distribution of racial and ethnic populations. Emphasis on U.S. cities.

419 Applications of Geographic Information Systems to Natural Resources Management
Spring. 4(2-4) Interdepartmental with Bio- systems Engineering and Forestry and Fisheries and Wildlife. Administered by Forestry, RB: GEO 221 Application of geographic information systems, re- mote sensing, and global positioning systems to in- tegrated planning and management for fish, wildlife, and related resources.

424 Advanced Remote Sensing
Spring. 4(3-2) P: GEO 324 Interaction of solar radiation with the atmosphere, lithosphere, hydrosphere, and biosphere. Introductory digital image processing. Earth-resources satel- lite sensors, data products, and applications. Radar and thermal remote sensing.

425 Problems in Geographic Information Science (W)
Spring. 3(2-2) Interdepartmental with Urban Planning. Administered by Geography, P: (GEO 325 or GEO 802) and completion of Tier I writing requirement Advanced theoretical and technical issues in geo- graphic information science utilizing a problems ori- ented approach. Development and implementation of geographic information science solutions and formal documentation of work.

426 Thematic Cartography
Spring. 4(3-2) P: GEO 221 and GEO 221L and GEO 326 or approval of department P: Principles, theories, decision making, and tech- niques in thematic map production. Graphic and Geo- graphic Information Systems applications. Print and digital display.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>428</td>
<td>Digital Terrain Analysis</td>
<td>Fall of odd years. 3(2-2) P: GEO 325 Theoretical and technical issues of collection, management, analysis, and display of terrain data. Application of photogrammetry, geographic information systems, and cartography.</td>
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<tr>
<td>429</td>
<td>Geoprocessing</td>
<td>Spring. 3(3-0) P: GEO 325 or GEO 802 Applications of computer programming to address geographic information problems. Integration of digital spatial data, geographic information systems, spatial analysis, and expert systems.</td>
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<tr>
<td>432</td>
<td>Environmental Ethics (W)</td>
<td>Fall of even years. 3(3-0) P: Completion of Tier I writing requirement. R: Not open to freshmen or sophomores. Ethical dimensions of environmental and spatial issues and associated public policies.</td>
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<tr>
<td>435</td>
<td>Geography of Health and Disease</td>
<td>Fall. 3(3-0) R: Not open to freshmen or sophomores. Spatio-environmental concepts and techniques applied to health problems. Disease transmission cycles, community nutrition, and health-care planning.</td>
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<tr>
<td>436</td>
<td>Spatial Analysis of Populations</td>
<td>Spring of odd years. 3(3-0) R: Not open to freshmen or sophomores. Concepts and methods to measure and evaluate geospatial and temporal trends in populations and their components, such as natality, mortality, migration, and characteristics at different geographic scales. Sources of spatial population data. Visualization and analysis of data in a geographical information system.</td>
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<tr>
<td>441</td>
<td>Cultural Geography</td>
<td>Spring of odd years. 3(3-0) RB: GEO 151 R: Not open to freshmen. Survey of the geographic study of world cultures, cultural ecologies, cultural landscapes, and cultural influences on societies' patterns of spatial organization.</td>
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<tr>
<td>442</td>
<td>Social Science Data Analytics Applications</td>
<td>Fall. Spring. 3(3-0) Interdepartmental with Political Science and Social Science. Administered by Social Science. P: PLS 202 Application of computational tools for data collection and visualization to various topics in social science research.</td>
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<tr>
<td>453</td>
<td>Metropolitan Environments: Urban Forms and Land Uses</td>
<td>Spring. 3(2-2) P: GEO 221 Land use change, the physical fabric of the city, and the growth of regional centers in the American urban landscape. Issues associated with urban developments, practices and patterns in the 20th century and the resulting metropolitan form and function. Extensive use of geographic information software in spatial analysis.</td>
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<tr>
<td>459</td>
<td>Tourism in Regional Development</td>
<td>Fall of odd years. 3(3-0) RB: GEO 259 The role of tourism in regional development. Examples from Michigan, the United States and other nations. Environmental considerations.</td>
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<td>460</td>
<td>Green Roofs and Walls</td>
<td>Fall. 2(2-0) Interdepartmental with Fisheries and Wildlife and Horticulture Planning, Design and Construction. Administered by Horticulture. P: HRT 203 or FW 101 or GEO 206 or PDC 120 or EGR 100 R: Open to juniors or seniors or graduate students. Green roof and wall design and installation practices including plant species and substrates. Environmental impact, ecosystem services, integration with other environmental practices. Influence of economics, public policy, and industry organizations on the implementation of green roofs on a wide scale. Multidisciplinary nature of planning and implementation of successful green roof and wall projects.</td>
