



IUP Graduate Handbook

Graduate Degrees in Geography

Department of *Geography and Regional Planning*

AY 2020-2021

Handbook Updated *Fall 2020*

MS Geography

Certificate in Geographic Information Science and Geospatial Techniques

Certificate in Geospatial Intelligence Analysis

Department of Geography and Regional Planning

981 Grant Street, Humanities and Social Sciences Building

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Program Website: <https://www.iup.edu/georegionalplan/grad/geography-ms/>

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INTRODUCTION

Welcome to the IUP Department of Geography and Regional Planning! We are excited to embark on this journey with you to pursue your academic and professional goals. Our department specializes in providing students the opportunities to acquire the skills, engage the practice, obtain the experience, and apply your knowledge to your existing or future career. We focus on applied scholarship and civic learning – two qualities needed to operate successfully in a professional working environment.

Sincerely,

Dr. Jennifer L. Smith
Graduate Program Coordinator

Indiana University of Pennsylvania

Founded in 1875, IUP is a vibrant, comprehensive, research-based, teaching-focused, student-centered learning community. IUP combines the academic opportunities of a large university with the highly personalized and intimate learning-centered environment of a small college. IUP's beautiful main campus is located in Indiana, Pa., and spans 374 acres. A combination of historical charm and state-of-the-art facilities, it includes 59 major buildings and 11 athletic fields.

In the fall of 2017, there were over 2,000 graduate students enrolled in at least one of IUP's 60 graduate degree or certification programs, including 13 Doctoral programs.

IUP's Civility Statement

As a university of different peoples and perspectives, IUP aspires to promote the growth of all people in their academic, professional, social, and personal lives. Students, faculty, and staff join together to create a community where people exchange ideas, listen to one another with consideration and respect, and are committed to fostering civility through university structures, policies, and procedures. We, as members of the university, strive to achieve the following individual commitments:

To strengthen the university for academic success, I will act honestly, take responsibility for my behavior and continuous learning, and respect the freedom of others to express their views.

To foster an environment for personal growth, I will honor and take care of my body, mind, and character. I will be helpful to others and respect their rights. I will discourage intolerance, hatred, and injustice, and promote constructive resolution of conflict.

To contribute to the future, I will strive for the betterment of the community; myself, my university, the nation, and the world.

Affirmative Action

www.iup.edu/gradcatalog

Title IX Reporting Requirement

www.iup.edu/gradcatalog

Student Conduct and Student Rights

www.iup.edu/studentconduct/policies/
www.iup.edu/gradcatalog

Department of Geography and Regional Planning

Department Founded: 1928

Graduate Program Founded: 1958

Mission Statement and Program Objectives

Program Statement of Philosophy

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

1. 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.
2. The principle function of academic practice is to improve the quality 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.

Faculty and Staff

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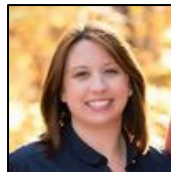
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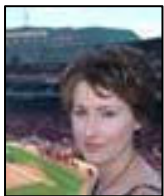


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Admission

Applicants are reviewed by the Graduate Program Coordinator and the Graduate Committee. Applicants can be accepted up until the first week of classes for the desired starting semester. Starting the program in the fall is optimal, as the core courses are sequenced beginning with the fall semester. However, some students do begin with the spring semester and have graduated in four semesters.

Graduate Admissions: www.iup.edu/admissions/graduate/

For more information regarding Admission Classification and Provisional Admission for International Graduate Application, view the Graduate Catalog: www.iup.edu/gradcatalog

Financial Assistance

Graduate Assistantships

- A limited number of dollars are available for graduate assistantships (GAs) per year. Graduate Assistantship dollars are awarded on a competitive basis and can be dispersed as a combined tuition waiver and stipend.

The Geography and Regional Planning Department, with its relationship with the Institute for Mine Mapping, Archival Procedures and Safety (IMAPS) also offers graduate assistance in the form of assistantships and hourly work. Most of this work involves working with spatial databases and Geographic Information System related projects. Students in other tracks or departments are not precluded from receiving IMAPS assistance.

