



SENATE COMMITTEE ON CURRICULAR AFFAIRS
COURSE SUBMISSION AND CONSULTATION FORM

Principal Faculty Member(s) Proposing Course

Name	User ID	College	Department
BRIAN KING	bhk2	Earth and Mineral Sciences (EM)	Not Available

Academic Home: Earth and Mineral Sciences (EM)

Type of Proposal: Add Change Drop

Current Bulletin Listing

Abbreviation: **GEOG**

Number: **30**

I am requesting recertification of this course for the new Gen Ed and/or University Requirements Guidelines?

Course Designation

(GEOG 30N) Environment and Society in a Changing World

Course Information

Cross-Listed Courses:

Prerequisites:

Corequisites:

Concurrents:

Recommended Preparations:

Abbreviated Title: Env't Soc Chg World

Discipline: General Education

Course Listing: Inter-Domain

Special categories for Undergraduate (001-499) courses

Foundations

Writing/Speaking (GWS)

Quantification (GQ)

Knowledge Domains

Health & Wellness (GHW)

Natural Sciences (GN)

Arts (GA)

Humanities (GH)

Social and Behavioral Sciences (GS)

Additional Designations

Bachelor of Arts

International Cultures (IL)

United States Cultures (US)

Honors Course

Common course number - x94, x95, x96, x97, x99

Writing Across the Curriculum

First-Year Engagement Program

First-Year Seminar

Miscellaneous

Common Course

GE Learning Objectives

GenEd Learning Objective: Effective Communication

GenEd Learning Objective: Creative Thinking

GenEd Learning Objective: Crit & Analytical Think

GenEd Learning Objective: Global Learning

GenEd Learning Objective: Integrative Thinking

GenEd Learning Objective: Key Literacies

GenEd Learning Objective: Soc Resp & Ethic Reason

Bulletin Listing

Minimum Credits: 3

Maximum Credits: 3

Repeatable: NO

Department with Geography (UPEM_GEOG)

Curricular Responsibility:

Effective Semester: After approval, the Faculty Senate will notify proposers of the effective date for this course change. Please be aware that the course change may not be effective until between 12 to 18 months following approval.

Travel Component: NO

Course Outline

A brief outline or overview of the course content:

GEOG 30 introduces students to the relationships between humans and the natural environment, in addition to the theories and methods that geographers employ in addressing them. The course begins with an overview of theories and key concepts to understand and predict the interactions between social and ecological systems, across settings in the United States and globally. The course will provide students with the opportunity to read and learn about the ways in which humans think about, use, and are affected by the natural environment. It will also provide skills for analyzing and evaluating the ways in which humans have transformed the environment in different parts of the world through the integration of knowledge from the natural and social sciences. This class is designed to address big questions in human-environment interactions at the present time, while drawing upon their histories and key conceptual ideas.

A listing of the major topics to be covered with an approximate length of time allotted for their discussion:

1. Human-environment systems and geography (1 week)
2. Global and U.S. population, consumption, and resources (1 week)
3. Wilderness and conservation (4 weeks)
 - a. History of the wilderness ideal and conservation in the U.S.
 - b. Conservation in the U.S.
 - c. Global conservation
4. Environment and development (5 weeks)
 - a. Conservation and community development
 - b. Environmental justice in the U.S. and globally
 - c. U.S. agriculture and global impacts
 - d. International development
 - e. Global sustainable development
5. Climate change (4 weeks)
 - a. The science of climate change
 - b. The global impacts of climate change
 - c. Adapting to climate change
 - d. International climate change action

Course Description:

GEOG 30N "Environment and Society in a Changing World" introduces students to the relationships between humans and the natural environment, in addition to the theories and methods that geographers employ in addressing them. The course begins with an overview of theories and key concepts to examine the interactions between social and ecological systems, across settings in the United States and globally. The course will provide students with the opportunity to read and learn about the ways in which humans think about, use, and are affected by the natural environment. It will also provide skills for analyzing and evaluating the ways in which humans have transformed the environment in different parts of the world through the integration of knowledge from the natural and social sciences. This class is designed to address big questions in human-environment interactions at the present time, while drawing upon their histories and key conceptual ideas.

1. What is a human-environment system? How does the geographic discipline contribute towards understanding human-environment systems and sustainability?
2. Why do we conserve what we conserve? Is it possible to conserve natural resources and also meet human needs?
3. What are ways to manage the effects of economic development upon the natural environment? Is sustainable development possible?
4. How is climate change impacting social and ecological systems? Can we adapt to the impacts of climate change?

One of the hallmarks of the discipline of geography is attention to how social and ecological processes interact and spread across spatial scales. This means that specific events, such as the consumption of particular product or the emission of greenhouse gases, connect sites within countries and across the globe. GEOG 30N meets the definition for both a US and international cultures course by emphasizing how current human-environment systems developed over time in the U.S. and internationally. GEOG 30N examines how various political, economic, and cultural factors influenced the creation of the different forms of human-environment systems that exist today. Further, it teaches students to see nations, cultures, and social identities in relation to one another, exploring how decisions made in relation to a human-environment system in one place or by one group can impact other people or places.

The name(s) of the faculty member(s) responsible for the development of the course:

Name: BRIAN KING (bhk2)

Title:

Phone:

Address:

Campus: UP

City:

Fax:

Course Justification

Instructional, Educational, and Course Objectives:

This section should define what the student is expected to learn and what skills the student will develop.

