

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL PLANNING

Liberal Arts Building 2210
Phone: 410-704-2973
Fax: 410-704-4702
Email: geography@towson.edu

Programs of the Department

The Department of Geography and Environmental Planning offers the following programs: majors in Geography and Environmental Planning and in Geography and Land Surveying; minors in Geography, in Geographic Information Sciences and in Climate, Weather and Society; and the Master of Arts in Geography and Environmental Planning. The Department also participates in the Master of Education and Master of Social Science with emphasis in Geography. For more information about the graduate programs, consult the *Graduate Catalog*.

The Geography and Environmental Planning major is designed as a liberal arts program that explores how geographers carefully observe and measure human uses of the earth under diverse combinations of natural and cultural environments. The program prepares students for careers in business, management, government service, non-profit organizations, planning, public affairs and other professions, as well as for graduate school.

The major in Geography and Land Surveying is designed to meet the requirements of professionals in the field of land surveying. Courses taken in geography at Towson University will complement those taken in surveying at the Community College of Baltimore County-Catonsville and provide additional skills of value to the professional surveyor. Completion of the four-year degree will shorten the time necessary to achieve professional licensure.

Internships

Majors have the opportunity to participate in the university's Internship/Cooperative Education Program. This valuable adjunct to the educational program provides qualifying students with both academic credit and work experience with participating government agencies (federal, state and local) and private businesses. The internship offers the student a way of trying out a potential career choice prior to actual entry into the job market. Because the benefits of this experience are so positive, majors are strongly urged to participate in this program. Interns must work a minimum of 40 hours for each internship unit.

Special Departmental Programs

The department sponsors the Beta Delta Chapter of Gamma Theta Upsilon, an international geography honorary society. All Geography majors with a 3.30 cumulative GPA or higher are welcome to join.

Travel studies are available during the summer inside and outside the United States.

Qualified Geography undergraduates may be eligible, beginning in their junior year, to participate in an accelerated B.A./ M.A. program in Geography. Interested students should contact the Geography Department for details.

Qualified undergraduates in the Geography minor program may be eligible, beginning in their junior year, to participate in an accelerated Geography Minor/M.A program in Geography. Contact the department for details.

Departmental Honors In Geography

The department offers an honors program in geography. To be admitted, students must have a cumulative GPA of 3.25, and a 3.50 in the major, or consent of their faculty adviser. Students may be admitted to the program no sooner than the spring of their sophomore year.

The honors program requires a minimum of 40 units, including 6 to 9 units in seminars, directed readings and research projects. A senior thesis and oral defense are also required. Students should consult their faculty adviser for more information.

Careers In Geography And Environmental Planning

Faculty of the department are active in career advising. Occasional careers days are held, and the department participates in a regional network of career advising in geography. Graduates of the department are currently employed in a wide array of jobs such as environmental analysts and policy makers, GIS professionals, urban planners, teachers, professors, meteorologists, intelligence analysts with the Department of Defense, cartographers, statisticians, travel agents and many more.

The Master of Arts degree program in Geography and Environmental Planning is designed to prepare students for doctoral programs as well as for career opportunities in private business and public agencies. The program is oriented toward applied geography and allows students to specialize in geographic information science, human geography, area studies, or the management of environmental resources.

Graduate students in Geography and Environmental Planning are encouraged to take pertinent course work in other departments. Students may pursue either the thesis program (30 units and a 6-unit thesis) or the non-thesis program (36 units). Detailed information is given in the *Graduate Catalog*

- Major in Geography and Environmental Planning
- Major in Geography and Land Surveying
- Accelerated B.S./M.A. in Geography and Environmental Planning
- Minor in Climate, Weather & Society
- Minor in Geography
- Minor in Geographic Information Sciences

Faculty

Professors: Kang Shou Lu, Alan Marcus, Martin Roberge, Charles Schmitz (Chairperson), Jeremy Tasch (Graduate Program Director), Paporn Thebpanya

Associate Professors: Kelsey Hanrahan, Sya Kedzior, James Smith

Assistant Professors: Michael Allen, Emily Kaufman, Carter Wang

Lecturers: Michael Eduful, Natalia Fath, Robert Neff

Courses

GEOG 101 PHYSICAL GEOGRAPHY (3)

Introductory spatial analysis of fundamental terrestrial natural phenomena, including their impact on humanity. Emphasis on Earth planetary motions, weather and climate, landforms, soils and vegetation. Core: Biological & Physical Sciences.