- We recommend applying by **February 1st** for full funding consideration for fall semesters and **October 1st** for potential funding consideration for spring admission. While missing this application deadlines does not preclude you from funding, it does give you the largest window of opportunity for receiving funding for the upcoming academic semester.
- <http://www.iup.edu/admissions/graduate/financialaid/assistantships-and-scholarships/>
- Office of Financial Aid: www.iup.edu/financialaid/

Academic Advisement

The Geography Program Graduate Coordinator will serve as a temporary advisor to all incoming graduate students. Graduate students are then encouraged to actively seek out a faculty member within the department who shares the student's interests and is willing to serve as the academic advisor. This should be done during the second semester of the program. The graduate student must meet with the faculty member and request for the faculty member to serve as their advisor. Faculty members have the right to refuse to be a student's Academic Graduate Advisor. If the faculty member approves, the student and the faculty member shall fill out the Academic Advisor Notification Form (attached) and return it to the Graduate Coordinator.

The advisor's responsibility to the student involves; advising on scheduling, serving as the committee chairperson for those students pursuing the thesis option, and guiding those students pursuing a thesis or portfolio.

Campus Resources & Student Support

The School of Graduate Studies and Research: www.iup.edu/graduatestudies/
Graduate Catalog: www.iup.edu/gradcatalog
Office of the Bursar: www.iup.edu/bursar/
Office of the Registrar: www.iup.edu/registrar/
Disability Support Services: www.iup.edu/disabilitysupport/
Office of Social Equity: www.iup.edu/social-equity/
IUP Campus Library www.iup.edu/library/
MyIUP: www.iup.edu/myiup/
IT Support Center: www.iup.edu/itsupportcenter/
Veterans and Service Members: www.iup.edu/veterans/resource-center/
IUP Writing Center: www.iup.edu/writingcenter/
IUP Career and Professional Development Center: www.iup.edu/career/
IUP Parking Services and Visitor Center <http://www.iup.edu/parking/>
University Police <http://www.iup.edu/police/> | 724-357-2141
Crisis Intervention 24/7 Hotline: 1-877-333-2470
Student Registration: www.iup.edu/registrar/students/registration/

IUP Email

IUP offers an email account to all active students. **Your IUP email address is the primary means by which the university will contact you with official information and you should use for all IUP official communications. It is your responsibility to check your IUP email regularly.** Visit www.iup.edu/itsupportcenter/howTo.aspx?id=23401 to learn more about setting up this account. For more information regarding University policy on email communication, view the Graduate Catalog: www.iup.edu/gradcatalog

Graduate Student Assembly

The Graduate Student Assembly (GSA) represents the graduate student body's interests at IUP and within the Indiana community. The GSA makes recommendations related University-wide and graduate-specific policies and in areas of concern in the cultural, intellectual, and social life of the part- and full-time graduate student. Visit www.iup.edu/graduatestudies/gsa for more information.

Programs and Degrees

Master's Program

The Master of Science in Geography program requires the student to complete a fifteen-credit track in GIS/Cartography, Regional Planning, or Environmental Planning. Each track includes a limited number of required courses and a list of options. Both thesis and non-thesis options are available in the M.S. program. There is a thesis option (33 credits) and a non-thesis option (39 credits). The thesis option requires a student to take a minimum of three credits of 'Thesis' to be completed at one time, additional credits may be used to maintain continuing enrollment. Therefore, the non-thesis option will require a student to enroll in three or four more courses for completion of the program.

Master of Science in Geography

I. Core Program: (9cr)

GEOG 610 Research in Geography and Regional Planning 3 cr

GEOG 612 Quantitative Techniques in Geography and Regional Planning 3 cr

GEOG 614 Thought and Philosophy in Geography and Regional Planning 3 cr

II. Tracks: The M.S. candidate selects a track in GIS/Cartography (15cr minimum), Regional Planning, or Environmental Planning, and elects three to six credits in Geography and related fields with thesis (1-6cr) and 15 credits without a thesis. A six-credit internship may be included. (Choose One)

