IUP - Indiana University of Pennsylvania

DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING

DEPARTMENT FOUNDED: 1928 ***GRADUATE PROGRAM FOUNDED: 1958***

DEGREES OFFERED: B.A., B.S. (Regional Planning & Social Science Education), M.A., M.S.

GRANTED: 9/1/10-8/31/11: Bachelors: 18, Masters: 21

NUMBER OF STUDENTS: 101 Majors, 29 Masters

CHAIR: John E. Benhart Jr.
DEPARTMENT SECRETARY: Missy Bair. e-mail: mbair@iup.edu

FOR FURTHER INFORMATION WRITE TO: Dr. Richard J. Hoch, Department of Geography and Regional Planning, IUP, Indiana, PA 15705-1015. e-mail: rhoch@iup.edu

PROGRAMS AND RESEARCH FACILITIES: Programs are designed to educate informed citizens and to prepare geographers to enter government service, business, or industry; planners for positions in local, regional, and state agencies; and social science educators for secondary schools. The emphasis within all programs is upon the tools, techniques, philosophy, substance, and theory of the field. Internships are readily available to geography graduate students. The Spatial Sciences Research Center also provides hands on experience for many students. Graduates experience a high rate of success in placement following graduation.

Master of Arts students may pursue geographic themes of study and research such as population, urban/economic, or cultural/historical geography. Master of Science students complete a 15-credit track in Geographic Information Systems/Cartography, Regional Planning, or Environmental Planning. Each track includes two required courses and a list of options. Selected courses in related fields, independent research, and internship credits may be applied toward a Master's degree. Thesis and non-thesis options are available for both degrees.

The James E. Payne GIS/Cartography Lab has 18 computers linked via our Windows NT network server to the University VAX mainframe. Peripheral devices include: color printers, digitizers, large format plotters, scanners and appropriate mapping software. The most heavily used software includes: ARC/Info, ArcView, MapInfo, IDRISI, and Vectorworks. An important part of student involvement and faculty interaction in the geography and regional planning programs centers around department lab facilities. Students have numerous opportunities to participate in research and professional activities. The departments 11 full time faculty are actively involved in both scholarly and professional organizations.

Faculty have conducted research in rural planning, economic development, Eastern Europe, cartography, geographic information systems, regional input-output analysis, microcomputers in geography, religious landscapes, population patterns, geographic education, historic highways, and water resources. Faculty are active in: The Association of American Geographers, Pennsylvania Planning Association, The National Council for Geographic Education, Pennsylvania Geographic Alliance, and several other professional organizations.

Opportunities for student research and internships derive from the faculty's activity, associations with research centers at IUP, and contacts in government, business, and industry throughout the region.

ACADEMIC PLAN, ADMISSION REQUIREMENTS, AND FINANCIAL AID: IUP has two 14-week semesters during the regular academic year and two five-week sessions in the summer. Information on admission should be requested from the Graduate School's Admission Office, Stright 101, IUP, Indiana, PA 15705-1081; e-mail: *graduate_admissions@iup.edu*. IUP has been recognized by Barren's, The New York Time's Education Editor, and Changing Times Magazine for offering quality education at an affordable cost.

The graduate program is open to qualified students holding a bachelor's degree from an accredited college or university. GRE scores are required for both admission and assistantships. The assistantship deadline is March 15. General applications will be accepted up until the first day of classes for any semester. Interested students should maintain a 3.0 grade point average or better in the junior and senior years. Graduate assistantships, employment opportunities, and loans constitute the financial aid packages. Assistantships and employment are available. The full-time tuition for the academic year 2003/04 was: $2759 per semester for Pennsylvania residents, and $4415 per semester for Non-residents.

DEPARTMENT OF GEOGRAPHY AND REGIONAL PLANNING FACULTY

Faculty of the Department of Geography and Regional Planning at Indiana University of Pennsylvania (IUP) are involved in research and professional activities that provide opportunities for participation by students and enhance the traditional emphasis on teaching quality. The department has eleven permanent full-time faculty. At the same time, approximately $100,000 has been spent on equipment acquisitions. A new cartography laboratory and enhanced computer capabilities are available. Revised and new courses strengthen the curriculum and emphasize regional planning, development, cartography, remote sensing, and Geographic Information Systems.