GEOG 102 WORLD REGIONAL GEOGRAPHY (3)

Survey of world regions identifying geographical features and area and their significance. Core: Global Perspectives.

GEOG 105 GEOGRAPHY OF INTERNATIONAL AFFAIRS (3)

An introductory survey of the changing political map of the world with special emphasis on a geographical comprehension of the major regions of international cooperation and conflict. Core: Global Perspectives.

GEOG 109 INTRODUCTION TO HUMAN GEOGRAPHY (3)

Uses the analytical approach of social sciences in the study of institutions of human society to reveal spatial patterns in the responses of people to basic problems and needs. Core: Global Perspectives.

GEOG 110 HONORS INTRODUCTION TO HUMAN GEOGRAPHY (3)

Uses the analytical approach of social sciences in the study of institutions of human society to reveal spatial patterns in the responses of people to basic problems and needs. Emphasis on discussion and analyses of problems. Honors College course. Students who have successfully completed the non-honors version of this course will not receive additional credit for this course. Core: Global Perspectives.

GEOG 112 HONORS WORLD REGIONAL GEOG (3)

Survey of world regions identifying geographical features and area and their significance. Honors College course. Students who have successfully completed the non-honors version of this course will not receive additional credit for this course. Core: Global Perspectives.

GEOG 221 INTRODUCTION TO GEOSPATIAL TECHNOLOGY (3)

Introduction to most effective ways to record and communicate spatial information. Emphasizes geotechniques including digital cartography, remote sensing, GIS and GPS. Includes georeference systems, cartographic representation, and basic skills needed to use and understand geospatial data.

GEOG 232 INTRO TO GEOGRAPHIC INFORMATION SCIENCE (4)

Study and use of selected computer hardware and software for the storage, retrieval, manipulation, analysis, and display of geographic data. Emphasis on practical applications of geographic information systems (GIS). Prerequisite: GEOG 221 or consent of instructor.

GEOG 251 INTRODUCTION TO URBAN PLANNING (3)

The sequential origins of planning and urban design, a study of contemporary urban planning practice, and an analysis of the social, economic and political context of plan formulation and implementation. Core: Metropolitan Perspectives.

GEOG 270 TOPICS IN PLANNING AND GEOGRAPHY (3)

Investigation of various geographic and planning issues. Emphasis on analytical skills through readings and research design. Topics to be announced. May be repeated for a maximum of 6 units provided a different topic is covered.

GEOG 315 GEOMORPHOLOGY (4)

Detailed analysis of the formation, surficial characteristics, and global distributions of the earth's landforms. Labs emphasize interpretation of landform assemblages through use of topographic maps and aerial photographs. Prerequisite: GEOG 101 or GEOL 121.

GEOG 317 ENERGY RESOURCES (3)

Spatial patterns of traditional and alternative forms of energy will be analyzed. The many facets of the energy problem will be analyzed including physical deposits, economic variables, public policy implication, and geographical patterns.

GEOG 319 SOILS AND VEGETATION (3)

A resource study of the world's soils and plant formations with emphasis placed upon their genesis and spatial differentiations. Prerequisite: GEOG 101.

GEOG 321 INTRODUCTION TO REMOTE SENSING AND PHOTOGRAMMETRY (3)

Fundamentals and the development of remote sensing, the nature of the electromagnetic radiation and its interaction with the atmosphere and surface objects, photographic systems, aerial photography, and photogrammetry basics. Prerequisites: GEOG 101 and GEOG 221.

GEOG 323 CARTOGRAPHY AND GRAPHICS I (3)

Study in design, construction, and effective application of maps and charts for analysis and publications; practical exercises in the use of cartographic tools, materials, and techniques. Prerequisite: GEOG 232 or consent of instructor.