A. GIS/Cartography Track (15cr)

Five courses from among the following

GEOG 514 Map and Photograph Interpretation 3cr

GEOG 515* Introduction to Remote Sensing 3cr

GEOG 516* Introduction to GIS 3cr

GEOG 617 Field Techniques in Geography and Planning 3cr

GEOG 618 GIS Applications Development 3cr

GEOG 624 Technical Issues 3cr

GEOG 655 Advanced Remote Sensing 3cr

GEOG 675 Spatial Analysis Techniques

B. Regional Planning Track (15cr)

Five courses from among the following

GEOG 531 Population Geography 3cr

GEOG 532 Urban Geography 3cr

GEOG 533 Geography of Trade and Transportation 3cr

GEOG 534 Political Geography 3cr
GEOG 536 Social Geography 3cr
GEOG 550* Introduction to Planning 3cr
GEOG 552* Planning Methods 3cr
GEOG 554 Planning Design 3cr
GEOG 558 Land Use Law 3cr
GEOG 564* Land Use Policy 3cr
GEOG 568 Planning Theory 3cr
GEOG 617 Field Techniques in Geography and Planning 3cr
GEOG 623 Regional Development 3cr
GEOG 624 Technical Issues in GIS 3cr
GEOG 625 Environmental Planning 3cr
GEOG 633 Settlement Geography 3cr
GEOG 665 Plan Implementation 3cr
PLSC 668 Public Sector Financial Administration 3cr

C. Environmental Planning Track (15cr)

Five courses from among the following

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

**Required course for track.*

Certificate in Geospatial Intelligence Analysis (GEOINT)

This certificate program is accredited by the *US Geospatial Intelligence Foundation*. This is not a graduate degree program but a post-baccalaureate certificate that is a total of 21 credits. The GEOINT certificate prepares you to utilize and analyze imagery, conduct imagery intelligence, and geographically referenced activities on the surface of the earth for intelligence purposes. You'll learn the context, geographic information science, and geo intelligence tradecraft techniques to be qualified for a variety of professional positions.

Courses (21cr)

GEOG 515 Remote Sensing 3 cr
GEOG 516 Introduction to Geographic Information Systems 3 cr
GEOG 588 Geospatial Intelligence Capstone 3 cr
GEOG 624 Technical Issue in GIS* 3 cr
GEOG 655 Advanced Remote Sensing 3 cr
PLSC 565 Intelligence Process and Policy 3 cr
GEOG 618 GIS Applications Development or GEOG 675 Spatial Analysis Techniques 3 cr

Certificate in GISc and Geospatial Techniques

The department also offers a graduate-level certificate in Geographic Information Science and Geospatial Techniques. This is not a graduate degree program but a post-baccalaureate certificate that is a total of 18 credits. Nine of those credits (three courses) will be core geospatial courses. Nine hours of electives are then required to complete the certificate.

The certificate can be pursued simultaneously with a Master's degree. Up to 40% of the credits can be counted for other programs if approved by the department.

Core Courses (9cr)

GEOG 515 Remote Sensing 3 cr

GEOG 516 Introduction to Geographic Information Systems*** 3 cr

GEOG 624 Technical Issue in GIS*

Elective Courses (9cr)

GEOG 514 Map and Photograph Interpretation 3cr

GEOG 521 Enterprise GIS Management* 3cr

GEOG 618 GIS Applications Development* 3cr

GEOG 655 Advanced Remote Sensing

GEOG 660 Foundations of UAS Science and Applications 3cr

GEOG 675 Spatial Analysis Techniques* 3cr

GEOG 680 Seminar** 3cr

GEOG 681 Special Topics** 3cr

GEOG 699 Independent Study** 3cr

*Indicates that GEOG 516 Introduction to GIS is a prerequisite for the course.

**Indicates that permission of the instructor is needed to enroll in the course.

***Indicates that GEOG 518 or GEOG 519 may be substituted at discretion of the graduate committee.

Course Descriptions

Geography Course Descriptions from the 2020-2021 Graduate Catalog

All courses open only to graduate students carry 600-series and above numbers. Graduate students may also enroll in dual-level courses. These courses are carry 500-599 or 600-699 course numbers and are open to graduates and undergraduates. *Graduate students should expect additional course requirements above those expected of undergraduates.* At least ½ of the credit requirements for a student's Masters program in geography must be 600-level or above. **See 'Dual Level Courses' for**

amount of required 600-level courses. This excludes thesis or internship credits, and in most cases students will be limited to **five** 500 level courses for the program.

Department of Geography and Regional Planning – College of Humanities and Social Sciences

GEOG 511/* History of Geography 3 cr.

History of the discipline, great ideas, leading professionals, and unresolved issues are studied.

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 problems.

GEOG 515/* Introduction to 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 Geographic Information Systems 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 518 Geographic Information Systems (GIS) for Crime Mapping and Social Scientific Analysis 3 cr.

