

# Course Frequency and Term List

THIS LIST IS A GUIDELINE AND IS SUBJECT TO CHANGE WITHOUT NOTICE. IT IS PROVIDED TO STUDENTS FOR PLANNING PURPOSES AND IS USED IN CREATING SCHEDULES, BUT IS NOT A GUARANTEE OF FUTURE COURSE OFFERINGS!

## Expected Frequency and Term

<b>G&amp;ES</b>	<b>Introduction to Geography</b>	Always	Fall	Spring	Sum
<i>Spatial patterns, processes, and interrelationships of human and natural phenomenon on the Earth's surface, from the local to the global scale. Survey of the geographers' practical methods for understanding the world. Includes map interpretation.</i>					
<b>Prereq(s):</b>	<b>Prereq For:</b>	344			Many
<b>G&amp;ES 109a</b>	<b>Chi Geog: Global Chicago (Freshman Exp)</b>	Annually	Fall	Spring	Sum
<i>An introductory course in urban geography that provides a broad overview of the Chicago metropolitan area in the global context. Students explore the role of Chicago as a hub in the global economy, as well as many different ways that global forces have impacted social relations</i>					
<b>Prereq(s):</b>	<b>Prereq For:</b>	347 355 361 348			Schmidt
<b>G&amp;ES 109b</b>	<b>FS: Environmental Chicago</b>	Twice a Year	Fall	Spring	Sum
<i>Discovery of the Chicago area as a diverse, complex, and unique bioregion, and discovery of the student's own strengths in the pursuit of academic success and personal development. Topics include landforms, soils, native and invasive species, climate and weather, water resources,</i>					
<b>Prereq(s):</b>	<b>Prereq For:</b>	should be for some			Jones
<b>G&amp;ES 150</b>	<b>Intro to Env. Studies</b>	Always	Fall	Spring	Sum
<i>Introduction to basic concepts of Environmental Studies, including natural processes, human impact on the environment, environmental management and policy, and innovative solutions. Global, regional, and local issues.</i>					
<b>Prereq(s):</b>	<b>Prereq For:</b>	329 335 359 341 342 344			Many
<b>G&amp;ES 205</b>	<b>PG I: Fundamentals</b>	Twice a Year	Fall	Spring	Sum
<i>Introductory survey of the earth's physical environment including earth-sun relationships, interrelationships of climate, soil, and vegetation, and landforms.</i>					
<b>Prereq(s):</b>	<b>Prereq For:</b>	344 339 371 368			Mostek
<b>G&amp;ES 212</b>	<b>Economic Geography</b>	Every Two Years	Fall	Spring	Sum
<i>Exploration of how societies organize economic activities in space at the local, regional and global levels. Students learn how basic geographic frameworks, concepts, explanations, and analytical tools show how space and location are critical elements affecting economic systems and</i>					
<b>Prereq(s):</b>	<b>Prereq For:</b>	316			Schmidt
<b>G&amp;ES 213</b>	<b>Cultural Geography</b>	Every Two Years	Fall	Spring	Sum
<i>Study of the cultural landscape: investigating and analyzing the patterns of language, religion, ethnicity, gender and livelihoods as they vary from region to region.</i>					
<b>Prereq(s):</b>	<b>Prereq For:</b>				Good
<b>G&amp;ES 217</b>	<b>Urban Geography</b>	Annually	Fall	Spring	Sum
<i>A survey course in urban geography focusing on processes and outcomes of urbanization. The course will address the dramatic changes unfolding in the metropolitan landscape and will encourage students to develop a deeper and more nuanced understanding of cities and urban</i>					
<b>Prereq(s):</b>	<b>Prereq For:</b>	347 355 361 348			Grammenos
<b>G&amp;ES 218</b>	<b>Conservation of Natural Resources</b>	Annually	Fall	Spring	Sum
<i>Contemporary approaches toward understanding and management of natural resources: air, water, minerals, soil, forests, grasslands, and wildlife.</i>					
<b>Prereq(s):</b>	<b>Prereq For:</b>	319 327 328 329 335 359 319 327 328			Banerjee

Prerequisites may be waived on a case-by-case basis. Often one of several courses will satisfy a prerequisite.