GEOG 329 GEOGRAPHIES OF HEALTH (3)

Interrelationship between health and our social and physical environments. Emphasis on geographic approaches to inequalities in health, well-being and care.

GEOG 350 GEOGRAPHY OF THE BLUES (3)

The roles of the Blues and the sharecropping cotton economy in shaping the racial, sociopolitical and cultural landscapes of the Mississippi Delta.

GEOG 355 HISTORICAL GEOGRAPHY OF URBANIZATION (3)

Spatial and temporal development of urbanization and urban morphology from the rise of civilization in the ancient Near East to the contemporary post industrial city. The entire scope of urban functions is surveyed, with the emphasis on the city as a human-made environment.

GEOG 356 GEOGRAPHY OF CRIME (3)

Application of geographical methods and procedures to the study of environmental criminology. Explores socio-spatial and environmental data pertaining to crime, victimization, and offenders at the neighborhood, metropolitan, state and national levels.

GEOG 357 CULTURAL GEOGRAPHY (3)

Study of origins and diffusion of cultures and the resulting impact in creating the world's contrasting cultural landscapes.

GEOG 358 FEMINIST GEOGRAPHIES (3)

Exploration of key works of feminist critique and of the geographies of women and gender; impact of feminism across the discipline of geography.

GEOG 359 ECONOMIC GEOGRAPHY (3)

Designed to explain the location of economic activities through a series of principles and theories. Emphasis is on the various sectors of the economy, transportation, and economic development.

GEOG 373 CLIMATOLOGY (3)

Analysis of the character, causes, and global distribution of climatic types, chiefly employing the Koppen classification system.

GEOG 375 QUANTITATIVE METHODS IN GEOGRAPHY (3)

Focus on statistical problems associated with the analysis of geographic data. Emphasis on the unique spatial problems of point pattern analysis, area association, and regionalization. Prerequisite: MATH 100 or higher (except MATH 204).

GEOG 376 QUALITATIVE METHODS IN GEOGRAPHY (3)

Introduction to qualitative methods. Research design, ethical and procedural considerations, data collection methods, data analysis.

GEOG 377 METEOROLOGY (3)

Examines the composition and structure of the atmosphere, thermodynamic processes, forces and related small- and large-scale motions, air masses, fronts, tropical cyclones, solar and terrestrial radiation, general circulation and weather forecasting. Field work may be required.

GEOG 381 POLITICAL GEOGRAPHY (3)

Effect of political groupings upon human use of the world, and the influence of the geographic base upon political power.

GEOG 383 NATURAL RESOURCES AND SOCIETY: A GEOGRAPHIC PERSPECTIVE (3)

Social and environmental dimensions of natural resources, their management, and misuse from a geographic perspective. Requires grade of C or better to fulfill Core requirement. Prerequisite: ENGL 102 or ENGL 190 or equivalent. Core: Advanced Writing Seminar.

GEOG 385 POPULATION GEOGRAPHY (3)

General population theory, data sources for population geographers, and the processes of fertility, mortality, and migration. Patterns of population growth and change viewed from both temporal and geographical perspectives.

GEOG 391 URBAN SYSTEMS (3)

Survey of the structure, functions, forms and development of urban units. Emphasis upon the locational features of social, economic, and cultural phenomena. Field work.

GEOG 393 TRANSPORTATION AND INFRASTRUCTURE PLANNING (3)

Transportation, water supply, wastewater treatment, and solid waste management systems, their role in the growth and development of urban areas. Policies, programs, and infrastructure planning.

GEOG 401 GROWTH OF GEOGRAPHIC THOUGHT (3)

History, nature, and methodology of geography as a discipline. Analysis of schools of geographic thought; critical evaluation of important geographic work, skills of written, visual, and oral presentation. Requires grade of C or better to fulfill Core requirement. Prerequisites: ENGL 102 or ENGL 190 or equivalent, and junior standing. Core: Advanced Writing Seminar.

GEOG 405 COMPREHENSIVE PLANNING (3)

The integration of separate urban systems into the comprehensive design of an urban region. Special emphasis will be placed on neighborhood, community and town planning. Fieldwork may be required. Prerequisite: GEOG 251 or GEOG 391.

