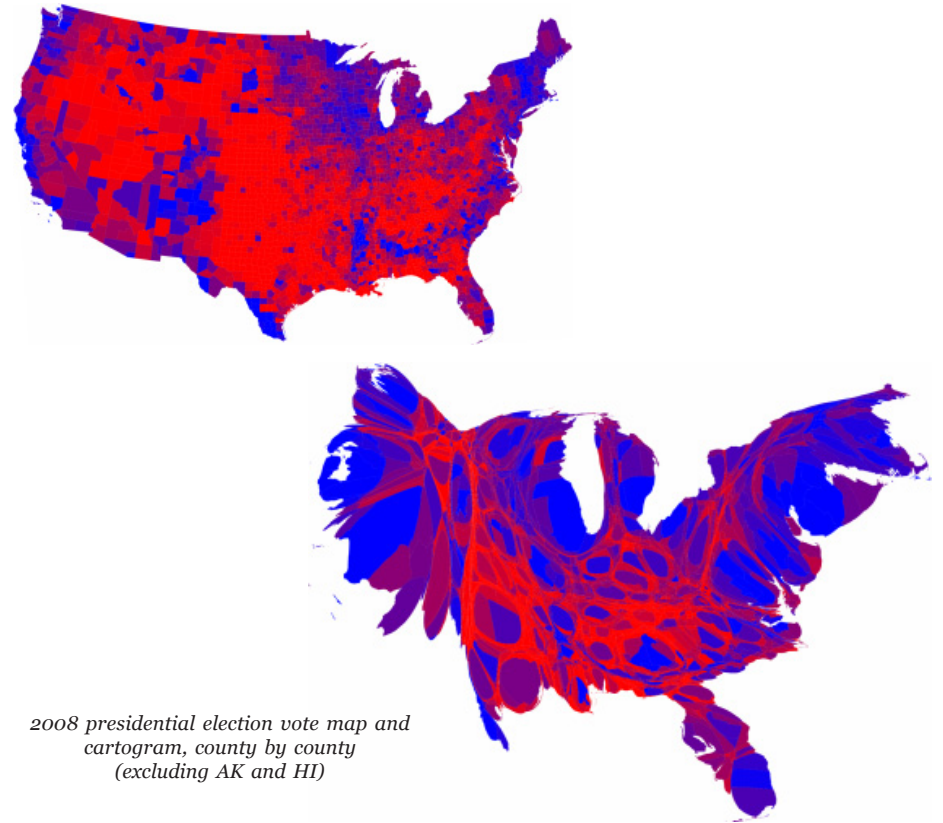


DEPARTMENT of GEOGRAPHY
University of Wisconsin-Madison

CATALOG OF COURSE
DESCRIPTIONS



*2008 presidential election vote map and
cartogram, county by county
(excluding AK and HI)*

Spring 2008-09

550 N. Park St., Madison, WI 53706-1491

ph: (608) 262-2138 fax: (608) 265-3991

email: geography@geography.wisc.edu

Geography Home Page: <http://www.geography.wisc.edu>

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Geography Courses Taught This Semester by Our Faculty

Amy Burnicki	170, 970	Lisa Naughton	339
James Burt	360, 676	Kristopher Olds	302, 305
William Cronon	(History)	Robert Ostergren	349
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Robert Kaiser	501/901, 918	A-Xing Zhu	377, 578
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Joseph Mason	127, 329		

Our Faculty

AMY BURNICKI, 375 Science Hall, 262-3213, burnicki@wisc.edu; Ph.D., University of Michigan, 2008, Assistant Professor - GIS Applications in Environmental Modeling and Resource Management, Quantitative Analysis.

JAMES E. BURT, 425 Science Hall, 262-4438, jhurt@geography.wisc.edu; Ph.D., U.C.L.A., 1980, Professor - Climatology, quantitative analysis, computer cartography.

WILLIAM CRONON, 443 Science Hall, 265-6023, wcronon@wisc.edu; Ph.D., Oxford, 1981, Frederick Jackson Turner Professor - Environmental history, environmental studies, North America (also History).

LEILA HARRIS, 223 Science Hall, 265-0531, lharris@geography.wisc.edu; Ph.D., Minnesota, 2004, Assistant Professor - Nature-society, environmental policy and management, water resources, gender and inequality, Middle East.

MARK HARROWER, 343 Science Hall, 265-0012, maharrower@wisc.edu; Ph.D., Penn State, 2002, Associate Professor - Cartography, GIS, geovisualization.

ROBERT J. KAISER, 430 Science Hall, 262-1904, rjkaise1@wisc.edu; Ph.D., Columbia University, 1988, Professor - Political geography, nationalism, population geography, ethnic studies, Eurasia.

JAMES C. KNOX, 234 Science Hall, 262-1804, knox@geography.wisc.edu; Ph.D., Iowa, 1970, Evjue-Bascom Professor - Geomorphology, paleohydrology, water resources.