THIS LIST IS A GUIDELINE AND IS SUBJECT TO CHANGE WITHOUT NOTICE. IT IS PROVIDED TO STUDENTS FOR PLANNING PURPOSES AND IS USED IN CREATING SCHEDULES, BUT IS NOT A GUARANTEE OF FUTURE COURSE OFFERINGS!

**Expected Frequency and Term**

<b>G&amp;ES 220 Pollution Control and Prevention</b> <i>Introduction to environmental pollution including that involving air, water, solid waste, and noise. Methods of measurement and analysis are covered, as well as legal and economic factors and possible solutions.</i>	Every Two Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b> 329 335 359			Banerjee
<b>G&amp;ES 240 Water Resources and Development</b> <i>Survey of global water distribution, management, pollution, conservation, conflict, and policy. Students will study measures taken to provide adequate water quality and quantity throughout the U.S. and in other world regions.</i>	Annually	Fall <input checked="" type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b> 341 342			Qutub
<b>G&amp;ES 250 Writing Within the Discipline</b>	Annually	Fall <input checked="" type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b>			Schmidt
<b>G&amp;ES 291 GIS Across Disciplines</b> <i>This course introduces students from many disciplines to the use of a Geographic Information Systems (GIS) as a tool for storage, display, and analysis of any information for which a location is known. GIS integrates information drawn from many sources by using their location as a</i>	Annually	Fall <input checked="" type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b> 390			Mihir
<b>G&amp;ES 302C RG: Africa</b> <i>See 302B</i>	Every Three Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b>			Schmidt
<b>G&amp;ES 302D RG: World Oceans</b> <i>See 302B</i>	Every Two Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b>			Mostek
<b>G&amp;ES 302F Australia and Pacific Islands</b> <i>See 302B</i>	Every Three Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b>			Schmidt
<b>G&amp;ES 302G RG: Caribbean</b> <i>See 302B</i>	Infrequently	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b>			Grammenos
<b>G&amp;ES 302H RG: Eastern Europe</b> <i>See 302B</i>	Every Two Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b>			Mostek
<b>G&amp;ES 302K RG: East Asia</b> <i>See 302B</i>	Every Three Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b>			Mostek

Prerequisites may be waived on a case-by-case basis. Often one of several courses will satisfy a prerequisite.



THIS LIST IS A GUIDELINE AND IS SUBJECT TO CHANGE WITHOUT NOTICE. IT IS PROVIDED TO STUDENTS FOR PLANNING PURPOSES AND IS USED IN CREATING SCHEDULES, BUT IS NOT A GUARANTEE OF FUTURE COURSE OFFERINGS!