GEOG 407 THE GEOGRAPHY OF THE AGED (3)

The aged have emerged in contemporary society as a significant minority group. Elements responsible for the increase in the number of older Americans will be examined as well as the forces affecting the distribution of the aged. Particular emphasis will be given to the locational problems of older people in urban areas. Prerequisite: 6 units of geography or consent of instructor.

GEOG 408 APPLICATION OF GIS IN EMERGENCY MANAGEMENT (3)

Application of geographic information systems in emergency management. Geospatial Concept-of-Operations (GeoCONOPS), Geospatial Information Infrastructure (GII), National Incident Management System (NIMS), the Incident Command System (ICS), the National Preparedness Goal mission areas. Prerequisite: GEOG 232.

GEOG 409 APPLIED CLIMATOLOGY (3)

The effects of world climatic patterns on the human and physical environment are analyzed. Special emphasis is devoted to the interactions between climate and the urban environment.

GEOG 410 ENVIRONMENTAL GEOGRAPHY (3)

Human impact on the natural environment. Exploration of roots and nature of contemporary environmental issues. Prerequisite: GEOG 101.

GEOG 411 STUDIES IN NATURAL HAZARDS (3)

The nature, frequency of occurrences, and distribution of environmental hazards and their impact on humans.

GEOG 412 GEOGRAPHIES OF CONSUMPTION AND WASTE (3)

Introduction to geographic relationships associated with contemporary consumption and waste disposal activities. Prerequisite: ENGL 102 or ENGL 190, or equivalent.

GEOG 413 SEVERE AND HAZARDOUS WEATHER (3)

Extreme atmospheric events and phenomena; case study analysis of atmospheric events that shaped history, geography, and environment; scientific explanation of extreme atmospheric event occurrence. Prerequisite: GEOG 101.

GEOG 414 GIS APPLICATIONS (3)

Vector-based GIS software for solving real world problems. Prerequisite: GEOG 232 or consent of instructor.

GEOG 416 ADVANCED REMOTE SENSING: DIGITAL IMAGE PROCESSING AND ANALYSIS (3)

Remote sensing platforms and sensors, remotely sensed data collection, field measurements, and the processing and analysis of various types of remotely sensed digital imagery. Prerequisite: GEOG 321.

GEOG 417 OUTDOOR RECREATION AND PLANNING MANAGEMENT (3)

A study of outdoor recreation in terms of relationships between people, land, and leisure. Emphasis on the principles of planning, designing and maintaining outdoor recreation areas and facilities.

GEOG 419 CLIMATE CHANGE: SCIENCE TO POLICY (3)

A survey of past, current, and future climate change. Emphasis on Earth's radiation balance, causes of climate change, observed and predicted signals of climate change, and impacts and mitigation of climate change.

GEOG 420 GEOGRAPHY OF THE UNITED STATES AND CANADA (3)

Physical and cultural landscapes of the United States and Canada, including patterns of economic development of each region and their relationship to their environmental setting.

GEOG 423 GEOGRAPHY OF MARYLAND (3)

Physical and human geographical elements of the Maryland landscape which explain current patterns and environmental problems. Particular emphasis on historical geographical background of the present landscape.

GEOG 426 GIS DATABASE DESIGN (3)

Introduction to Geographic Information System (GIS) databases. System design, database design and implementation. Data requirements gathering and design principles. Prerequisite: GEOG 232.

GEOG 427 THE GLOBAL ECONOMY (3)

Geographical patterns of spatial interactions in the global economy; roles of the state, transnational corporations, and intergovernmental organization. Prerequisite: 6 units of geography or consent of instructor.

GEOG 428 PYTHON SCRIPTING FOR ARCGIS (3)

Python programming and scripting techniques for GIS. Fundamentals of Python, basic geoprocessing in GIS, key modules of ArcPy for mapping and spatial analysis, skills required to design script tools for ArcGIS. Prerequisites: GEOG 232 or equivalent skills, or instructor consent; GEOG 414 recommended.