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<tr>
<td>478</td>
<td>Urban Transportation Planning</td>
<td>Fall. 3(3-0) Interdepartmental with Urban Planning. Administered by Urban Planning. Principles of decision-making in urban transportation planning. Demand and supply analysis, social and environmental impacts, implementation programs. Use of computer models.</td>
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<tr>
<td>480</td>
<td>Senior Seminar (W)</td>
<td>Fall. 3(3-0) P: Completion of Tier I Writing Requirement R: Open to seniors in the Geography Major or in the Geography Minor. History, philosophy, and methodology of the geographic discipline as it has evolved within academic and social contexts.</td>
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<tr>
<td>490</td>
<td>Independent Study</td>
<td>Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department. Supervised individual study in an area supplementary to regular courses.</td>
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<td>492</td>
<td>Geographic Research Problems</td>
<td>Fall, Spring. Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Not open to freshmen or sophomores. Approval of department. Supervised original research on selected aspects of geography.</td>
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<td>495</td>
<td>Field Study</td>
<td>Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Not open to freshmen or sophomores. Approval of department. Supervised field study in geography.</td>
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<td>498</td>
<td>Internship in Geography</td>
<td>Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. Individual experience in geography in an approved organization.</td>
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<tr>
<td>502</td>
<td>Geospatial Technology</td>
<td>Fall. 3(3-0) RB: Familiarity with coordinate systems. Comprehensive introduction to geotechnologies. Concepts and theories of remote sensing to include image interpretation and processing, Global Positioning Systems, spatial data structures, and geographic information systems.</td>
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<td>583</td>
<td>Seminar in Urban and Economic Geography</td>
<td>Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. R: Two of GEO 413, GEO 414, GEO 415, GEO 418. Review of research on selected topics in urban and economic geography.</td>
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<tr>
<td>816</td>
<td>The World System of Cities</td>
<td>Fall. 3(3-0) Interdepartmental with Global Urban Studies Program. Administered by Geography. R: Open to graduate students. Modern global economic restructuring. Social, economic, and political impacts on world system of cities.</td>
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<tr>
<td>817</td>
<td>China and Globalization</td>
<td>Fall of even years. 3(3-0) Interdepartmental with Global Urban Studies Program. Administered by Geography. RB: GEO 113 or GEO 204 or GEO 337 or GEO 413 R: Open to graduate students. Theoretical debates and empirical discussions on current social, economic, environmental, and spatial challenges facing contemporary urban China in an era of globalization. Comparative and thematic approach.</td>
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<tr>
<td>819</td>
<td>Spatial Epidemiology and Medical Geography</td>
<td>Spring. 3(3-0) Interdepartmental with Epidemiology. Administered by Epidemiology. P: EPI 810 or GEO 865 R: Open to graduate students in the Department of Epidemiology and Biostatistics or in the Department of Geography or approval of department. SA: HM 819. Concepts, techniques, and utilization of spatio-epidemiologic analyses for human health.</td>
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<tr>
<td>826</td>
<td>Geographic Object-Based Image Analysis</td>
<td>Spring. 3(3-0) P: GEO 221 or GEO 324 or approval of department RB: GEO 424 Remote sensing data acquisition, analytical workflow design, and outcome communication. Vegetation, urban, and agricultural applications. Mathematical and visual approaches to data extraction.</td>
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<tr>
<td>827</td>
<td>Theory and Practice of Terrestrial Remote Sensing</td>
<td>Fall. 3(3-0) RB: GEO 324 or GEO 424 Theory, algorithms, and computational approaches to generate and assess derived satellite products for long-term Earth system monitoring, with an emphasis on estimating biophysical and geophysical land surface variables.</td>
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<td>829</td>
<td>Collection and Analysis of Drone Imagery</td>
<td>Spring of odd years. 4(2-4) P: GEO 324 or approval of department RB: Advanced level remote sensing coursework. Multi-platform, sensor data collection, pre-processing and analysis across differing subfields; fieldwork and analysis.</td>
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<tr>
<td>837</td>
<td>Applications of Terrestrial Remote Sensing</td>
<td>Spring of odd years. 3(3-0) P: GEO 424 or approval of department Remote sensing for environmental and regional land cover change research. Advanced image interpretation, applications with emphasis on independent research projects.</td>
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</table>
Issues and concepts related to gender, ecology, and environmental studies. Key debates and theoretical approaches to addressing environmental issues from a gender perspective.