**Expected Frequency and Term**

<b>G&amp;ES 303A Social Geography</b> <i>This course introduces students to major theoretical concepts and research approaches in the geographical subfield of social geography. It investigates the ways in which social relations and spatial practices are linked in the contemporary world by examining such categories as gender,</i>	Every Two Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a b 2
<b>Prereq(s):</b> New	<b>Prereq For:</b>	Grammenos			
<b>G&amp;ES 305 Geography and Map Skills for Teachers</b> <i>focuses on five main themes in geography; methods and materials to teach the themes in K-12 classes. Map skills and instructional strategies will also be presented.</i>	Annually	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a b 2
<b>Prereq(s):</b>	<b>Prereq For:</b>	Good			
<b>G&amp;ES 306 Topics in Env. Studies</b> <i>A current topic in Environmental Studies will be explored in depth. See Schedule of Classes, course notes, and consult the department for more information.</i>	Anytime	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a b 2
<b>Prereq(s):</b>	<b>Prereq For:</b>				
<b>G&amp;ES 307 Environmental Education Seminar</b> <i>Analysis and development of environmental education instructional materials and teaching strategies. Seminar focus varies depending on the interests of the participants.</i>	Possible	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a b 2
<b>Prereq(s):</b>	<b>Prereq For:</b>	Good			
<b>G&amp;ES 309 Principles and Methods of Env. Interpretat</b> <i>Naturalists and environmental educators learn how to interpret the environment to others in park and camp settings; philosophy, organization, administration, and program methods such as management of field trips, nature trails, campfire programs, overnight camping, and trailside</i>	Every Three Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a b 2
<b>Prereq(s):</b>	<b>Prereq For:</b>				
<b>G&amp;ES 314 Political Geography</b> <i>The relationship between geographical factors of the physical and human environments and political organization. Topics include territorial claims and conflicts, defining borders and districts, spatial patterns of legislation, development and devolution of nations and changing</i>	Every Two Years	Fall <input checked="" type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a b 2
<b>Prereq(s):</b>	<b>Prereq For:</b>	Mostek			
<b>G&amp;ES 316 Location Analysis</b> <i>Use of location theory and economic modeling to understand spatial patterns of land use and to determine optimal spatial arrangements relating to location of businesses, services, resources, and trade. Environmental influences and impacts are discussed. Prereq: 212</i>	Infrequently	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a b 2
<b>Prereq(s):</b> 212 or grad	<b>Prereq For:</b>	Howenstine			
<b>G&amp;ES 319 Environmental and Natural Resources Polic</b> <i>Physical, economic, social and political factors involved in policy determination and planning for natural resource development; emphasis upon relations between public and private enterprise and policies for international resource development.</i>	Annually	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a b 2
<b>Prereq(s):</b> 218	<b>Prereq For:</b>	Banerjee			
<b>G&amp;ES 322 Aerial Photographic Interpretation</b> <i>Development and use of aerial photographs for evaluating natural and built environments. Visual identification of social and economic activities and landforms using digital images. and built environments. Visual identification of social and</i>	Annually	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a b 2
<b>Prereq(s):</b>	<b>Prereq For:</b> 390	Qutub			
<b>G&amp;ES 327 Forest Resources Management</b> <i>Forest values, management, policies, and practices for public and private lands, including national wilderness areas, parks, and forests as well as urban parks and forests. Prereq.: GES 218.</i>	Every Two Years	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a b 2
<b>Prereq(s):</b> 218	<b>Prereq For:</b>				

Prerequisites may be waived on a case-by-case basis. Often one of several courses will satisfy a prerequisite.

THIS LIST IS A GUIDELINE AND IS SUBJECT TO CHANGE WITHOUT NOTICE. IT IS PROVIDED TO STUDENTS FOR PLANNING PURPOSES AND IS USED IN CREATING SCHEDULES, BUT IS NOT A GUARANTEE OF FUTURE COURSE OFFERINGS!

**Expected Frequency and Term**

<b>G&amp;ES 328 Wildlife Resources Management</b> <i>General wildlife management course for resource planners, interpretative naturalists, and educators. Fish and wildlife values, conservation principles and practices, and current policy issues.</i>	Every Two Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b> 218	<b>Prereq For:</b>	Schmidt		
<b>G&amp;ES 329 Alternative Energy: Policy and Practice</b> <i>Study of renewable energy resources as alternatives to nuclear energy and the traditional fossil fuels; the use of sunlight, wind, water, and biomass for energy; policy options and issues in implementing such alternative technologies. Prereq.: GES150 or GES 218.</i>	Every Two Years	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input checked="" type="checkbox"/>
<b>Prereq(s):</b> 150 or 218 or 220	<b>Prereq For:</b>	Banerjee		
<b>G&amp;ES 336 Solid Waste Issues</b> <i>Examination of trends in municipal solid waste generation, collection, disposal, and management. Discussion of the roles of federal, state, county, and state governments, with a review of national and international waste issues. Prereq.: GES 150 or GES 218 or GES 220.</i>	Every Three Years	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input checked="" type="checkbox"/>
<b>Prereq(s):</b> 150 or 218 or 220	<b>Prereq For:</b>	Qutub		
<b>G&amp;ES 338 Sustainable Development</b> <i>TEMPORARY DESCRIPTION: This is a critical review of "sustainable development" in theory and practice in the developed and developing worlds. Policy tools and options are discussed to move economic planning in a more sustainable direction so that employment and material welfare</i>	Every Two Years	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input checked="" type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b>	Banerjee		
<b>G&amp;ES 339 Geography of Energy Resources (NEW NA)</b> <i>Examination of the changing spatial patterns of the distribution, consumption, and transportation of fossil fuels. Investigation of new technologies and management strategies against the background of a finite resource base. Several sessions to be held in the field.</i>	Every Two Years	Fall <input checked="" type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b> 205 or 206*	<b>Prereq For:</b>	Qutub		
<b>G&amp;ES 341 Field Methods in Water Resources</b> <i>Field exploration of potable water treatment facilities in urban and rural settings. Students will visit municipal treatment plants and distribution systems as well as smaller-scale operations, such as private wells and small municipal water plants. Methods of water acquisition, treatment, and</i>	Every Three Years	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input checked="" type="checkbox"/>
<b>Prereq(s):</b> 150 OR 240	<b>Prereq For:</b>	Qutub		
<b>G&amp;ES 342 Water Quality Treatment and Standards</b> <i>Field exploration of waste and drinking water treatment facilities in urban and rural settings. Water intake, treatment, and distribution, and sewerage system collection methods will be explored. Alternate methods used elsewhere will be discussed.</i>	Every Three Years	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input checked="" type="checkbox"/>
<b>Prereq(s):</b> 150 OR 240	<b>Prereq For:</b>	Qutub		
<b>G&amp;ES 344 Chicago River Issues</b> <i>This field class explores the geographic, environmental, historic, economic, engineering, recreational, and other aspects of the Chicago River. Students will study water quality, land use and ownership issues, habitat restoration, and the importance of rivers in metropolitan areas.</i>	Annually	Fall <input checked="" type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b> 104 or 150 or 205	<b>Prereq For:</b>	Jones		
<b>G&amp;ES 345 Social Geography</b>	Every Two Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b>	Grammenos		
<b>G&amp;ES 346 Geography of Metropolitan Chicago</b> <i>Detailed study of communities within Chicago and its surrounding area, of communities within Chicago and its suburbs in Illinois; field trips. (To be renamed: Global Chicago) To rename GLOBAL CHICAGO</i>	Every Two Years	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input checked="" type="checkbox"/>
<b>Prereq(s):</b>	<b>Prereq For:</b>	Grammenos		