Provides students with knowledge of the theoretical basis of Geographic Information Systems (GIS) and their applications for criminologists and other social scientists. In the process of demonstrating some of the capabilities of GIS, the specifics of selected GIS and database software packages will also be covered. During the course of the semester, students will develop the skills to use GIS packages, manipulate and query geographic data to solve problems, perform simple spatial analysis, and understand how to utilize GIS in law enforcement/social science problem-solving and decision-making processes. Prerequisite: None.

GEOG 519 Geographic Information Systems (GIS) for Environmental Applications 3 cr.

Provides students with knowledge of the theoretical basis of Geographic Information Systems (GIS) and their applications for environmental scientific analysis. In the process of demonstrating some of the capabilities of GIS, the specifics of selected GIS and database software packages will also be covered. During the course of the semester, students will develop the skills to use GIS packages, manipulate and query geographic data to solve problems, perform simple spatial analysis, and understand how to utilize GIS for environmental analysis and resource management. Prerequisite: None.

GEOG 521 Enterprise GIS Management 3 cr.

Principles and methods for creating, operating, maintaining, and managing data for multi-user geospatial information systems are studied. Each student will customize, document, and operate a multi-department, multi-user geographic information system of his/her design. Prerequisite: GEOG 517 or consent of instructor.

GEOG 525/* Global Positioning Systems (GPS) Concepts and Techniques 3 cr.

Provides students with knowledge of the theoretical basis and practical applications of Geographic Positioning Systems (GPS). Students will gain hands-on experience using GPS receivers and GPS observables, as well as the ability to determine point and relative position fixes from pseudorange and carrier phase measurements. Students will be exposed to industry standard GPS hardware and software, as well as appropriate techniques for processing GPS data to achieve necessary levels of horizontal and vertical positional accuracy. Integration of GPS and geographic information systems (GIS) will also be discussed.

GEOG 526 Environmental Land Use Planning 3 cr.

Examines principles, techniques, and applications for the environmental land-use planning process. Focuses on surface water and deals with topics such as land-use, stream monitoring, stream conservation and restoration, and watershed management. Students who complete course will be exposed to environmental planning legislation and policy, best management practices, and applied techniques.

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 Transportation and Trade 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 535 Geography of Energy 3 cr.

Covers patterns and problems of energy production and consumption in human societies. Descriptions of what, where, and how much are combined with issues such as technological change, conservation, allocations, environmental impacts, and economic development. Specific topics global history and trends of energy development, pricing systems, types of energy, locations of production areas, and the energy status of the United States. Prerequisite: None

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 543 Geography of Fresh Water Resources 3 cr.

Focuses on surface and groundwater as a resource with unique properties. Fresh water is defined physically by storage in the hydrologic cycle and the values assigned by different cultures. Problems featured relate to consumptive and withdrawal water uses, the problems of water supply and scarcity, water law and its inconsistencies, flooding and floodplains management, sources of contamination and pollution, and wetlands, including case studies of selected river basins.

GEOG 544 Energy Development and Compliance I 3 cr.

Reviews and characterizes energy resources found in northern Appalachia, and the logic and techniques used to identify, quantify and regulate their development and extraction. Focuses in particular on the spatial dimensions of shale gas, coal, and wind as major energy sources in northern Appalachia, and deals with topics such as exploration, environmental and cultural compliance, logistics, production analysis, and infrastructure maintenance. Prerequisites: None

GEOG 550 Introduction to Community 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. 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 553 Planning Design I 3cr.

Introduces the basics of design problem solving, visual communications and site planning in the context of human settlement and urban geography. Emphasizes graphic communication, program development and the translation of design programs into physical form. Introduces a broad range of contemporary community planning and development issues best resolved through creative design. Applies planning and design skills in the context of history, culture, site, environment, diversity, social equity, legal conventions, regulatory policies, accessibility, technology, materiality and sustainability.

GEOG 554 Planning Design II 3 cr.

Presents concepts of city, subdivision, and transportation design in relation to topography, natural resources, and other physical elements. Prerequisite: GEOG 550, 553.

GEOG 558 Planning 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 562 Planning Policy, Implementation, and Administration 3 cr.

Focuses on the planning and implementation of policies to manage the location, timing, type, and intensity of land development. Explores the multi-step process from community plan to project completion. Exposes students to the public environment in which community plans are developed and implemented and walks them through the real world problems of identifying projects, building agency and interagency consensus, finding funding, putting together a project plan, project management, personnel and budget to project completion. Prerequisites: RGPL 458/GEOG 558

GEOG 564 Land Use Policy 3 cr.

