GEOPHYSICS (GEOG)

Subject-area course lists indicate courses currently active for offering at the University of Louisville. Not all courses are scheduled in any given academic term. For class offerings in a specific semester, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm).

500-level courses generally are included in both the undergraduate- and graduate-level course listings; however, specific course/section offerings may vary between semesters. Students are responsible for ensuring that they enroll in courses that are applicable to their particular academic programs.

Course Fees

Some courses may carry fees beyond the standard tuition costs to cover additional support or materials. Program-, subject- and course-specific fee information can be found on the Office of the Bursar website (http://louisville.edu/bursar/tuitionfee).

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GEOG 500. Globalization Seminar 3 Units
Prerequisite(s): GEOG 300 or permission of instructor.
Description: A discussion-based course that focuses on current events, global economies, and cultural and environmental issues resulting from globalization.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 510. Urbanism in the Global South: Cities and Space 3 Units
Term Typically Offered: Spring Only
Description: This course is a reading-based seminar. We learn about processes and practices within the Latin American and African city from a spatial, cultural, economic and political perspective.
Note: Cross-listed with LALS 510 and UPA 652.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 520. Geography and Nutrition Among African and African-American Populations 3 Units
Prerequisite(s): Consent of instructor.
Description: Comparison of geographical conditions, food culture, technology and socioeconomic factors among Africans and African-Americans affecting health and nutrition.
Note: Previously cross-listed with PAS 560.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 521. Medical Geography 3 Units
Prerequisite(s): Faculty consent.
Description: Introduction to concepts, methods and tools used to investigate geographic aspects of health and disease. Application of concepts and methods through analysis of health, population and environmental data.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 522. GIS and Public Health 3 Units
Term Typically Offered: Occasionally Offered
Prerequisite(s): Consent of instructor.
Description: Application of tools and methods of analysis in geographic information systems (GIS) to public health. Use of ArcGIS software to manage and analyze health, census and spatial data.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 524. Food and Race 3 Units
Description: This course will serve as a critical analysis of the intersection between race and food/agriculture. Topics covered include: 1) production, preparation and consumption patterns; 2) food production during slavery and sharecropping; 3) modern day agricultural labor; 4) food and health; 5) food and borders; and 6) food and national identity.
Note: Cross-listed with PAS 605.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 529. Geography of Urban Issues 3 Units
Term Typically Offered: Fall Odd Years
Prerequisite(s): GEOG 328, GEOG 558 or comparable Urban Geography and GIS course.
Description: Advanced urban geography course with unique geographic perspective for integration of socioeconomic problems in America’s metropolitan areas.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 530. Transportation Geography 3 Units
Term Typically Offered: Fall Odd Years
Prerequisite(s): GEOG 200 or consent of instructor.
Description: An analysis of distribution and transportation systems as functional entities capable of introducing and reacting to change within the economic region.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 531. GIS & Urban Demographic Analysis 3 Units
Term Typically Offered: Spring Only
Prerequisite(s): GIS knowledge or concurrent tutorial.
Description: Demographic analysis through the use of GIS technology. Emphasis placed on metropolitan area characteristics including population change, segregation, ethnic settlement, social and economic stratification and commuting.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 535. GIS and Retail Site Analysis 3 Units
Term Typically Offered: Fall Only
Prerequisite(s): GIS knowledge or concurrent tutorial.
Description: Retail site analysis through use of GIS technology. Emphasis placed on market demand and supply characteristics. Physical site analysis, demographics, and competitive environment will be examined.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)
GEOG 536. Sustainable Transportation 3 Units
Term Typically Offered: Fall Even Years
Prerequisite(s): GEOG 200 or permission of instructor.
Description: The course looks into the problems of developing sustainable transportation systems. We will examine the environmental and human problems associated with transportation; including climate change, air quality, consumption of non-renewable resources, safety, congestion and social equity. We will also explore possible solutions to these problems, including pricing, planning, policy, technology and education.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 540. Geography and Human-Environment Interactions 3 Units
Description: The study of interactions between humans and the environment is inherently interdisciplinary and multi-scale; two of the hallmarks of contemporary geographic research. Students taking this course will be exposed to the theoretical underpinnings of both social and ecological aspects of research. Through in-class discussions of both seminal and contemporary peer-reviewed literature, students will be expected to engage in an interdisciplinary exploration of how studies of human-environment interactions have evolved from disciplinary roots into the large, complex and transdisciplinary projects commonly funded today and expected in the future.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 550. Geography and Human-Environment Interactions 3 Units
Term Typically Offered: Fall Only
Prerequisite(s): GEOS 200 or GEOS 301; PHYS 111 or equivalent (recommended).
Description: This course provides an introduction to the theory and application of remote sensing data with weekly lab reports for hands-on experience in the acquisition and utilization of remotely-sensed data in geographical/environmental research. This course prepares for GEOG 556.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 555. Remote Sensing 3 Units
Prerequisite(s): GEOG 550 or consent of instructor.
Description: Application of advanced techniques involved in the collection of digital imagery data from aircraft and spacecraft instruments.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 556. Advanced Remote Sensing 3 Units
Prerequisite(s): GEOG 555 or consent of instructor.
Description: Application of advanced techniques involved in the collection of digital imagery data from aircraft and spacecraft instruments.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 558. Introduction to Geographic Information Systems 3 Units
Term Typically Offered: Occasionally Offered
Description: Introduction to geographic information systems using ArcGIS software, management of relational databases, and manipulation and graphical output of digital geo-spatial data.
Note: May not be taken for credit if credit has been earned in GEOG 357 or GEOG 557.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 559. Advanced Geographic Information Systems 3 Units
Prerequisite(s): GEOG 558.
Description: Application of advanced GIS concepts to real-world projects. An emphasis will be placed on the development of a digital spatial database.
Note: Graduate students must arrange for an additional project for graduate credit.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 561. Urban Environmental Quality 3 Units
Prerequisite(s): Consent of instructor.
Description: A study of environmental aspects of urban areas and analysis of inter- and intra-city variations in environmental quality.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 590. Special Topics 3 Units
Description: Investigation of topics not offered in regular courses. Topic will be announced in Schedule of Courses.
Note: Offered as needed.
Note: May be repeated for different topics up to a limit of 12 hours.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 599. Directed Readings in Geography 1-4 Units
Prerequisite(s): Advanced courses in geography or related fields; permission of major department.
Description: Supervised readings centered around a specific region or topical field for advanced work.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 600. History and Philosophy of Geography 3 Units
Description: An exploration of the history of geographic thought and the paradigms that have shaped geography since the late nineteenth century.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 620. Geography & Nutrition Among African and African-American Populations 3 Units
Description: An in-depth examination of the nutritional status of Africans, African Americans and persons of African descent. The course will focus on comparison of epidemiological transition, political economy of nutrition, politics of food welfare programs, food aid, over-nutrition (obesity), under-nutrition and dietary-related diseases among African Americans, Africans and persons including blacks in the Diaspora.
Note: Cross-listed with PAS 660.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)
GEOG 628. Planning History and Issues
Prerequisite(s): Consent of instructor.
Description: The history of planning and contemporary issues with an emphasis on roles of planners, zoning and law.
Note: Cross-listed with PLAN 600.