Prerequisites may be waived on a case-by-case basis. Often one of several courses will satisfy a prerequisite.

THIS LIST IS A GUIDELINE AND IS SUBJECT TO CHANGE WITHOUT NOTICE. IT IS PROVIDED TO STUDENTS FOR PLANNING PURPOSES AND IS USED IN CREATING SCHEDULES, BUT IS NOT A GUARANTEE OF FUTURE COURSE OFFERINGS!

**Expected Frequency and Term**

**G&ES 347 Gentrification and Urban Redevelopment** Every Two Years Fall Spring Sum  
*Issues and principles of urban neighborhood preservation, revitalization, restoration and gentrification emphasizing public and private market initiatives. Field work in the Chicago metropolitan area using various methods of surveying, collecting, recording and processing data.*      
 1a b 2  
**Prereq(s):** 217 or 109a **Prereq For:** Grammenos

**G&ES 348 Latino Metropolis** Possible Fall Spring Sum  
     
 1a b 2  
**Prereq(s):** 217 or 109a **Prereq For:** Grammenos

**G&ES 349 Environment and Urbanization** Every Two Years Fall Spring Sum  
*Description will be added.*      
 1a b 2  
**Prereq(s):** **Prereq For:** Grammenos

**G&ES 351 Spatial Statistics** Annually Fall Spring Sum  
*Introduction to statistical problems, principles, and techniques for the study of geography and the natural environment.*      
 1a b 2  
**Prereq(s):** **Prereq For:** Mihir

**G&ES 352 Independent Study 3 cr** Anytime Fall Spring Sum  
*Study of a topic of special interest to the student under the supervision of a faculty member. See the department policy on independent studies.*      
 1a b 2  
**Prereq(s):** Approval, 9 hr **Prereq For:**

**G&ES 353 Independent Study 2cr** Anytime Fall Spring Sum  
*Study of a topic of special interest to the student under the supervision of a faculty member. See the department policy on independent studies.*      
 1a b 2  
**Prereq(s):** Approval, 9 hr **Prereq For:**

**G&ES 354 Independent Study 1 cr** Anytime Fall Spring Sum  
*Study of a topic of special interest to the student under the supervision of a faculty member. See the department policy on independent studies.*      
 1a b 2  
**Prereq(s):** Approval, 9 hr **Prereq For:**