JOSEPH A. MASON, 207 Science Hall, 262-6316, mason@geography.wisc.edu; Ph.D., University of Wisconsin-Madison, 1995, Professor - Soils, geomorphology, quaternary paleoenvironments, GIS applications in geomorphology

LISA C. NAUGHTON, 355 Science Hall, 262-4846, naughton@geography.wisc.edu; Ph.D., University of Florida, 1996, Professor - Wildlife ecology, protected areas, Africa, Latin America.

KRISTOPHER N. OLDS, 346 Science Hall, 262-5685, olds@geography.wisc.edu; Ph.D., University of Bristol, 1996, Professor - Urban, economic, globalization, Pacific Rim.

ROBERT C. OSTERGREN, 243 Science Hall, 262-6302, rcosterg@wisc.edu; Ph.D., Minnesota, 1976, Professor - Historical, cultural, Europe, and North America.

MATTHEW D. TURNER, 340 Science Hall, 262-2465, turner@geography.wisc.edu; Ph.D., U.C.-Berkeley, 1992, Professor - Environmental resources, cultural ecology, Africa.

JACK WILLIAMS, 208 Science Hall, 265-5537, jww@geography.wisc.edu; Ph.D., Brown University, 1999, Associate Professor - Vegetation dynamics, paleoecology, paleoclimatology.

A-XING ZHU, 255 Science Hall, 262-0272, azhu@wisc.edu; Ph.D., Toronto, 1994, Professor - GIS, remote sensing, and their application in environmental modeling and resource management.

Emeritus Faculty

WALTRAUD BRINKMANN
WILLIAM DENEVAN
PHILLIP MUEHRCKE
THOMAS VALE

REID BRYSON
DANIEL DOEPPERS
YI-FU TUAN
ROBERT SACK

Advisors

See the Geography website, or postings around Science Hall, for listings of Undergraduate and Graduate Advisors and their office hours.

Undergraduate Requirements for Major in Geography

To qualify for a major in geography, a student must earn a minimum of 30 credits in geography and must meet three requirements:

1. Breadth of Study (see p. 7 for a listing of courses by group)

Take at least one course in each of:

- a. Physical Geography
- b. People-Environment Interaction
- c. Human Geography

2. Skills, Techniques, and Methodology

Each of the following, or an equivalent approved by the advisor:

- a. 170 Map Reading and Interpretation, or 370 Introduction to Cartography
- b. 360 Quantitative Methods in Geographical Analysis (Spring semester only)
- c. 565 Colloquium (Fall semester only as of Fall 09)

3. Depth and Quality of Study

a. All students must complete the L&S requirement of at least 15 credits of upper-level work in the major completed in residence (courses in the department identified as intermediate or advanced).

b. A concentration, approved by the advisor, consisting of at least three related intermediate or advanced level courses (including at least one advanced level course). Either:

(1) A concentration from one of the following three groups: Physical Geography; People-Environment; Human Geography; OR

(2) An individual concentration proposed by the student and approved by the advisor.

- c. A grade point average of 2.0 or higher for the courses in the major.

HOW TO DECLARE YOUR MAJOR

Meet with the advisor for your anticipated area of concentration (see website for office hours.) **CALS students wanting to double major must see a Dean in CALS first.**

Complete the L&S Major Declaration form (available from your advisor). Once the form has been signed, return it to the Undergraduate Coordinator in 160 Science Hall.

Undergraduate Requirements for Major in Cartography and Geographic Information Systems

The undergraduate major in cartography and GIS requires a minimum of 30 credits in geography and must include:

1. Core (required)

- 360 Quantitative Methods in Geographical Analysis (Spring semester only)
- 370 Introduction to Cartography
- 377 Introduction to Geographic Information Systems (Geog 370 and 377 should be taken before electives.)
- 565 Colloquium (Fall semester only as of Fall 09)

2. Electives

Three of the following courses:

- 570 Problems in Cartography
- 572 Graphic Design in Cartography
- 575 Animated and Web-based Mapping
- 576 Map Transformations and Coordinate Systems
- 577 Environmental Modeling with GIS
- 578 GIS Applications
- 579 GIS and Spatial Analysis

3. Topical Breadth

One course in each of the following groups: Physical Geography; People-Environment Interaction; Human Geography; or Area Studies and Global Systems (see website for a full listing of courses in each area).

4. Other Required Courses

- At least 11 credits including eight credits of college-level mathematics and Comp Sci 302 Introduction to Programming
- At least 5 credits from the following courses:
 - Remote Sensing: Envir St 401 fall (Schneider, intro); Envir St 401 spring (Schneider, intermediate); Envir St 556; Forestry 875 (when related to RS)
 - GPS: Geol 444

Important Note:

For students pursuing a double major in Geography and Cartography/GIS, Geog 360, 370, and 565 are considered double-counted courses. the 15 credit upper-level requirement may include Cartography major coursework.