Robert B. Begg, Ph.D., Iowa, '86, Professor: Dr. Begg teaches planning methods, introductory geography courses, Africa, and graduate research. His areas of interest are regional economic analysis and planning. He serves on the White Township Planning Board. e-mail: BOBBEGG@IUP.EDU

Joseph W. Bencloski, Ph.D., Penn State, '76, Professor: Dr. Bencloski is a population geographer whose research focuses on human fertility variations and migration patterns. He teaches human environment, remote sensing, physical, physiography, and climatology. e-mail: JOEBEN@IUP.EDU

John E. Benhart, Jr., Ph.D., Tennessee, '95, Professor: Dr. Benhart teaches geographic information systems, quantitative techniques, conservation, land use policy and introductory geography courses. He also has interest in urban and and transportation geography and oversees the departmental computer lab. e-mail: JBENHART@IUP.EDU

Donald W. Buckwalter, Ph.D., Tennessee, '88, Professor: Dr. Buckwalter teaches Non-Western geography, Russia, economic, energy, trade & transportation, and map & photo interpretation. His research interests are in economic geography of Eastern Europe. e-mail: DONALDB@IUP.EDU

Richard J. Hoch, Ph.D., West Virginia University, ’05, Assistant Professor: Dr. Hoch teaches Non-Western Geography, Urban Geography, GIS, Geography of Latin America, Political Geography, Intro to Planning. e-mail: RHOCH@IUP.EDU

Calvin O. Masilela, Ph.D., Virginia Polytechnic, ‘89, Professor: Dr. Masilela teaches introductory geography courses, Geography of Africa, land use policy, planning theory, urban planning and planning techniques. e-mail: CMASILEL@IUP.EDU

Brian W. Okey, Ph.D., University of Guelph, ’99, Assistant Professor: Dr. Okey teaches U.S. and Canada, Geography of Fresh Water Resources, and Biogeography. His research interests are: landscape ecology, biodiversity, and agroecosystems. e-mail: BOKEY@IUP.EDU

Kevin J. Patrick, Ph.D., University of North Carolina, '96 Professor: Dr. Patrick teaches introductory geography courses, spatial structure of the economy, urban, social, East Asia, and introductory cartography. His research interests are cultural landscapes, transportation, and urban and economic geography. He is also editor of The Lincoln High Forum, The Official Journal of the Lincoln Highway Association.
e-mail: KPATRICK@IUP.EDU

Gail S. Sechrist, Ph.D., Louisiana State, '86, Associate Professor: Dr. Sechrist teaches cultural, settlement, history of geography, and U.S. and Canada. Her area of specialization and research interests cover the historic location of churches, church names, and other aspects of the cultural landscape. e-mail: GAILSECH@IUP.EDU

Robert P. Sechrist, Ph.D., Louisiana State, '86, Professor: Dr. Sechrist's specialties are GIS, diffusion analysis, computer programming, data base management, and statistical analysis. He also teaches cartography and GIS courses. e-mail: RPSECRST@IUP.EDU

D. Whit Watts, Ph.D., Virginia Polytechnic, '95, Assistant Professor: Dr. Watts teaches introductory geography courses, land use policy, and planning design and theory, and law. His research interests are urban design and technology. e-mail: WHIT@IUP.EDU

Indiana University of Pennsylvania
Department of Geography and Regional Planning
Masters in Geography Program
Statement of Philosophy

Two principles guide the growth of the graduate program in Geography.

Higher education seeks as its primary goal the cultivation of intellectual, moral, cultural, and aesthetic sensibilities. Toward this end, students will master basic tools of academic research, exhibit an awareness of other cultures, and develop a critical understanding of how various geographic and planning frameworks have evolved while demonstrating how they might be extended, modified, and applied to contemporary problems.

The principle function of academic practice is to improve the equality of life for the larger community. To advance preparation for graduate studies, professional life, and personal and community betterment, students will master a repertoire of professional and academic skills. These skills will enable students to function prudently, effectively, and critically within professional, academic, and community settings.