**G&ES 355 Metropolitan Transportation: Problems/Pla** Possible Fall Spring Sum  
*Problems of transportation in cities, focusing on commuting, expressway development, automobile vs. public transportation, pollution, congestion, and relative location of jobs and workers. Emphasis on planning more effective transportation systems, particularly in the Chicago area.*      
 1a b 2  
**Prereq(s):** 217 or 109a **Prereq For:**

**G&ES 357 Geography of Natural Hazards** Every Two Years Fall Spring Sum  
*Study of the location, impact, causes, and mitigation of natural hazards such as earthquakes, volcanoes, flooding, landslides, subsidence, erosion, extreme weather, wildfire, and tsunamis. Local field trips possible.*      
 1a b 2  
**Prereq(s):** **Prereq For:** Mostek

**G&ES 359 Environmental Planning** Annually Fall Spring Sum  
*Principles of land development with emphasis on opportunities and limitations imposed by the physical environment; concepts of land ownership, tenure and use; ecological and environmental analysis; techniques of site design.*      
 1a b 2  
**Prereq(s):** 150 or 218 or 220 **Prereq For:** Banerjee

Prerequisites may be waived on a case-by-case basis. Often one of several courses will satisfy a prerequisite.

THIS LIST IS A GUIDELINE AND IS SUBJECT TO CHANGE WITHOUT NOTICE. IT IS PROVIDED TO STUDENTS FOR PLANNING PURPOSES AND IS USED IN CREATING SCHEDULES, BUT IS NOT A GUARANTEE OF FUTURE COURSE OFFERINGS!

**Expected Frequency and Term**

<b>G&amp;ES 360 Environmental Justice and Activism</b> <i>Students investigate the history and process of environmental equity, grassroots activism, legislation and lobbying, and community organization. Field trips and guest lectures.</i>	Every Two Years	Fall <input checked="" type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a	<input type="checkbox"/> b	<input type="checkbox"/> 2	Banerjee
<b>Prereq(s):</b>	<b>Prereq For:</b>							
<b>G&amp;ES 361 Urban Planning</b> <i>City planning process; historical development of urban planning in the United States; basic components of a comprehensive plan; planning theory and practice; implementation procedures; social planning.</i>	Every Two Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a	<input type="checkbox"/> b	<input type="checkbox"/> 2	Jones
<b>Prereq(s):</b> 217 or 109a	<b>Prereq For:</b>							
<b>G&amp;ES 362 Population Geography</b> <i>Population structure, of population; elements of population change such as birth, death, and migration; short and long term problems of local and global nature.</i>	Every Three Years	Fall <input checked="" type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a	<input type="checkbox"/> b	<input type="checkbox"/> 2	Good
<b>Prereq(s):</b>	<b>Prereq For:</b>							
<b>G&amp;ES 367 Geography of Tourism</b> <i>A geographic and environmental inquiry into the tourism industry at the local to global scales. Topics include the historical development of tourism, the economic costs and benefits, employment concerns, political implications of tourism, the social-cultural consequences between host and</i>	Every Three Years	Fall <input checked="" type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a	<input type="checkbox"/> b	<input type="checkbox"/> 2	Good
<b>Prereq(s):</b>	<b>Prereq For:</b>							
<b>G&amp;ES 368 Changing Global Climates</b> <i>This course explores the normal cycles and also the changing patterns of global climates. Attention is given to both natural phenomena, such as El Nino, and human impacts on climate from deforestation, ozone depletion, and the greenhouse effect.</i>	Every Two Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a	<input type="checkbox"/> b	<input type="checkbox"/> 2	Mostek
<b>Prereq(s):</b> 205 o 206*	<b>Prereq For:</b>							
<b>G&amp;ES 371 Physical Geography: Advanced Topics</b> <i>Advanced topics in Physical Geography, including geomorphology, coastal landforms, biomes, diastrophism, weathering, weather and climate.</i>	Every Two Years	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a	<input type="checkbox"/> b	<input type="checkbox"/> 2	Mostek
<b>Prereq(s):</b> 205 or 206*	<b>Prereq For:</b>							
<b>G&amp;ES 374 Research Methods</b> <i>Students will develop a variety of quantitative and qualitative research skills by way of case studies, historical research, and discussion. Students will conduct their own original research, using appropriate methods.</i>	Twice a Year	Fall <input checked="" type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a	<input type="checkbox"/> b	<input type="checkbox"/> 2	Jones
<b>Prereq(s):</b>	<b>Prereq For:</b>							
<b>G&amp;ES 376 Principles of Cartography</b> <i>Principles of map making; history of cartography, modern techniques, projections, symbolization, visual appeal, thematic map design, production, and interpretation.</i>	Possible	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>	<input type="checkbox"/> 1a	<input type="checkbox"/> b	<input type="checkbox"/> 2	
<b>Prereq(s):</b>	<b>Prereq For:</b>							
<b>G&amp;ES 377 Computer Cartography</b> <i>Students will design, create, and publish a variety of thematic maps using cartographic conventions and effective symbology with digital graphics programs.</i>	Twice a Year	Fall <input type="checkbox"/>	Spring <input checked="" type="checkbox"/>	Sum <input type="checkbox"/>	<input checked="" type="checkbox"/> 1a	<input type="checkbox"/> b	<input type="checkbox"/> 2	Howenstine
<b>Prereq(s):</b>	<b>Prereq For:</b> 387							
<b>G&amp;ES 380 Field Methods</b> <i>Introduction to the instruments, measurements, mapping techniques, and sampling procedures used to acquire primary data from field observations. Development of a field research plan, culminating in research projects tailored to each student's interest.</i>	Annually	Fall <input type="checkbox"/>	Spring <input type="checkbox"/>	Sum <input type="checkbox"/>	<input checked="" type="checkbox"/> 1a	<input type="checkbox"/> b	<input type="checkbox"/> 2	Mostek
<b>Prereq(s):</b>	<b>Prereq For:</b>							

