**GEOGRAPHY AND PLANNING (3350)**

**3350:100 Introduction to Geography (3 Credits)**
Analysis of world regions and patterns of physical and human landscapes; emphasis on world patterns and issues from a regional perspective.
*Gen Ed: Tier 2 - Social Science*

**3350:250 World Regional Geography (3 Credits)**
Survey of world regions with focus on both physical and human landscapes; emphasis on world patterns and issues from a regional perspective.

**3350:275 Geography of Cultural Diversity (2 Credits)**
Prerequisites: 32 credit hours including English Composition I and II (3300:111, 112) or equivalent. Evaluation of cultural elements unique to various geographical regions to explain why different people utilize resources differently, and how cultural diversity affects regional conflicts.
*Gen Ed: Tier 3 - Global Diversity*

**3350:305 Maps & Map Reading (3 Credits)**
Introduction to use and interpretation of maps. Study of basic map types, elements, symbolism, and historical and cultural context of maps. (Laboratory)

**3350:310 Physical & Environmental Geography (3 Credits)**
Landforms, weather and climate, soils and vegetation and natural hazards. Nature and distribution of these environmental elements and their significance to society. Laboratory.

**3350:314 Climatology (3 Credits)**
Prerequisite: 3350:310 or permission. Analysis and classification of climates, with emphasis on regional distribution. Basic techniques in handling climate data.

**3350:320 Economic Geography (3 Credits)**
Geographical basis for production, exchange, consumption of goods. Effect of economic patterns on culture and politics.

**3350:350 Geography of the United States & Canada (3 Credits)**
Regional and topical study of United States and Canada, with emphasis on environmental, economic and cultural patterns and their interrelationships.
*Gen Ed: Tier 3 - Domestic Diversity*

**3350:351 Ohio: Environment & Society (3 Credits)**
Regional and topical analysis of cultural, economic and environmental patterns; also in comparison with other states.

**3350:353 Latin America (3 Credits)**
Analysis of relationship of cultural and economic patterns to physical environment in Mexico, Central America, the Caribbean, and South America.

**3350:356 Europe (3 Credits)**
Regional and topical analysis of cultural, economic and environmental patterns.

**3350:360 Asia (3 Credits)**
Environmental, cultural and economic geography of East, Southeast, South Asia and Middle East with emphasis on the contemporary.

**3350:363 Africa South of the Sahara (3 Credits)**
Environmental and human bases of regional contrasts. Emphasis on tropical environmental systems and changing patterns of resource utilization.

**3350:365 Asia South of the Sahara (3 Credits)**
Environmental and human bases of regional contrasts. Emphasis on tropical environmental systems and changing patterns of resource utilization.

**3350:370 Special Problems in Geography and Planning (1-3 Credits)**
(May be repeated for a total of five credits) Prerequisite: Permission of instructor. Directed reading and research in special field of interest.

**3350:405 Geographic Information Systems (3 Credits)**
Prerequisites: 3350:305. Introduction to the principles and concepts underlying geographic information systems (GIS) and their application in professional practice and academic research. Laboratory.

**3350:407 Advanced Geographic Information Systems (3 Credits)**
Prerequisite: 3350:405. Advanced instruction in the theory and application of geographic information systems (GIS) including hands-on experience with both raster and vector GIS. Laboratory.

**3350:409 Archaeogeophysical Survey (3 Credits)**
Prerequisites: 3240:250 or 3370:101 or 3350:310. Advanced instruction in subsurface geophysical survey techniques in archaeology. Emphasis on magnetic gradiometry and electrical resistivity techniques, image processing and geological and archaeological interpretation.

**3350:415 Environmental Planning (3 Credits)**
Scientific and technical principles for decision-making in planning, with emphasis on soils, land use, and water quality issues. Data sources and methods of site evaluation.

**3350:420 Urban Geography (3 Credits)**
Spatial structure of urban systems; interaction between cities; internal structure of cities. Perspectives on urban change; contemporary urban geographic problems; urban and regional planning issues.

**3350:422 Transportation Systems Planning (3 Credits)**
Study and analysis of transportation systems from a geographic perspective. Emphasis on transportation problems and issues, elements of transportation planning.

**3350:424 Military Geography (3 Credits)**
Influence of physical and human geography on military operations and military history. Role played by geography in international conflicts.

**3350:432 Land Use Planning Law (3 Credits)**
Acquaint student with past and present approaches to land use control in the United States and examine the political, economic, social and legal forces that have shaped existing land-use legislation.

**3350:433 Practical Approaches to Planning (3 Credits)**
Introduction to the history, theories and forms of urban planning.

**3350:437 Planning Analysis & Projection Methods (3 Credits)**
Introduction to the primary analytic techniques for small-area demographic and economic analysis and projection.