Introduces students to and provides an overview of land use issues at the regional, state, and federal levels. Emphasizes evolution of contemporary policy strategies, constitutional issues, and regional controversies involved in the regulation of metropolitan growth, central city decline, and management of public lands.

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.

GEOG 581 Special Topics 3 cr.

Topical courses offered on an experimental basis. Check department schedule for these offerings.

GEOG 584 Field Studies in Geography and Social Studies 3 cr.

Immerses the student in a regional environment. Helps the student to critically see and to interpret a cultural landscape. The experience is predominantly off campus. Using a combination of structured field exercises, culturally specific readings, primary and secondary data, and standard geographic field techniques, the course strives to develop for the student a deeper affective and cognitive understanding of a cultural region. May be repeated under a different study area title. Prerequisite: Permission of instructor.

GEOG 588 - Geospatial Intelligence Capstone 3 cr.

Involves synthesizing concepts, skills and techniques learned in prerequisite courses in the Geospatial Intelligence certificate curriculum to develop an applied geointelligence project. Major tasks include spatial data acquisition, processing, analysis and reporting to geospatial intelligence tradecraft standards, as well as a culminating presentation of the project. Prerequisites: GEOG 515 GEOG 516 and PLSC 565

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.

GEOG 618 GIS Applications Development 3 cr.

Takes students with GIS analysis skills to the next level: developing of software to automate 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 623 Regional Development 3 cr.

Theory and policy implications of the spatial aspects of development in various regions of underdevelopment.

GEOG 624/* Technical Issues in GIS 3 cr.

Uses project-based approach to develop and maintain a geographic information system. Designs and implements functional systems through cooperative learning. Covers methods for designing GIS to user specification, data collection, data input, project management, and system documentation Prerequisite: GEOG 416/516 or GEOG 419/519.

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, culture 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 655 Advanced Remote Sensing 3 cr.

Expands beyond basic principles of remote sensing to understand and apply complex methods of data collection, normalization, and analysis. Covers radiometric normalization, spectral transformations, change detection, object-oriented classification, spatial analysis and filtering, accuracy assessment, and emphasizes application of learned techniques. A research intensive experience formulating remote sensing project

design, execution, as well as analysis and assessment of project outcomes (experiments). Prerequisite: GEOG 515.

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, and 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 675 Spatial Analysis Techniques 3 cr.

A techniques- and project-based course where students learn advanced spatial analysis skills utilizing Geographic Information Systems. Students will learn the concepts underlying spatial analysis techniques and obtain hands-on experience operationalizing methods through use of GIS hardware and software.

Prerequisites: GEOG/RGPL 316/516.

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 3.00 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 795 Thesis 3-6 cr.

Registration for thesis must be approved by the department's graduate coordinator and chairperson ahead of time.

*Indicates dual-listed class

Evaluation of Students

For information regarding School of Graduate Studies and Research policies on grading, view the Graduate Catalog: www.iup.edu/gradcatalog

The Geography and Regional Planning Department does not require students to take a candidacy exam. Each faculty member describes the evaluation process for each course in the course syllabus. Evaluation procedures are determined by the graduate committee and program faculty in accordance with the Program's learning objectives and outcomes.

The Geography and Regional Planning Department does not require students to take a comprehensive exam. However, as per the "Degree Requirements", a successful (passing) oral defense presentation of the thesis is required, and all portfolio committee members must sign-off the 'approval for graduation' sheet that accompanies the portfolio. The Department of Geography and Regional Planning has a standing portfolio committee which evaluates all portfolios submitted for graduation. Students may choose to work with a current portfolio committee member or their academic advisor on developing and refining the content of the portfolio; however, it will be evaluated by the standing committee. Students are expected to submit both a hard copy and digital copy of their portfolio for evaluation the first week of the semester they intend to graduate.

Degree Completion

Thesis Option:

A thesis can consist of an applied or theoretical piece of research. General expectations of a thesis in this Department must include a thesis topic/hypothesis, research objectives to address the topic/hypothesis, a representative literature review, a predetermined set of tasks to fulfill the research objectives, an explanation of the data to be used, an explanation of the methods to be used, a section that explains results, section that analyzes the results, and a conclusion to the thesis. All students will be expected to demonstrate proficiency in cartography in their thesis. The Research Topic Approval Form (RTAF) must be completed, approved, signed, and submitted by the student and committee prior to beginning the research process. The RTAF is now an electronic form and paper copies are no longer accepted.