Gender, Justice, and Environmental Change: Methods and Application
Spring. 3(3-0) Interdepartmental with Anthropology and Community Sustainability and Forestry and Fisheries and Wildlife and Sociology and Women's Studies. Administered by Anthropology. RB: Background in social science, environmental science, or natural resources.

Methods and case studies related to gender, ecology, and environmental studies. Methodological and fieldwork issues from a feminist perspective in international and intercultural contexts. Qualitative and quantitative methods for integrating social and environmental data.

Advanced Quantitative Methods in Geography
Spring. 4(4-0) RB: GEO 363

Spatial Data Analysis
Fall. 4(3-2) Interdepartmental with Statistics and Probability. Administered by Geography. RB: (GEO 363 or STT 421 or STT 430) or equivalent quantitative methods courses. SA: GEO 466
Theory and techniques for statistical analysis of point patterns, spatially continuous data, and data in spatial zones.

Agent-Based Modeling
Spring. 3(3-0) Interdepartmental with Environmental Science and Policy. Administered by Geography. RB: Basic understanding of data structures and algorithms covered in an introductory course of any programming language. R: Approval of department.
Theoretical concepts related to simulating dynamic geographic phenomena in the intersection between human and natural systems. Innovative agent-based methodology applied to complex social-environmental systems. Hands-on experience of agent-based modeling, with special emphasis on modeling human decision-making and its impact on the natural environment.

Seminar in Physical Geography
Fall. 3(3-0) A student may earn a maximum of 12 credits in all enrollments for this course. RB: At least one course in physical geography R: Approval of department.
Research on topics in physical geography.

Seminar in Human Geography
Fall. 3(3-0) A student may earn a maximum of 12 credits in all enrollments for this course. RB: At least one course in human geography R: Approval of department.
Research on topics in human geography.

Seminar in Human-Environment Geography
Spring. 3(3-0) A student may earn a maximum of 12 credits in all enrollments for this course. RB: At least one course in human geography and one course in physical geography. R: Approval of department.
Research on topics in human-environment geography.

Seminar in Geographic Information Science
Spring. 3(3-0) A student may earn a maximum of 12 credits in all enrollments for this course. RB: At least one course in geographic information science, cartography or remote sensing R: Approval of department.
Geographic information science (GIS) applications to social and environmental problems. Theory and related issues.

Research Design in Geography
Fall. 3(3-0) R: Approval of department.
Research and writing in geography. Identification of geographic problems and their relative importance. Structuring and stating hypotheses. Data acquisition and tests for validity.

Advanced Readings in Geography
Fall, Spring, Summer. 1 to 8 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department.
Advanced independent readings.

Advanced Research in Geography
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
Advanced independent research.

Master's Thesis Research
Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open to graduate students.
Master's thesis research.

Theories and Philosophies in Geography
Fall of even years. 3(3-0) R: Open to doctoral students in the Geography Major.
Historical development of the discipline within social and intellectual contexts. Philosophical approaches behind geographic research and theory.

Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 36 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Open to doctoral students in the Department of Geography.
Doctoral dissertation research.