Two fields of disciplinary and professional endeavor—geography and planning—are combined in the department of Geography and Regional Planning. This assures a balance of academic, professional, and practical skills.

Adopted by faculty, Fall 1994.

GEOGRAPHY AND REGIONAL PLANNING PROGRAMS AND COURSES

All graduate degree programs require a minimum of 33 credits for the thesis option or at least 39 hours for the non-thesis option. Nine of these hours constitute the core program. These include three core courses: GEOG 610, GEOG 612, and GEOG 614. Graduate students have the option to incorporate an internship as part of either the M.A. or the M.S. program.

For students selecting the non-thesis option, a portfolio is a non-graded graduation requirement. A three-person faculty committee will evaluate the portfolio, which will include at least three of the student's best pieces of work and written reflective analysis. The portfolio is submitted by the end of the first week of the semester the student is scheduled to graduate.

Master of Science in Geography

I. Core Program (9 cr): GEOG 610 Research in Geography and Regional Planning; GEOG 612 Quantitative Techniques in Geography and Regional Planning; and GEOG 614 Thought and Philosophy in Geography and Regional Planning.

II. The M.S. candidate selects a track in GIS/Cartography (15 cr minimum), Regional Planning, or Environmental Planning, elects 3 to 6 cr in geography and related fields with thesis (1-6 cr) and 15 cr without a thesis. A 6 cr internship may be included.

A. GIS/CARTOGRAPHY TRACK 15 cr

Five courses from among the following.

*GEOG 513 Cartography	3 cr
GEOG 514 Map & Photograph Interpretation	3 cr
GEOG 515 Remote Sensing	3 cr
*GEOG 516 Introduction to GIS	3 cr
GEOG 517 Technical Issues in GIS	3 cr
GEOG 571 Aerospace Workshop	3 cr
GEOG 617 Field Techniques in Geography & Planning	3 cr
GEOG 618 GIS Applications Development	3 cr

B. REGIONAL PLANNING TRACK 15 cr

Five courses from among the following.

GEOG 531 Population Geography	3 cr.
GEOG 532 Urban Geography	3 cr
GEOG 533 Geography of Trade and Transportation	3 cr
GEOG 534 Political Geography	3 cr
GEOG 536 Social Geography	3 cr
GEOG 550 Introduction to Planning	3 cr
*GEOG 552 Planning Methods	3 cr
GEOG 554 Planning Design	3 cr
GEOG 558 Land Use Law	3 cr
*GEOG 564 Land Use Policy	3 cr
GEOG 568 Planning Theory	3 cr
GEOG 617 Field Techniques in Geography & Planning	3 cr
GEOG 620 Spatial Structure of the Economy	3 cr
GEOG 623 Regional Development	3 cr
GEOG 625 Environmental Planning	3 cr
GEOG 633 Settlement Geography	3 cr
GEOG 665 Plan Implementation	3 cr
PLSC 668 Public Sector Financial Administration	3 cr

C. ENVIRONMENTAL PLANNING TRACK 15 cr

Five courses from among the following.

GEOG 515 Remote Sensing	3 cr
GEOG 516 Introduction to GIS	3 cr
*GEOG 540 Conservation: Environmental Analysis	3 cr
GEOG 541 Climatology	3 cr
GEOG 542 Physiography	3 cr
GEOG 543 Geography of Fresh Water Resources	3 cr
GEOG 558 Land Use Law	3 cr
GEOG 564 Land Use Policy	3 cr
GEOG 617 Field Techniques in Geography & Planning	3 cr
*GEOG 625 Environmental Planning	3 cr

Required course for track.

COURSE DESCRIPTIONS

GEOG 511 HISTORY OF GEOGRAPHY 3 cr
History of the discipline, great ideas, leading professionals, and unresolved issues are studied.

GEOG 513 CARTOGRAPHY 3 cr
Develops ability to map and diagram human and environmental phenomena. Special maps, charts, and diagrams will be considered as required by students. Recommended for all master's candidates.