Portfolio Option:

A portfolio is a representation of projects and accomplishments that the student has performed as part of the coursework for their program. The portfolio must have, at minimum, four components: 1) an example of the student's writing ability, 2) an example of the student's cartographic ability, 3) an example of the student's analytical ability, and 4) a reflective essay that ties together the student's representative works contained in the portfolio as part of their educational experiences in the MS Program. Each of the first three items require a brief (one page) abstract that provides information about the example in a narrative format. For example, what course was the example

from, who was the instructor, during what semester and year, was it a group project or individual project, as well as a detailed account of the student's contribution to the project, etc.). All students will be expected to demonstrate proficiency in cartography in their portfolio. The portfolio should be compiled during the **semester before** the student is scheduled to graduate, and is to be submitted **by the end of the first week of the semester the student is scheduled to graduate.** Students may be required to undergo multiple variations or complete edits to any of the portfolio components should the components fall short of acceptable or passing as established by ANY member of the portfolio committee. Students are expected to submit both a hard copy and digital copy of their portfolio for evaluation.

For more information, view the view the Graduate Catalog: www.iup.edu/gradcatalog

Access forms processed through the School of Graduate Studies and Research, click on Current Students: <http://www.iup.edu/graduatestudies/>

Thesis and/or Dissertation Completion

Student Thesis or Portfolio Faculty Committee:

A three-person faculty committee ('committee') must be assembled for every graduate student. The committee for a thesis includes the Chairperson (the student's Academic Graduate Advisor) and two other faculty members, usually within the department. For requirements about committee members please see the IUP Graduate Catalog available at:

www.iup.edu/gradcatalog

The committee for the portfolio is a standing portfolio committee established by the department. Students will submit their portfolios to the Portfolio Committee, based on the parameters set out in the Portfolio option (pg. 18). The Portfolio Committee will evaluate the student's portfolio based on a learning outcome published rubric of proficiencies and provide its decision by midterm of the semester it is submitted.

All committee members meet the requirements set in the current IUP Graduate Catalog available at:

www.iup.edu/gradcatalog

Choosing an appropriate committee and faculty advisor is also a very important choice for a new graduate student. Once your committee has been selected, the student and their respective committee for the thesis or portfolio should fill out a **Plan of Study** with the graduate coordinator for departmental records (also see Appendix).

A thesis defense is typically an open event – whereby other faculty, staff, and students may attend the defense and ask questions. It is often followed by a closed portion of the defense where the “public” is dismissed and the committee engages the student one-on-one.

Evaluation Outcome for Dissertation and/or Thesis

Thesis’ requires the preparation of a proposal that is accepted by all committee members. Following submission of the thesis proposal to the IUP School of Graduate Studies and Research, the student must then publicly defend the research when the student has completed the study and the committee chairperson approves. Once the chairperson approves, the remaining committee members must also approve before the student can move on to the public defense.

Immediately following the defense, the thesis research is then assigned a pass, a pass with revisions, a revise and resubmit, or a fail.

Effective fall 2017 for students admitted and students admitted after -- Dissertation and thesis credits will be assigned Pass or Fail as the final evaluation outcome for the taken credits and carry no quality points weighted towards a student’s CGPA.

Ongoing Dissertation and Thesis students admitted “prior” to fall 2017 – Dissertation and thesis credits will be assigned a letter grade as the final evaluation outcome for the credits taken and carry quality points weighted towards a student’s CGPA for the number of dissertation credits required for the program. “Extended” dissertation credits are not calculated into a student’s CGPA.

For more information, view the view the Graduate Catalog: www.iup.edu/gradcatalog

University Policies and Procedures

University policy is the baseline policy. Programs may have policy that is more stringent than the University baseline policy; however, not less stringent than the University baseline policy. For questions regarding this statement, please contact [Program Coordinator] or the School of Graduate Studies and Research.