Honors in the Major

The L&S Honors Program encourages participation in advanced courses, independent research, and graduate seminars that provide a sound foundation for the completion of a Senior Honors Thesis.

Honors in the Major requires a separate form, available from the Honors advisor (see website.) Please bring the completed form to 160 Science Hall to be stamped and copied before you take it in person to the L&S Honors Office in 420 South Hall.

To earn a B.A. or B.S. with Honors in the Geography Major, students must complete:

1. the breadth requirements for the major;
2. the skills requirements for the major plus Geog 766 (introduction to research methods) for 1 credit, preferably during the junior year;
3. a minimum of 21 credits at the intermediate and advanced levels;
4. two advanced courses in the area of concentration with at least one of these being a graduate seminar (Geog 766, 681, 682 may not be counted toward this requirement); and
5. Senior Honors Thesis, Geog 681-682, during the senior year.

To earn a B.A. or B.S. with Honors in Cartography and Geographic Information Systems, students must complete:

1. the breadth requirements for the major;
2. the core requirements for the major plus Geog 766 (introduction to research methods) for 1 credit, preferably during the junior year;
3. the electives requirement for the major, with the additional requirement that at least one of the electives must be a graduate seminar; and
4. Senior Honors Thesis, Geog 681-82, during the senior year.

Students are urged to take geography courses for honors credits whenever offered, but there is no required minimum number of honors credits. A cumulative overall GPA of 3.3 or higher is required. Honors candidates must plan their program in consultation with the department honors advisor and must identify a faculty member willing to advise their thesis research.

GROUPS WITHIN THE GEOGRAPHY MAJOR

Course Levels are indicated by:

E=Elementary; I=Intermediate; D=Intermediate/Advanced; A=Advanced
Frequency of course offering in recent years shown here as an indication (not a future certainty):

- 1 = every semester; 2 = every year; 3 = every other year;
4 = irregularly

Group I. Physical Geography: Earth Systems and Environmental Processes

- 120 Global Physical Environments (E) 1
- 121 Atmospheric Environment and Society (E) 2
- 127 Physical Systems of the Environment (E) 1
- 320 Geomorphology (I) 4
- 321 Climatology (I) 2
- 325 Analysis of the Physical Environment (I) 2
- 326 Landforms-Topics and Regions, (Fluvial Geomorphology) (I) 2
- 328 Arid Lands Geomorphology (I) 3
- 329 Landforms and Landscapes of North America (I) 3
- 331 Climatic Environments of the Past (I) 2
- 332 The Global Warming Debate (I) 3
- 420 Glacial and Pleistocene Geology (I) 3
- 421 Applied Surficial Geology (I) 3
- 523 Quaternary Vegetation Dynamics (A) 3
- 524 Advanced Landform Geography (A) 4
- 525 Soil Geomorphology (A) 3
- 527 The Quaternary Period (A) 3
- 528 Past Climates and Climatic Change (A) 4
- 531 Global Climates (A) 3

Group II. Environmental Studies: People-Environment Interaction

- 139 Resources and People (E) 2 or 3
- 230 Soil: Ecosystem and Resource (I) 2 or 3
- 240 Plants and Man (E) 2 or 3
- 303 The Human Role in Changing the Face of the Earth (I) 2
- 309 People, Land and Food: Comparative Study of Agricultural

Systems (I) 2

- 319 Environmental Evaluation and Adaptation (I) 3
- 336 Our Hazardous Environment (I) 4
- 338 Vegetation: Stability & Change (I) 4
- 339 Environmental Conservation (I) 1
- 434 People, Wildlife and Landscapes (A) 2
- 460 American Environmental History (I) 3
- *508 Landscape and Settlement in the North American Past (A) 3
- 519 Environment and Human Experience (A) 3
- 534 History and Ideology of Environmentalism (A) 4
- 535 Environmental Geography & Conservation in Developing Countries (D) 4
- 536 American Wilderness: Perception and Preservation (A) 3
- 537 Culture and Environment (A) 2
- 538 The Humid Tropics: Ecology, Subsistence, and Development (A) 4

Group III. Human Geography

- 101 Introduction to Cultural Geography (E) 1
- 102 Spatial Organization of Human Activity (E) 4
- 236 Bascom Course: The Power of Place (E)
- 300 Population, Migration, and Diffusion (I) 4
- 301 Geography of Social Organization (I) 4
- 302 Economic Geography: Locational Behavior (I) 4
- 305 Introduction to the City (I) 1
- 311 Industrial Location: Theory and Patterns (I) 4
- 312 Regional Development and Planning (I) 1
- 318 Geography, Politics, and Territoriality (I) 2
- *349 Europe (I) 2
- *353 Russia and the Newly Independent States: Topical Analysis (I) 2
- 444 Health and Social Welfare in Society (I) 4
- 501 Space and Place: A Geography of Experience (S_A) 3
- 502 Spatial Behavior (A) 4
- 503 Researching the City (I) 3
- 505 Urban Spatial Patterns and Theories (A) 4
- 506 Historical Geography of European Urbanization (A) 4
- *508 Landscape and Settlement in the North American Past (A) 3
- 510 Economic Geography (A) 2
- *553 Russia and the CIS: Problems in Human Geography (A) 4
- 558 The Social Geography of Asian Cities in Comparative Perspective (A) 2