Prerequisites may be waived on a case-by-case basis. Often one of several courses will satisfy a prerequisite.

THIS LIST IS A GUIDELINE AND IS SUBJECT TO CHANGE WITHOUT NOTICE. IT IS PROVIDED TO STUDENTS FOR PLANNING PURPOSES AND IS USED IN CREATING SCHEDULES, BUT IS NOT A GUARANTEE OF FUTURE COURSE OFFERINGS!

**Expected Frequency and Term**

<b>G&amp;ES 382 Remote Sensing</b> <i>Remote sensing of the Earth's surface utilizing passive and active sensors. Techniques of photography and multispectral scanning from airplane, satellite, and manned spacecraft are discussed, as are methods of interpreting images. Emphasis is placed on practical applications.</i>	Infrequently	Fall	Spring	Sum	
<b>Prereq(s):</b>	<b>Prereq For:</b> 390	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1a b 2
<b>G&amp;ES 383 Internship in G&amp;ES (3 cr)</b> <i>Supervised field experience with an agency related to the student's career interest. Prior course work and other experience are evaluated before approval is granted to enroll in the internship. A handout to guide the internship is available. 180 work hours.</i>	Anytime	Fall	Spring	Sum	
<b>Prereq(s):</b>	<b>Prereq For:</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1a b 2
<b>G&amp;ES 386 Internship 6 cr</b> <i>(See G&amp;ES-383 for course description; 320 work hours)</i>	Anytime	Fall	Spring	Sum	
<b>Prereq(s):</b>	<b>Prereq For:</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1a b 2
<b>G&amp;ES 387 Interactive Cartography</b> <i>Advanced cartographic techniques for web delivery of interactive maps. Basic coding and script modification for interactive map images, preparation of base maps and data. Emphasis is placed on widely available open source tools.</i>	Every Two Years	Fall	Spring	Sum	
<b>Prereq(s):</b> 377	<b>Prereq For:</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1a b 2 Howenstine
<b>G&amp;ES 388 Field Camp</b> <i>Consult the Schedule of Classes for specific destination and costs for this travel-based course. Students will perform a research project in a classroom setting prior to travel, and will meet for discussion and presentations of field work afterwards.</i>	Possible	Fall	Spring	Sum	
<b>Prereq(s):</b>	<b>Prereq For:</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1a b 2
<b>G&amp;ES 388A Regional Research (Belize)</b> <i>See Description for 388.</i>	Possible	Fall	Spring	Sum	
<b>Prereq(s):</b> Sophmore, Approval	<b>Prereq For:</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1a b 2 Hill
<b>G&amp;ES 389 Urban Design Studio</b> <i>This studio course presents perspectives, standards and techniques which integrate cultural, economic, political and social dimensions of urban life in the formulation and representation of urban plans and projects. Students gain an appreciation for theoretical and applied dimensions of</i>	Every Two Years	Fall	Spring	Sum	
<b>Prereq(s):</b>	<b>Prereq For:</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1a b 2 Grammenos
<b>G&amp;ES 390 Digital Image Processing</b> <i>Basic principles of remote sensing and digital image processing. Major emphasis will be given to data collection, processing and analysis for environmental issues. Students will use image processing software to map and analyze data.</i>	Annually	Fall	Spring	Sum	
<b>Prereq(s):</b> 291or391or322or382	<b>Prereq For:</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1a b 2 Mihir
<b>G&amp;ES 391 Geographic Information Systems I</b> <i>An introduction to GIS technology for research applications. Students will study the conceptual and technical process of GIS research including project design, data acquisition, data manipulation, analysis, interpretation and display. Approved for graduate credit.</i>	Annually	Fall	Spring	Sum	
<b>Prereq(s):</b>	<b>Prereq For:</b> 392 393 390	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1a b 2 Howenstine
<b>G&amp;ES 392 GIS II</b> <i>Description: Students will learn advanced skills in Geographic Information Systems, including tablet digitizing, registration, projections and transformations, spatial analytical tools, advanced editing, project design, project organization, data acquisition and metadata. Available for</i>	Annually	Fall	Spring	Sum	
<b>Prereq(s):</b> 391	<b>Prereq For:</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1a b 2 Mihir