**3350:438 Land Use Planning Methods (3 Credits)**
Application of GIS and other computer-based tools to the preparation, implementation and evaluation of comprehensive land use plans.

**3350:439 History of Urban Design & Planning (3 Credits)**
Origins of human settlements and planning from the perspective of urban design and related societal trends. Comparison of world regional and historical urban forms. Experience in "reading" settlements as visual landscapes.

**3350:440 Cartography (3 Credits)**
Use of graphic/cartographic principles and techniques as a means of presenting geographical information on maps and producing maps. Laboratory.

**3350:441 Global Positioning Systems (GPS) (1 Credit)**
Fundamentals of Global Positioning System (GPS), with emphasis on geographic and planning activities. Includes hands-on exercises.
3350:442 Cartographic Theory and Design (3 Credits)
Prerequisite: 3350:440 or permission of instructor. Principles and techniques of thematic mapping. Stresses maps as communications tools. Examines principles of thematic mapping and means of presenting qualitative and quantitative data. Laboratory.

3350:443 Urban Applications in GIS (3 Credits)
Prerequisite: 3350:405 or permission of instructor. Applications of GIS in the urban context, including methods used for analysis of population density gradients, migration, and accessibility.

3350:444 Applications In Cartography & Geographic Information Systems (3 Credits)
Prerequisite: 3350:340 and 3350:405. Application of analytic and presentation techniques from cartography and geographic information systems to practical problems in geography and planning. Laboratory.

3350:445 GIS Database Design (3 Credits)
Prerequisite: 3350:405. Introduction to theory and concepts of geographic data modeling, geodatabase design, and topology. Emphasis on current practices and methodologies in geography and planning.

3350:446 GIS Programming and Customization (3 Credits)
Prerequisite: 3350:405. Introduction to use of scripting languages for customizing the interface and extending the functionality of desktop GIS software.

3350:447 Remote Sensing (3 Credits)
Prerequisite: 3350:305. Concepts, systems, and methods of applying aerial photography, satellite imagery, and other remote-sensing data for analyzing geographic, geological, and other earth phenomena.

3350:449 Advanced Remote Sensing (3 Credits)
Prerequisite: 3350:447. Current research in remote sensing. Applications in study of human cultural and biophysical environment. Practice in planning, design, execution and interpretation of remote sensing studies. (Laboratory.)

3350:450 Development Planning (3 Credits)
A study of planning concepts and techniques for developing countries, including growth and development, planning agencies, regional inequities and alternative approaches.

3350:460 Political Geography (3 Credits)
Principles and theory in contemporary domestic and international political geographies. Emphasis on the changing local and global patterns of electoral politics, security, and diplomacy.

3350:481 Research Methods in Geography & Planning (3 Credits)
Prerequisites: Completed a minimum of 12 credits in Geography and Planning. Investigation of library and archive resources. Emphasis on development of professional writing skills.

3350:483 Spatial Analysis (3 Credits)
Prerequisite: Completed a minimum of 12 credits in Geography and Planning. Analysis of mapped statistical surfaces. Principles for use of map as model for statistical evidence, prediction, hypothesis testing.

3350:485 Internship in Geography & Planning (1-3 Credits)
Prerequisite: Permission. (May be repeated for a total of six credits.) Supervised professional experience in planning agencies or related settings. Only three credits can be used toward a degree in Geography and Planning.

3350:489 Special Topics in Geography (1-3 Credits)
(May be repeated) Selected topics of interest in geography.

3350:490 Workshop in Geography (1-3 Credits)
(May be repeated for a total of six credits) Group studies of special topics in geography.

3350:495 Soil & Water Field Studies (3 Credits)
Properties, origins and uses of major soil and water regime landscapes. Stresses relationships between soil and the hydrological cycle, urbanization, suburbanization and agriculture. Field trips required.

3350:496 Field Research Methods (3 Credits)
Prerequisite: Completed a minimum of 12 credits in Geography and Planning. Field work enabling student to become competent in collecting, organizing and analysis of data while carrying out field research projects.

3350:497 Regional Field Studies (1-3 Credits)
Off-campus intensive study of geographic features of a region or regions through direct observations and travel using appropriate field study methods. (repeatable up to 6 credits)

3350:498 Honors Research in Geography (1-3 Credits)
(May be repeated for a total of six credits) Prerequisite: permission of department honors preceptor, honors student only. Exploration of research topics and issues in contemporary geography. Selection of research topic and writing of research paper in proper scholarly form under direction of faculty member.

3350:499 Career Assessment Seminar (2 Credits)
Prerequisites: 24 credits in department or permission. Students demonstrate knowledge and skills acquired as geography majors through assessment testing and semester project, evaluate career options, and prepare resume and portfolio.