GEOG 514 MAP AND PHOTOGRAPH INTERPRETATION 3 cr
Develops skill in extracting information and synthesizing data from maps and aerial photographs as applied to geologic, land use planning, and terrain analysis.

GEOG 515 REMOTE SENSING 3 cr
Methods of remote sensing such as thermal sensing, multi-spectral scanning, satellite imagery, side-looking airborne radar imagery, and additive color analysis and their applications, particularly as applied to geographic and planning problems, are studied.

GEOG 516 INTRODUCTION TO GIS 3 cr
Automated methods for creating, maintaining, and analyzing spatial data are presented. Topics include 1) specialized GIS hardware and software, 2) vector vs. raster vs. object oriented spatial data structures, 3) creation and manipulation of geographic data files, 4) database design and management concepts, 5) spatial analysis, and 6) cartographic design. Prerequisite: GEOG 513 or equivalent or permission of instructor.

GEOG 517 TECHNICAL ISSUES IN GIS 3 cr
A project-based class where students learn the skills to develop and maintain a Geographic Information System. Students will construct functional systems. Designing GIS systems to use specification, data collection, data input, project management, and system documentation are covered. Prerequisite: GEOG 516.

GEOG 531 POPULATION GEOGRAPHY 3 cr
Spatial variations in numbers, characteristics and dynamics of human population, models, and theoretical constructs relevant to demographic structures and processes are studied.

GEOG 532 URBAN GEOGRAPHY 3 cr
Analysis of city types, patterns, and functions as influenced by geographic conditions and other factors. City planning techniques and field study are utilized.

GEOG 533 GEOGRAPHY OF TRADE AND TRANSPORTATION 3 cr
Transportation systems and their use; accessibility, circulation, time and distance concepts, and trade patterns. Empirical and theoretical approaches are examined.

GEOG 534 POLITICAL GEOGRAPHY 3 cr
Geographic factors and conditions are analyzed as they relate to character and function of states. Political institutions in light of geographic conditions.

GEOG 536 SOCIAL GEOGRAPHY 3 cr
Spatial dimensions of the American society are the focus of this course. The distribution of various social groups and their impact on the landscape are considered.

GEOG 540 CONSERVATION: ENVIRONMENTAL ANALYSIS 3 cr
Problems of exploitation and utilization of regional resources, (e.g., soils, minerals, forests, and wildlife) in relation to population growth and regional planning and development.

GEOG 541 CLIMATOLOGY 3 cr
Examines the elements of weather and climate on Earth. The location and causes of global climatic regions are examined in relation to moving pressure and wind systems. The course also considers the climatic history of the planet and recent human modifications of the atmospheric environment.

GEOG 542 PHYSIOGRAPHY 3 cr
Focuses on landform types and their spatial distribution. Emphasis is placed on the tectonic forces that build landforms, and the weathering and erosional processes that erode and shape surface features. The relationship between human activities and landforms is also considered.

GEOG 550 INTRODUCTION TO PLANNING 3 cr
Introduction to the profession and activity of contemporary American urban and regional planning. Course emphasis is placed on land use control, design, growth management, and development regulation. The legal and institutional bases of planning practice are covered as well.

GEOG 552 PLANNING METHODS 3 cr
Research, analytical design, and plan-making techniques in urban and regional planning. Examines basic items necessary to prepare urban and regional comprehensive plans.

GEOG 554 PLANNING DESIGN 3 cr
Presents concepts of city, subdivision, and transportation design in relation to topography, natural resources, and other physical elements. Prerequisite: GEOG 550.

GEOG 558 LAND USE LAW 3 cr
Introduces students to principles of land use law. The course focus is on federal constitutional principles and key Supreme Court cases, especially as they relate to actions of local units of government and municipal planning practice. Deals with the present state of land use law and with current trends and issues. Prerequisite: GEOG 550 or GEOG 564.

GEOG 568 PLANNING THEORY 3 cr
Examines process of city planning during ancient, medieval, Renaissance, and modern periods. A review of early planning in America, as well as present city planning, is included. Prerequisite: GEOG 550.

GEOG 581 SPECIAL TOPICS 3 cr
Topical courses offered on an experimental basis. Check department schedule for these offerings.