Group IV. Area Studies and Global Systems

- 140 World Regions: Concepts and Regions (E) 1
- 244 Introduction to Southeast Asia: Vietnam to the Philippines (E) 1
- 253 Russia: An Interdisciplinary Survey (E)
- 260 Latin America: An Introduction (E) 2
- 277 Africa: An Introductory Survey (I) 1
- 342 Geography of Wisconsin (I) 4
- 344 The American West (I) 3
- 348 Latin America (I) 2
- *349 Europe (I) 2
- *353 Russia and the Newly Independent States: Topical Analysis (I) 2
- 355 Africa, South of the Sahara (I) 2
- 358 China and Southeast Asia (I) 2
- 548 Problems in the Geography of Latin America (A) 4
- *553 Russia and the CIS: Problems in Human Geography (A) 4

Group V. Cartography and Geographic Information Systems

- 170 Map Reading and Interpretation (E) 1 or 2
- 351 Elementary Photogrammetry (I) 2
- 370 Introduction to Cartography (I) 1
- 377 Introduction to GIS (I) 2
- 570 Problems in Cartography (A) 4
- 572 Graphic Design in Cartography (A) 2
- 574 Cartographic Methods in Research (A) 4
- 575 Introduction to Computer Cartography (I) 2
- 576 Map Transformations and Coordinate Systems (A) 3
- 577 Environmental Modeling with GIS (A) 3
- 578 GIS Applications (D) 2
- 579 GIS and Spatial Analysis (D) 2

Group VI. Methodology

- 360 Quantitative Methods in Geographical Analysis (I) 1
- 560 Advanced Quantitative Methods (A) 2
- 565 Colloquium for Undergraduate Majors (I) 1
- 566 History of Geographic Thought (A) 3 or 4
- 601 Field Course in Geography (A)
- 602 Internship 1

* Course is cross-listed in more than one Group. Students must choose the course grouping in which they want to count the course.

COURSE DESCRIPTIONS

Spring Semester 2008-09

* **NOTE:** Full descriptions are provided for courses taught by permanent Geography faculty only; for cross-listed courses, see the primary department (underlined). The following information is to present a general idea of the course content and format to aid in selecting courses. Descriptions, times, and rooms may change for this semester after the printing of this catalog. Always check Class Search in MyUW for the most updated information.

Breadth: B-Biological Science, H-Humanities, I-Interdivisional—does not satisfy breadth requirement, L-Literature, N-Natural Science, P-Physical Science, S-Social Studies, Z-either Humanities or Social Studies.

Level: E-Elementary, I-Intermediate, D-Intermediate or Advanced, A-Advanced

101 Introduction To Human Geography

Schedule: TR 9:55-10:45, 180 Science Hall

Credits: 3 **Breadth:** S **Level:** E **Comm-B course**

Prereq.: Open to freshmen

Description: This newly redesigned introduction to human geography is structured to acquaint students with the recent global patterns and processes that have come to be known as globalization through the use of a human geographic perspective. To do this, the course systematically explores globalization through the use of a series of human geographic 'lenses', including: cultural geography, population geography, economic geography, urban geography and political geography/geopolitics. Within each of these sub-fields of human geography, the course focuses on the current patterns and processes of global change, the geographic variability of these global patterns and processes, and on the ways in which changes at the global scale are affecting, and in turn are affected by, local and regional events and conditions.

Requirements: Geography 101 is a Communications B course, with an emphasis on learning through written and oral communications. During the semester, you will be required to complete three writing assignments. The first writing assignment will be submitted in final form without the opportunity for revision. You will have the opportunity to revise and resubmit the second and third writing assignments. In addition, there will be a midterm and a final essay examination for this course. Beyond these major writing assignments, you are required to read the assigned material prior to the class for which they are assigned, to attend lectures, and to attend and participate in discussion sections. Your participation in discussion sections will include map quizzes and analyses, a group presentation, a film review, and peer reviews of your classmates' papers.

120 Global Physical Environments

Knox, Williams

Schedule: Lec 1: MW 8:50-9:40, 180 Science Hall

Lec 2: MW 11:00-11:50, 180 Science Hall

Credits: 3 **Breadth:** P **Level:** E **Cross-listed:** Envir St

Prereq.: Open to freshmen, not open to those with cr in Geog 127

Description: Global distribution and processes of climate, weather, ecosystems, landforms, and soils, emphasizing interrelationships.

127 Physical Systems of the Environment

Mason

Schedule: Lec 1: TR 11:00-12:15, 180 Science Hall

Credits: 5 **Breadth:** P **Level:** E **Cross-listed:** Envir St

Prereq.: Open to freshmen, not open to those with cr in Geog

120,123,124,125 or ILS132.