For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 631. Urban Demography
Prerequisite(s): Graduate standing.
Description: Spatial analysis of the distribution, characteristics, growth, and change of the population of a metropolitan area.
Note: Cross-listed with PLAN 618.

For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 635. Real Estate Market Analysis
Prerequisite(s): GEOG 327 or Urban Economics or consent of the instructor.
Description: Covers concepts, methodologies and analytical tools used in urban real estate market analysis, with a particular emphasis on site selection using GIS applications.
Note: Cross-listed with PLAN 614.

For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 640. Approaches & Methods in Applied Geography
Description: Examination of concepts and methods used by applied geographers.

For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 641. Research Design and Proposal Development in Applied Geography
Prerequisite(s): GEOG 600, GEOG 640, GEOG 656, GEOG 660
Description: Provides students with the background needed to design a research study and develop a research proposal and culminates in development of thesis proposal.

For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 656. Advanced Spatial Statistics in Applied Geography
Prerequisite(s): Statistics course.
Description: The analysis of spatial patterns and processes through the use of spatially-based statistics.
Note: Cross-listed with PLAN 615.

For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 660. Qualitative Methods in Applied Geography
Description: An examination of the philosophical underpinnings of the qualitative approach with practical experience in conducting qualitative research.

For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 665. Introduction to Programming for GIS and Spatial Data Analysis for Graduate Students
Description: There are two primary goals for this course. First, students will learn introductory computer programming concepts and features. Students will deconstruct examples from a variety of programming and scripting languages (primarily Python, R, VBA, and IDL), learning how to identify common logic, flow control and syntactic features. Students will learn the purpose of these structures and how to start using the programming and scripting environments of common statistics, geographic information systems (GIS) and remote sensing (RS) platforms.

For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 690. Special Topics
Description: Investigation of topics not offered in regular courses. Topic will be announced in Schedule of Courses. Offered as needed.
Note: May be repeated for different topics up to a limit of 12 hours.

For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 691. Research and Independent Study
Prerequisite(s): Permission of instructor.
Description: Reading, research, and writing of thesis under the supervision of a faculty member.
For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)

GEOG 698. Thesis
Prerequisite(s): Permission of instructor.
Description: Reading, research, and writing of thesis under the supervision of a faculty member.

For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)