GEOG 610 RESEARCH IN GEOGRAPHY AND REGIONAL PLANNING 3 cr
Elements and techniques of scientific research, as applied to geographic and planning problems, are studied. A research proposal is developed.

GEOG 612 QUANTITATIVE TECHNIQUES IN GEOGRAPHY AND REGIONAL PLANNING 3 cr
Descriptive and inferential statistical techniques applied to spatial distribution and spatial association of physical and cultural phenomena and testing of spatial theoretical constructs.

GEOG 614 THOUGHT AND PHILOSOPHY IN GEOGRAPHY AND REGIONAL PLANNING 3 cr
Examines the status of current and past thought and philosophy in geography and regional planning using the literature in planning, geography, and the philosophy of science. Topics examined are regional development, local planning, environmentalism and physical geography, and cultural geography. Prerequisite: GEOG 610.

GEOG 617 FIELD TECHNIQUES IN GEOGRAPHY AND PLANNING 3 cr
Field tools and techniques are evaluated and used in the study of a specific area. Interpretation of spatial patterns of phenomena is emphasized. Topical and regional examples of spatial structure are used as case studies.

GEOG 618 GIS APPLICATIONS DEVELOPMENT 3 cr
Takes students with GIS analysis skills to the next level; developer of software to automated methods and processes learned in prerequisite courses. Students will learn to write object-oriented software tools for spatial data transaction processing and analysis. Prerequisite: GEOG 516

GEOG 620 SPATIAL STRUCTURE OF THE ECONOMY 3 cr
The spatial organization of economic systems is studied. Processes that give rise to these systems and their spatial interdependencies are explored. Topical and regional examples of spatial structure are used as case studies.

GEOG 623 REGIONAL DEVELOPMENT 3 cr
Theory and policy implications of the spatial aspects of development in various regions of underdevelopment in the world.

GEOG 625 ENVIRONMENTAL PLANNING 3 cr
Provides students with information about natural resources, their characteristics, and various techniques that can be implemented for their preservation, conservation, and management. In particular, emphasis will be placed on human-environment interaction, and how aspects of the environment can and should be accounted for in planning processes at various spatial scales and levels of analysis. Course material will be presented through lectures, as well as guest speakers, field trips, and student presentations.

GEOG 630 CULTURAL GEOGRAPHY 3 cr
Literature and methods of cultural geography. Topics include population, settlements, human ecology, cultural areas, and related features.

GEOG 633 SETTLEMENT GEOGRAPHY 3 cr
Settlement patterns and processes; origins, diffusion, classification, pioneer, settlement planning, and agricultural colonization.

GEOG 650 REGIONAL GEOGRAPHY 3 cr
Various regions of the world may be dealt with, such as Latin America, Africa, or South Asia, when there is sufficient student demand. Physical, environmental, cultural, and population patterns are considered.

GEOG 665 PLAN IMPLEMENTATION 3 cr
Considers zoning, improvement programs, housing codes, building codes methodology, and application of administrative procedures, federal and local urban renewal programs, site selection, program administration. Prerequisite: GEOG 550.

GEOG 670 PROFESSIONAL PROBLEMS IN GEOGRAPHIC EDUCATION 3 cr
Classroom problems and discussion centered about new viewpoints in geography. Individual reports, group discussion, and research included.

GEOG 680 SEMINAR 3-6 cr
Seminars on various topics will be offered occasionally. Topics such as new trends in planning, cartographic theory, or spatial aspects of service industries are the focus of research projects.

GEOG 681 SPECIAL TOPICS 3 cr
Topical courses offered on an experimental basis. Check department schedule for these offerings.

GEOG 698 INTERNSHIP 3-12 cr
Professional learning experience with emphasis on practical applications of academic background. Prerequisites: Twelve academic credits and a 3.0 cumulative GPA.

GEOG 699 INDEPENDENT STUDY 1-6 cr
Independent research and study under faculty direction. Interested students should apply to director of graduate studies.

GEOG 850 THESIS 3-6 cr
Registration for thesis must be approved by the department's graduate coordinator and chairperson ahead of time.