Description: Climate, vegetation, soil, water, and landforms as components of environmental systems; interrelationships among the components; spatial patterns of environmental systems over the Earth; changes in the systems through time.

139 Resources and People

Schedule: Lec 1: MW 4:00-5:15, 180 Science

Credits: 3 **Breadth:** S **Level:** E **Cross-listed:** Envir St

Prereq.: Open to freshmen

Description: Human population growth and its impact on the earth's resources, including food, energy, physical materials, water, biota, and landscapes; the geography of resource availability and the limits of the earth as producer of resources; the importance of attitudes and values in resource use.

170 Map Reading and Interpretation

Burnicki

Schedule: Lec 1: TR 2:30-3:45, 180 Science

Credits: 3 **Breadth:** P **Level:** E **Cross-listed:**

Prereq.: Second semester freshman or consent of instructor

Description: (Will have a change of title, to: "Our Digital Globe: An Overview of GIScience and its Technology.") This class explores the geospatial information that surrounds us - maps, images, and location-specific data. The course examines the creation and use of maps and map-related products to answer spatial questions, and provides the tools students need to assess the strengths and limitations of map representations. It investigates the application of geospatial technologies like GPS, Google Earth, satellite imaging, and GIS to improve and enhance our ability to understand and convey spatial information.

230 Soil: Ecosystem & Resource

Schedule: Lec 1: MWF 9:55

Credits: 4 **Breadth:** P **Level:** E **Cross-listed:** Envir St, Soil Science
Prereq.: Not open to students with credits in Soil Sci 301.
Description: The role of soils in ecosystems (habitat, moisture and nutrient reserve, biologically active part of the groundwater system) and the impact of human activity on the soil environment.

253 Russia: An Interdisciplinary Survey

Schedule: Lec 1 MWF 9:55
Credits: 4 **Breadth:** Z **Level:** E **Cross-listed:** Hist, Poli Sci, Slavic
Prereq.: Open to freshmen
Description: Comprehensive interdisciplinary survey of Russian civilization from its beginnings through the present day.

260 Latin America - Introduction

Schedule: Lec 1 TR 11:00-12:15
Credits: 3-4 **Breadth:** S **Level:** E **Cross-listed:** AfroAm, Anthro, History, Poli Sci, Rur Soc, Soc, Spanish
Prereq.: Not open to freshmen
Description: Latin American culture and society from an interdisciplinary perspective; historical developments from pre-Columbian times to the present; political movements; economic problems; social change; ecology in tropical Latin America; legal systems; literature and the arts; cultural contrasts involving the US and Latin America; land reform; labor movements; capitalism, socialism, imperialism; mass media.

277 Africa: An Introductory Survey

Schedule: Lec 1 TR 1:00-2:15
Credits: 4 **Breadth:** Z **Level:** I **Cross-listed:** African, AfroAm, Anthro Hist, Poli Sci, Soc
Prereq.: Open to freshmen
Description: African society and culture, polity and economy in multidisciplinary perspectives from prehistory and ancient kingdoms through the colonial period to contemporary developments, including modern nationalism, economic development and changing social structure.

302 Economic Geography: Locational Behavior Olds

Schedule: Lec 1 T 6:00-8:00 pm, 350 Science Hall
Credits: 4 **Breadth:** S **Level:** I **Cross-listed:**
Prereq.: Sophomore standing.
Description: Classic location theory with modern extensions. Examination of theoretical statements and selected empirical examples. Principles of economic

regionalization and network analysis with emphasis on spatial implications of the economic development process.

305 Introduction to the City Olds

Schedule: Lec 1 TR 1:00-2:15, 1101 Humanities
Credits: 4 **Breadth:** S **Level:** I **Cross-listed:** URPL
Prereq.: Sophomore standing; qualified Freshmen admitted with instructor consent
Description: This course is designed to provide a basic understanding of cities. Urban theories and models will be stressed throughout the course. The discussion sections will be devoted to an examination of contemporary urban problems.

326 Landforms – Topic: Fluvial Geomorphology Knox

Schedule: T, 6:30-8:30 pm, 180 Science Hall
Credits: 3 **Breadth:** P **Level:** I **Cross-listed:** Geology
Prereq.: Introduction to physical geography or physical geology course, or consent of instructor.
Description: Emphasis on natural and human processes that control the morphology of the land and its waterways. There is major emphasis on surface water hydrology, erosion, sedimentation, and physical characteristics of streams and rivers.

329 Landforms & Landscapes of North America Mason

Schedule: TR 2:30-3:45, 360 Science Hall
Credits: 3 **Breadth:** P **Level:** I **Cross-listed:**
Prereq.: Geog 120 or 127 or Geol 100 or 101 or cons inst
Description: Regional variation of landforms and physical landscapes in North America; processes and forms that give character to physiographic regions.