GEOG 431 GEOGRAPHY OF AFRICA (3)

A systematic and regional approach to the study of people and environment of Africa, south of the Sahara. Special focus is placed on the distribution of natural resources and the historical-political development of each country as important background for the understanding of current African affairs. Prerequisite: 6 units of geography or consent of instructor.

GEOG 443 GEOGRAPHY OF EAST ASIA (3)

Regional studies of the physical and cultural foundations in China, Japan, and Korea. Emphasis upon human and economic resources, and role in world affairs. Prerequisite: 6 units of geography or consent of instructor.

GEOG 444 GEOGRAPHY OF SOUTH ASIA (3)

Survey of the physical and cultural geographies of Pakistan, India, Bangladesh, Nepal, Bhutan, Sri Lanka and the Maldives. Thematic and regional approaches are applied in the study of the cultures, politics, environments, social structures, and economies of the South Asian Subcontinent.

GEOG 445 GEOGRAPHY OF SOUTHEAST ASIA (3)

Regional analysis of Southeast Asia: physical geography, historical evolution, industry and agriculture, social and cultural factors, and role in world affairs. Problems of nationality, economic development, gender and cultural conflicts.

GEOG 447 GEOGRAPHY OF THE MIDDLE EAST (3)

Analysis of Southwest Asia and North Africa, including major natural and cultural resources, related patterns of spatial organization, economic and political development, and associated problems.

GEOG 451 GEOGRAPHY OF EUROPE (3)

Regional analysis and appraisal of the human geography and natural resources of Europe. Problems of nationality, economic development, and cultural conflicts. Prerequisite: 6 units of geography or consent of instructor.

GEOG 452 GEOGRAPHY OF THE EUROPEAN UNION (3)

Spatial distribution of physical and cultural features of the European Union. Historical development of the EU. Geographical aspects of major issues facing the EU: security, enlargement, foreign policy, structure, identities. Prerequisite: GEOG 102 or GEOG 105 or consent of instructor.

GEOG 453 GEOGRAPHY OF RUSSIA (3)

Diverse human and physical geographical aspects of Russia's complex historical and contemporary development and its relationships with its neighbors. The interrelationships between people and their environments - physical, social, economic, political, demographic, and cultural - are considered. Prerequisite: 6 units of geography or consent of instructor.

GEOG 454 RETHINKING BRAZIL (3)

Regional analysis of Brazil: human and physical geography, historical perspectives, humanities, cultural geography, and critical thinking of Brazil in its role as regional and global participant. Perspectives on the problematization of national, racial, and regional identities, and of historical legacies upon Brazil today. Prerequisite: GEOG 102 or GEOG 105 or GEOG 109.

GEOG 461 GEOGRAPHY OF LATIN AMERICA (3)

Analysis of Latin America focuses on the interrelationships between physical and cultural elements which provide a diversity of human habitats throughout the region. May be repeated for a maximum of 6 units. Prerequisite: 6 units of geography or consent of instructor.

GEOG 462 THE TWO DOWN-UNDERS: GEOGRAPHIES OF AUSTRALIA AND AOTEAROA-NEW ZEALAND (3)

Analysis of the physical and cultural landscapes of Australia and Aotearoa/New Zealand, including patterns of settlement and economic development and the relationship of these patterns to their environmental settings. Emphasis on the historical backgrounds of these countries' present landscapes. Prerequisites: 6 units of Geography or consent of the instructor.

GEOG 463 THE SILK ROAD: THE GEOGRAPHIES OF CENTRAL EURASIA (3)

Central Asian geographies and histories in the context of the extended Silk Road Region; its cultural identities, political economies, and ideological struggles; the bonds and interactions of the emerging nations of Central Asia with Russia, the U.S., China, Turkey, and Iran. Prerequisite: junior standing.

GEOG 465 ADVANCED TECHNIQUES IN GIS (3)

Project-based learning within the spatial framework of GIS. Emphasis on advanced GIS techniques for spatial analysis and on quantifying geographic patterns and relationships. Prerequisite: GEOG 232.