Prerequisites may be waived on a case-by-case basis. Often one of several courses will satisfy a prerequisite.

THIS LIST IS A GUIDELINE AND IS SUBJECT TO CHANGE WITHOUT NOTICE. IT IS PROVIDED TO STUDENTS FOR PLANNING PURPOSES AND IS USED IN CREATING SCHEDULES, BUT IS NOT A GUARANTEE OF FUTURE COURSE OFFERINGS!

**Expected Frequency and Term**

**G&ES 393 GIS 3** Annually Fall Spring Sum  
*this course focuses on advanced analysis of GIS data using scripts and programming. It includes 3D visualization, interpolation, and modeling, with industry standard and open source GIS software. All aspects of data processing, analysis and programming will be explored.*      
 1a b 2  
**Prereq(s):** 391 **Prereq For:** Mihir

**G&ES 395 Internship in GIS** Anytime Fall Spring Sum  
*160 work-hour internship in Geospatial industry. Contact advisor for more information.*      
 1a b 2  
**Prereq(s):** **Prereq For:**

**G&ES 395 Internship in GIS** Anytime Fall Spring Sum  
*Supervised field experience using geospatial technologies. A formal proposal and reports are required. See department materials for specific guidelines and instructions.*      
 1a b 2  
**Prereq(s):** **Prereq For:**

**G&ES 401 Seminar in Cultural Geography** Every Three Years Fall Spring Sum  
*Selected theories and methodologies of cultural geography and the current trends within the discipline; students prepare a seminar paper that incorporates the concepts of a specific approach applied to a local phenomenon.*      
 1a b 2  
**Prereq(s):** **Prereq For:** Grammenos

**G&ES 411 Scope and Philosophy of G&ES** Annually Fall Spring Sum  
*Historical development of geography as a spatial discipline. History of conservation and modern environmentalism. Relationship between these two fields, and overview of the M.A. program and graduate level studies.*      
 1a b 2  
**Prereq(s):** **Prereq For:** Grammenos

**G&ES 415 Geospatial Data Analysis** Infrequently Fall Spring Sum  
*Use of modern technologies in preparation of thematic maps, and an overview of spatial analysis with geographic information systems. Topics include data collection, input, storage, retrieval, manipulation and output*      
 1a b 2  
**Prereq(s):** **Prereq For:** 416 417

**G&ES 416 GIS for Natural Systems Management** Every Two Years Fall Spring Sum  
*Theory and concepts of data storage, retrieval, visualization, modelling, and output for natural resource applications and management. Students will develop spatial analysis techniques for environmental data, culminating in independently designed research projects.*      
 1a b 2  
**Prereq(s):** 391 OR 415 **Prereq For:** Mihir