339 Environmental Conservation Naughton

Schedule: Lec 1: MWF 9:55-10:45, 180 Science Hall
Lec 2: MWF 1:20-2:10, 180 Science Hall
Credits: 4 **Breadth:** S **Level:** I **Cross-listed:** Envir St
Prereq.: Sophomore standing
Description: The first half of the course explores the history of resource exploitation and environmental protection in the U.S., focusing on “environmental conservation” as a multi-pronged, ever-changing social movement. We will explore differing ideas of “nature” and “conservation”, as well as contemporary conservation efforts in places like the public lands in the American West and the

oceans. The second half the course focuses on environmental problems in developing countries, particularly biodiversity loss and climate change. We evaluate various conservation strategies, from national parks, to ecotourism, to marketing 'green' products. Then we turn to urban issues, and examine the growth of megacities in the tropics and the resulting problems of pollution and waste. Finally, we will examine international strategies to slow global warming, including N-S partnerships to reduce carbon emissions.

Exams: Four non-cumulative exams. No final exam.

349 Europe

Ostergren

Schedule: Lec 1 MW 2:30-3:45, 180 Science Hall

Credits: 3 **Breadth:** S **Level:** I

Prereq.: Sophomore standing

Description: Survey of European geography with emphasis on human-environment interaction, culture, political organization, urbanism, work, leisure, consumption, and regional landscapes.

Textbook: Ostergren and Rice, *The Europeans: A Geography of People, Culture and Environment*. Reserve readings available on the web.

360 Quantitative Methods in Geographical Analysis

Burt

Schedule: TR 2:30-3:45, 1131 Humanities

Credits: 4 **Breadth:** P **Level:** I **Quantitative Reas.-B course**

Prereq.: Sophomore standing

Description: The course is a requirement for a geography degree and introduces students to elementary analytical techniques and concepts. As part of the learning objectives of this course, students will gain a basic understanding and working knowledge of several standard statistical techniques that are used in diverse disciplines including geography. They are not in themselves 'geographical' but are useful analytical tools in applied research in geography. Upon successful completion of the course, students should be familiar with computer software used to summarize data and perform statistical tests, and be able to read and interpret quantitative reports critically.

370 Introduction to Cartography

Schedule: Lec 1 TR 1:00-2:15, 180 Science Hall

Credits: 4 **Breadth:** P **Level:** I

Prereq.: Sophomore standing or instructor consent

Description: This course serves as a broad introduction to cartography, with a dual emphasis on the theory and practice of making maps. The objective is to help students develop the faculty to think critically about cartographic processes

and representations and to develop their skills in creating maps. Topics include the basics in mapping (e.g., scale, spatial reference systems, and projections), data acquisition and organization, key techniques for thematic mapping, and the principles of cartographic abstraction and design. By the end of the course students will understand how maps are made and how to transform geographic data (related to people, places, and things on, in, or under the earth's surface) into abstract, symbolic representations of the world. There are numerous kinds of maps (e.g., choropleth, isoline, proportional symbol, reference) and many ways to implement those basic map forms: understanding the advantages and disadvantages of various map forms (and when they can/should be applied) is a central theme of this class. This course contains a significant lab component.

377 Introduction to Geographic Information System

Zhu

Schedule: Lec 1 TR 4:00-5:15, 180 Science Hall

Credits: 4 **Breadth:** P **Level:** I **Cross-listed:** Envir St

Prereq.:

Description: Geographic Information Systems (GIS) deals with the analysis and management of geographic information. This course offers an introduction to methods of managing and processing geographic information. Emphasis will be placed on the nature of geographic information, data models and structures for geographic information, geographic data input, data manipulation and data storage, spatial analytic and modelling techniques, and error analysis. The course is made of two components: lectures and labs. In the lectures, the conceptual elements of the above topics are explained. The labs are designed in such a way that students will gain first-hand experience in data input, data management, data analyses, and result presentation in a geographical information system.

401 Seminar: Environment, Culture, Politics: N. America

Harris

Schedule: Lec 1 TR 1:00-2:15, 444 Science Hall

Credits: 3 **Breadth:** S **Level:** A

Prereq.: Appropriate intermediate level course, or cons inst.