Academic Calendar

View the IUP Academic Calendar: www.iup.edu/news-events/calendar/academic/

The following University and SGSR policies can be found at www.iup.edu/gradcatalog

Academic Good Standing

www.iup.edu/gradcatalog

Academic Integrity

www.iup.edu/gradcatalog

The Source: A Student Policy Guide: www.iup.edu/studentconduct/thefsource/

Bereavement-Related Class Absences

www.iup.edu/gradcatalog

Continuous Graduate Registration for Dissertation and Thesis

www.iup.edu/gradcatalog

Grade Appeal Policy

www.iup.edu/gradcatalog

Graduate Fresh Start Policy

www.iup.edu/gradcatalog

Graduate Residency Requirement

www.iup.edu/gradcatalog

Leave of Absence Policy

www.iup.edu/gradcatalog

Time Limitations

www.iup.edu/gradcatalog

Time-to-Degree Masters/Doctoral Dismissal Appeal Policy

www.iup.edu/gradcatalog

Time-to-Degree Extension for Master's Thesis and Doctoral Dissertation

www.iup.edu/gradcatalog

Transfer of Credits Policy

www.iup.edu/gradcatalog

Research

There are research opportunities with faculty and staff in the Department of Geography and Regional Planning. Please check with your academic advisor to learn more about these opportunities. Similarly, a new scholarship fund has been approved to support student travel for presenting research at local, regional, and national conferences. Please see Dr. Benhart to learn more. Additionally, the graduate school often has funds to support both data collection as well as travel for research related opportunities.

www.iup.edu/gradcatalog

www.iup.edu/research/

Change of Advisor Form
Department of Geography and Regional Planning
Graduate Program

Once a graduate student has requested a faculty member to be the student's academic advisor (this includes being chairperson of the student's graduate committee), both parties please print, sign, and date this form. Copies of this form must be submitted to: **(1)** the 'old' advisor, **(2)** the 'new' advisor, and to **(3)** the Graduate Coordinator. Original signature page should go to the Graduate Coordinator.

Student name: _____

Banner ID: _____

Program (MS or Certificate): _____

Track (MS only): _____

Current advisor: _____

New advisor: _____

Signatures:

Student:

I have requested the following faculty member to be my academic advisor and committee chairperson.

Name	Signature	Date
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New advisor:

I agree to be the academic advisor and committee chairperson for the above student.

Name	Signature	Date
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Plan of Study
Department of Geography and Regional Planning
Graduate Program

Date: _____ **Revised? (y/n)** _____

Student's Name: _____ **Student ID: @** _____

Track: _____ **Thesis or Portfolio Credits Req:** _____

Required Core Courses: (12 hrs)

Course No.	Name	Hours	Semester/Year (Spring 2018)
GEOG 610	<i>Research in Geography and Regional Planning</i>	3 cr.	
GEOG 612	<i>Quantitative Techniques</i>	3 cr.	
GEOG 614	<i>Thought and Philosophy in Geography and Regional Planning</i>	3 cr.	

Required Track Courses: (6 hrs)

Course No.	Name	Hours	Semester/Year	Substitution?

Track Courses: (9 hrs)

Course No.	Name	Hours	Semester/Year	Substitution?

Thesis Credits: (6 hrs) (Thesis option)

Course No.	Name	Hours	Semester(s)/Year (s)
GEOG 795	Thesis		

Course Electives (Non-thesis option): (12 hrs)

Course No.	Name	Hours	Semester/Year	Substitution?

Committee Members:

Member Type	Name	Signature/Date
Committee Chair		

Student Signature: _____ **Date:** _____

Course Substitution Form
Department of Geography and Regional Planning
Graduate Program

Date: _____ **Revised? (y/n)** _____

Student's Name: _____ **Student ID: @** _____

Track: _____ **Thesis or Portfolio Credits Req:** _____

Required Course	Substituted Course	Semester/Year	Reason for substitution

Comments:

Graduate Advisor Approval:

_____ (Graduate Advisor) _____ Date

Graduate Committee Approval:

_____ (Graduate Coordinator) _____ Date

Department Chair Approval:

_____ (Department Chair) _____ Date

Suggested Timeline Thesis Option

MS Geography

Recommended Thesis Timeline



IUPUI Department of Geography and Regional Planning
 Updated June 2018

Suggested timeline non-thesis option



MS Geography

Recommended Portfolio Timeline

Signature Page

My signature below indicates that I am responsible for reading and understanding the information provided and referenced in this department/program student handbook.

_____ [please initial] I understand my program coordinator may share this document with the School of Graduate Studies and Research.

Print Name

Signature

Date

Submit to Melissa Bair (mbair@iup.edu) by September 15, 2020

The Department of Geography and Regional Planning will keep this signed document on file.