**G&ES 417 Urban Information Systems** Every Two Years Fall Spring Sum  
*Analysis of urban environment with GIS. Use of public data to study urban processes such as suburbanization, segregation, economic development, network-based transportation and site location. Student exploration will culminate in a research project of the student's selection.*      
 1a b 2  
**Prereq(s):** 391 OR 415 **Prereq For:** Mihir

**G&ES 430 Research Paper** Any time Fall Spring Sum  
*Students conduct research and write a research paper on an approved topic to fulfill requirements for the Master of Arts degree. Credit for this course and G&ES 431 Thesis Seminar, will not be permitted. See departmental policies.*      
 1a b 2  
**Prereq(s):** **Prereq For:**

**G&ES 431 Thesis Seminar** Any time Fall Spring Sum  
*Students conduct research and write a thesis to fulfill requirements for the Master of Arts degree. Credit for this course and 430 will not be permitted. See department policies.*      
 1a b 2  
**Prereq(s):** **Prereq For:**

Prerequisites may be waived on a case-by-case basis. Often one of several courses will satisfy a prerequisite.

THIS LIST IS A GUIDELINE AND IS SUBJECT TO CHANGE WITHOUT NOTICE. IT IS PROVIDED TO STUDENTS FOR PLANNING PURPOSES AND IS USED IN CREATING SCHEDULES, BUT IS NOT A GUARANTEE OF FUTURE COURSE OFFERINGS!

**Expected Frequency and Term**

**G&ES 435 Seminar in Physical Geography** Every Two Years Fall Spring Sum  
*Principles, models and theories of physical geography and applied study of different landscapes. Readings and discussions.*       
 1a b 2

Prereq(s): Prereq For: Mihir

**G&ES 435 Sem: Physical Geography** Every Two Years Fall Spring Sum  
*new*       
 1a b 2

Prereq(s): Prereq For:

**G&ES 437 Seminar: Global Wildlife Issues** Every Two Years Fall Spring Sum  
      
 1a b 2

Prereq(s): Prereq For: Schmidt

**G&ES 441 Qualitative Research Methods in G&ES** Every Two Years Fall Spring Sum  
*The course introduces students to qualitative research methods used in geography and environmental studies to explore complex social and human-environmental relations. Students will learn various qualitative methods, each of which links theory and literature to the research project.*       
 1a b 2

Prereq(s): Prereq For:

**G&ES 442 Quantitative - Stats at Grad Level** Every Two Years Fall Spring Sum  
*Statistical applications in geography and environmental studies; reliability of quantitative formulas and studies; geometrics; statistical project required as part of the course.*       
 1a b 2

Prereq(s): Prereq For: Mihir

**G&ES 443F Seminar: ULUP Business Dist Redevelop** DELETE Fall Spring Sum  
*WILL CHANGE TO GENTRIFICATION. DESCRIPTION WILL BE ADDED.*       
 1a b 2

Prereq(s): Prereq For: Grammenos

**G&ES 444T Regional: Third World Issues** RENUMBER to 47 Fall Spring Sum  
*Description will be added.*       
 1a b 2

Prereq(s): Prereq For: Grammenos

**G&ES 445 Seminar in Resource Management and Deci** Possible Fall Spring Sum  
*Research seminar involving the principles of decision-making as utilized in the field of resource management; application of these principles through research projects conducted in the Chicago metropolitan area.*       
 1a b 2

Prereq(s): Prereq For:

**G&ES 446E Sem: Env. Planning** RENUMBER to 45 Fall Spring Sum  
*Description will be added.*       
 1a b 2

Prereq(s): Prereq For: Banerjee

**G&ES 446J Sem; Env. Legislation and Lobbying** RENUMBER to 45 Fall Spring Sum  
*In-depth exploration of U.S. environmental law and policy. Basic concepts in environmental law and its evolution in the U.S, with emphasis on policy debates such as decentralization, market-based mechanisms, risk-based analysis and environmental justice.*       
 1a b 2

Prereq(s): Prereq For: Banerjee

Prerequisites may be waived on a case-by-case basis. Often one of several courses will satisfy a prerequisite.