Description: This is an interdisciplinary course devoted to understanding environmental processes and politics in North America. It will focus on the social, political, cultural and ecological relations that shape specific urban and rural environments, the social movements that have arisen in response to environmental changes, and the importance of culture and identity in struggles over resources and environments. The course has several objectives. It will introduce you to the field of 'political ecology' and associated concepts of 'environmental justice.' It will challenge you to develop critical perspectives on environment and society as part of the project of understanding changing environments and environmentalisms. Together, we will engage these perspectives to examine in detail a number of specific environmental conflicts, through

readings, activities, and field-based experiences. Case studies will focus on such things as the politics of energy in Minnesota, Native American fishing and whaling rights, nuclear testing and waste disposal, environmental issues on the US-Mexico border, risks to worker health and welfare in industry, and the politics of 'wilderness' in the American West. As should be clear by this list, the course will challenge conventional definitions of 'environment', in order to understand where we work and live as sites that need to be carefully analyzed. In turn, we will focus on the spatial relations of environmental problems, for example, tracing the ecological and social relations of production and consumption that link together distant communities (i.e. energy consumers in Minnesota and First Nations in northern Manitoba). As such, an objective of the course will be to understand the ways that disparate places, people and environments are inter-connected in contemporary eras of globalization, and thus to consider what it might mean to live as 'global citizens' in terms of environmental and social justice considerations. Students in this course will have the option of participating in a service learning project for an additional 2 credits. As part of this option, approximately forty hours of work with a local organization will be required, in addition to reflection sections to attempt to link the service learning experience to course themes.

420 Glacial & Pleistocene Geography

Schedule: Lec 1 TR 11:00-12:15

Credits: 3 **Breadth:** S **Level:** A **Cross-listed:** Geology

Prereq.: Geol 100, 101, 106 or Geog 120.

Description: Principles, characteristics and work of glaciers; events of the Pleistocene. Field trip.

501 Space & Place - A Geographic Experience Kaiser

Schedule: Lec 1 R 3:30-5:25, 450 Science Hall

Credits: 3 **Breadth:** S **Level:** A **Cross-listed:**

Prereq.: Junior standing

Description: Explore the concepts of space and place from the perspective of learning and everyday experience. Examines how space and place emerge out of fundamental human needs, experiences, and ways of thinking. Meets with Geog 901; undergrads register for 501.

537 Culture and Environment Turner

Schedule: Lec 1 TR 2:30-3:45, 444 Science Hall

Credits: 4 **Breadth:** S **Level:** A **Cross-listed:** Envir St

Prereq.: Geog/IES 339 or equiv

Description: Geographic approaches to culture-nature relationships, including human perception of, use of, and adaptation to the physical environment, with

emphasis on traditional subsistence systems; selected topics from contemporary and historical sources.

565 Colloquium for Undergraduate Majors

Schedule: Lec 1 T 4:00-6:00, 444 Science Hall

Credits: 3 **Breadth:** **Level:** I

Prereq.: Geography majors or with consent of instructor

Description: This course is designed to provide geography majors with: (1) An overview of the field of geography and an appreciation of the unique features of the "geographical approach" through a synthesis of major theoretical debates within geography; and (2) Experience in doing performing applied geographical research in a cooperative group situation. In the process, participants will gain a fuller understanding of how their subfield in geography (physical, people-environment, human, cartography, regional etc.) relates to other subfields historically, conceptually, and methodologically.

575 Animated and Web-based Mapping

Schedule: Lec 1 TR 9:30-10:45, 360 Science Hall

Credits: 4 **Breadth:** P **Level:** I **Cross-listed:**

Prereq.: Geography 370/375 or Comp Sci 302 or consent of instructor

Description: The digital revolution has changed how we make maps, how we use them, and how we think about them. The rapid and concurrent developments in desktop computing capabilities, the availability of digital geospatial data, and the growth of the Internet have radically changed the cartographic landscape. In an age where the user has increasingly become their own mapmaker (e.g., GoogleMaps, online GIS) this course examines recent issues in cartography related to map animation, the Internet, geovisualization, and on-demand cartographic systems--focusing on the new cartographic challenges and opportunities associated with interactive, digital mapping systems. This class will examine both theoretical and practical issues in the design of effective digital maps and mapping systems. Topics include: the representation of change, exploratory data analysis, and tools and techniques in geovisualization. This course contains a significant lab component.

578 GIS Applications

Zhu

Schedule: Lec 1 TR, 11:00-12:15, 444 Science Hall

Credits: 4 **Breadth:** P **Level:** A **Cross-listed:**

Prereq.: Geography 377 or equiv

Description: This course focuses on the uses and applications of GIS techniques in solving practical geographic problems. It introduces a generic process for applying GIS techniques in geographic problem solving. The process

includes conceptualization of a geographic problem and development of strategies for solving the problem in a GIS environment. The conceptualization focuses on decomposing a given geographic problem into smaller but interconnected components. The development of strategies looks into specific GIS techniques for solving each of the smaller components so that the overall question can be addressed using GIS. The emphasis is not on the specifics of particular GIS techniques rather on the selection and use of various GIS techniques based on the domain knowledge dictating the problem at hand. The process is further illustrated via the analyses of several case studies of GIS applications in geography. These case studies range from human to physical geography. The course is divided into three basic components: introduction of the generic process of GIS application, case studies illustrating this process, and student projects using this process. Students are encouraged to select the disciplinary domains for their projects. The objectives are: 1) To provide students with a generic process of solving geographic problems using GIS and to develop student's skills in conceptualizing geographic problems and in developing GIS strategies to solve the problems; 2) To provide students with practical experience on managing GIS projects.