GEOG 467 ENVIRONMENTAL HYDROLOGY (3)

Exploration of the water cycle and its interaction with human society. Examination of precipitation, infiltration, runoff, and stream hydrology. Introduction to storm water mitigation, flood control, sanitary sewerage, and stream restoration. This course has been offered as a special topic; students who have earned credit for this course as a special topic will not receive additional credit for GEOG 467. Prerequisites: GEOG 101 or GEOL 121 or consent of department.

GEOG 468 FLUVIAL GEOMORPHOLOGY (3)

Introduction to the study of river land forms and the processes that create them. Emphasis on human impacts to river systems and applied geomorphology. This course has been offered as a special topic; students who have earned credit for this course as a special topic will not receive additional credit for GEOG 468. Prerequisites: GEOG 101 or GEOL 121 or consent of department.

GEOG 470 SPECIAL TOPICS IN GEOGRAPHY (1-3)

Reading and research in selected topics in the field of geography. Seminar topics will be announced. May be repeated provided a different topic is taken each time.

GEOG 471 GEOSPATIAL TECHNOLOGIES SPECIAL TOPICS (1-3)

Reading and research in selected geospatial technological topics in the field of geography. Seminar topics will be announced. May be repeated for a maximum of 6 units provided a different topic is covered. Prerequisite: GEOG 232.

GEOG 472 SPECIAL TOPICS IN SPACE AND SOCIETY (1-3)

Reading and research in selected topics in the field of geography. Seminar topics will be announced. May be repeated for a maximum of 6 units provided a different topic is covered.

GEOG 473 SPECIAL TOPICS IN ENVIRONMENTAL SYSTEMS AND SUSTAINABILITY (1-3)

Reading and research in selected topics in the field of geography. Seminar topics will be announced. May be repeated for a maximum of 6 units provided a different topic is covered.

GEOG 481 ENVIRONMENTAL IMPACT ANALYSIS (3)

The collection, collation, analysis, and incorporation of physical, social, biological, and economic information for the reviewing and the preparing of environmental impact statement (EIS) reports. Prerequisite: 6 units of geography or consent of instructor.

GEOG 484 LAND USE PLANNING (3)

Contemporary land use planning, emphasizing the problematic nature of land development, the environmental land use planning process, and related growth management, issues and techniques. Prerequisite: GEOG 251 or consent of instructor.

GEOG 491 GEOGRAPHY/ENVIRONMENTAL PLANNING INTERNSHIP (1-6)

Supervised placement and research in selected public and private agencies at appropriate institutions. May be repeated for a maximum of 6 units. Prerequisite: 6 units of geography and consent of department chair.

GEOG 493 FIELD GEOGRAPHY (2-6)

Practical laboratory experience in techniques in the collection and analysis of data by observations, measurements, mapping, and photographic records. Such techniques are to be applied to selected geographic problems. Prerequisite: 6 units of geography or consent of instructor.

GEOG 494 TRAVEL AND STUDY (3-6)

Countries and topics to be selected by departments and instructors sponsoring the program. For complete information, contact the chair of the department. May be repeated for a maximum of 6 units.

GEOG 495 DIRECTED READINGS IN GEOGRAPHY (3)

Independent reading in selected areas of geography. Open by invitation of the Geography Department to students taking a major or minor in geography. May be repeated for a maximum of 6 units.

GEOG 496 INDEPENDENT STUDY IN GEOGRAPHY (1-6)

Independent research, study, or field experience under supervision of a member of the Geography faculty. Designed for advanced students who wish to conduct independent investigations on aspects of Geography which are of special interest or not covered in other courses. Registration arranged with department chairperson. May be repeated for a maximum of 6 units. Prerequisite: advanced undergraduate standing with at least 18 units of geography or graduate standing.

GEOG 498 HONORS DIRECTED READINGS (3)

Independent reading in Geography and related disciplines on a topic selected by the student in consultation with the instructor(s). May be repeated for a maximum of six units. Prerequisite: permission of the department chairperson.

GEOG 499 HONORS THESIS IN GEOGRAPHY (1-6)

Researching and writing of a thesis, to be directed by a faculty member in a chosen area of specialization. May be repeated for a maximum of 6 units. Prerequisite: permission of the department chairperson.