602 Internship

Credits: 1-2 **Level:** A

Prereq.: Undergraduate majors or graduate students in Geography and instructor consent

Description: Students may earn credit for internships (service experience with government agencies, nonprofit organizations) that enrich the student's academic education. On credit per 45 hours of internship service (generally 1 credit per semester or up to 2 during the summer). Not more than 2 internship credits to be counted toward the 30-40 credits in Geography.

676 Topic: Geocomputing

Burt

Schedule: Lec 1 MW 9:55-10:45, 360 Science Hall

Credits: 3 **Breadth:** P **Level:** A **Cross-listed:**

Prereq.: Must take Geog 377 concurrently; Junior, senior, or grad standing

Description: This intermediate-level course will eventually be taught as Geog 375, Introduction to Geocomputing. This is intended to be an introduction to scripting and programming for GIS and spatial analysis. For the purposes of the Cart/GIS major, Geog 676 (and ultimately 375) will be accepted as meeting the programming requirement (CS 302). No programming background is assumed. The only pre-requisite is Geog 377, which must be taken concurrently. Geog 676 will cover use of open-source GIS libraries, programming and scripting using the Python language, extensions to ArcGIS using Python, and web mapping services (as time permits). This will be a 3-credit offering consisting of lecture and laboratory components.

GRADUATE LEVEL:

766 Geographical Inquiry and Analysis: Techniques

Turner

Schedule: Lec 1 R 3:30-5:25, 280C Science Hall

Credits: 1-3

Prereq.: Graduate student: 3 cr, Undergrad. student: 1 cr or consent of instructor

Description: Engaging in geographic research: analysis of successful proposals and published papers and books; different approaches to geographic research; writing of proposals for students' own research.

901 Seminar: Contemporary Geographic Thought

Kaiser

Schedule: Sem 1 R 3:30-5:25, 450 Science Hall

Credits: 2-3

Prereq.: Graduate student standing

Description: Meets with 501; grads register for 901.

918 Seminar: Political Geography

Kaiser

Schedule: Sem 1 T 3:30-5:25, 280C Science Hall

Credits: 2-3

Prereq.: Graduate student standing

Description:

920 Seminar: Physical Geography

Mason

Schedule: Sem 1 M 4:00-6:00, 450 Science Hall

Credits: 2-3

Prereq.: Graduate student standing

970 Seminar in Geographic Information Science

Schedule: Sem 1 M 4:30-6:00

Credits: 2

Prereq.: Graduate student standing

970 Seminar in Geographic Information Science: Spatial Decision Making Under Uncertainty

Burnicki

Schedule: Sem 2 M 4:00-6:00, 350 Science Hall

Credits: 2-3

Prereq.: Graduate student standing

980 Earth System Science Seminar: Climate Change in Wisconsin

Williams, Vimont

Schedule: Sem 1 F 12:05-1:30, 450 Science Hall

Credits: 1 Cross-listed: Atm Ocn, Botany, Envir St, F&W Ecol, Geology, Zoology

Prereq.: Graduate student standing

Description: This seminar will first overview what we know about the patterns and drivers of global climate change, then focus on the potential impacts of 21st-century climate change on Wisconsin cities, economies, ecosystems, and landscapes. The seminar will include both visits from guest experts and discussion of the literature.

982 Seminar in Latin America

Schedule: Sem 1 W 2:25-5:25

Credits: 1-3 **Cross-listed:** AAE, Anthro, Econ, History, Journ, Poli Sci, Portug, Rur Soc, Spanish

Prereq.: Graduate student standing

990 Research and Thesis

Credits: 1-9

Prereq.: Consent of instructor

999 Independent Work

Credits: 1-3

Prereq.: Consent of instructor

DATES - SPRING 2008-09

January 12-16 (M-F) Advising & Orientation Week

January 20 (T) Instruction begins

March 14-22 Thanksgiving Recess

May 8 (F) Last class day

May 10 (N) Exams begin

May 16 (S) Exams end

May 16-17 (S-N) Commencement

key: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday

AAG Annual Conference: March 22-27 in Las Vegas, NV

DEPARTMENT OFFICES, PHONE, HOURS OPEN

Geography Office
160 Science Hall 262-2138
M-F 7:45-11:30, 12:30-4:30

Geography Computer Lab
M380 Science Hall 262-8111

Cartography Lab
M390 Science Hall 262-1363

Geomorphology Lab
217 Science Hall 265-8723

Geography Library
280 Science Hall 262-1706
M-R 9am-9pm, F 9am-4:30,
Sat. Closed, Sun. 3-9pm

Arthur H. Robinson Map Library
310 Science Hall 262-1471

Visit our web site at: <http://www.geography.wisc.edu>

Geography Club: Watch for announcements of activities posted around Science Hall. Regular meetings are held in the Geography Lounge or the Student Commons (388 or 155 Science Hall.) Contact Sunshine in room 160 for more information.

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