1. Analyze major concepts used to study human-environment systems in the U.S. and globally, and how the geographic discipline contributes in addressing them across diverse places
2. Examine the historical underpinnings that shape current understandings and debates on human-environment interactions within the U.S. and internationally, including discussion of how understandings and debates differ across the globe
3. Evaluate the role of divergent global and national processes, such as states, markets, and institutions, in shaping human-environment systems across time and space
4. Consider how to make informed decisions about the ways in which we, as individuals, communities, and nations, relate to the natural environment

Evaluation Methods:

Include a statement that explains how the achievement of the educational objective identified above will be assessed.

The procedures for determining students' grades should be specifically identified.

2 written assignments (25% of class grade)

3 exams (40% of class grade)

in-class and section assignments (25% of class grades)

participation (10% of class grade)

Relationship/Linkage of Course to Other Courses:

This statement should relate the course to existing or proposed new courses. It should provide a rationale for the level of instruction, for any prerequisites that may be specified, or for the course's role as a prerequisite for other courses.

GEOG 30 is a General Education course intended to introduce students to how geographers study and understand relationships between people and the natural environment. As such, it assumes no prerequisites. It provides a less technical treatment of the subject than the newly-proposed introductory human-environment course for geography majors, GEOG 230: Geographic Perspectives on Environment, Society, and Sustainability.

Relationship of Course to Major, Option, Minor, or General Education:

This statement should explain how the course will contribute to the major, option, or minor and indicate how it may function as a service course for other departments.

GEOG 30 is intended an introductory General Education course that will meet interdomain GS and GN requirements, as well as US and IL requirements. As such, it is also appropriate for BA designation in Social Sciences or Natural Sciences. GEOG 30 is currently a required course for both B.A. and B.S. majors in Geography, but will be replaced as a major requirement by GEOG 230: Geographic Perspectives on Environment, Society, and Sustainability; this 200-level course will serve as the prerequisite for higher-level environment-society geography courses. GEOG 30 will continue to serve as a selection for the Geography minor.

GEOG 30 is currently a required course for majors in Environmental Systems Engineering; and Energy & Sustainability Policy (BA & BS). It is a selection for majors in Earth Science; Earth Science & Policy/General Option; Environmental Science; Forest Ecosystems/Watershed Mgmt Option; Plant Science/Agroecology Option, Secondary Education/Social Studies Teaching Option; as well as a selection for minors in Environmental Inquiry and International Agriculture.

A description of any special facilities:

technology classroom for resident offerings

Frequency of Offering and Enrollment:

GEOG 30 will be offered as a resident class at University Park during Fall and Spring semesters with expected enrollment of 100-180 students each time, and as an online class at UP and World Campus with availability on the Digital Learning Cooperative during Fall and Spring semesters with expected enrollment of 100-200 students each time. It will also be offered online by UP during summer with an expected enrollment of 20-40 students.

Justification for Changing The Proposal:

Include a justification for each change to the course. Particular attention should be paid to the effects of the course change within the discipline and in other disciplines where the course may be required within a major or used as a service course. When a unit submits several course changes, with or without new course proposals, a general statement covering the programmatic effects of the changes should be submitted.

Add GenEd designations: GN, GS, Interdomain, US, IL; refresh title and content

The Department of Geography is restructuring its undergraduate B.A. and B.S. curricula. Foundational courses for Geography B.A. and B.S. majors in physical geography, human geography, environment-society geography, and Geographic Information Science are being differentiated from introductory, General Education offerings intended for non-majors. A suite of courses below the 100-level (e.g., GEOG 1- Global Parks & Sustainability; GEOG 3 - Food and the Future Environment; GEOG 6 - Maps and the Geospatial Revolution; GEOG 30 - retitled Environment & Society in a Changing World) will serve the general education audience. Given the inherently interdisciplinary nature of geography, the introductory GenEd courses mentioned above are being submitted for the new Interdomain designation. The required foundational courses for majors will mirror the discipline's primary subfields: GEOG 210 (physical), 220 (human), 230 (environment-society), 260 (GIScience). They will cover similar topics to existing lower level courses (10/20/30/160) at an introductory level, but focus will be to provide the subdisciplinary foundations that will be prerequisite to higher-level geography courses.

Alignment with General Education Objectives

- EFFECTIVE COMMUNICATION** – the ability to exchange information and ideas in oral, written, and visual form in ways that allow for informed and persuasive discourse that builds trust and respect among those engaged in that exchange, and helps create environments where creative ideas and problem-solving flourish.
- KEY LITERACIES** – the ability to identify, interpret, create, communicate and compute using materials in a variety of media and contexts. Literacy acquired in multiple areas, such as textual, quantitative, information/technology, health, intercultural, historical, aesthetic, linguistic (world languages), and scientific, enables individuals to achieve their goals, to develop their knowledge and potential, to lead healthy and productive lives, and to participate fully in their community and wider society.
- CRITICAL AND ANALYTICAL THINKING** – the habit of mind characterized by comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating a conclusion. It is the intellectually disciplined process of conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.
- INTEGRATIVE THINKING** – the ability to synthesize knowledge across multiple domains, modes of inquiry, historical periods, and perspectives, as well as the ability to identify linkages between existing knowledge and new information. Individuals who engage in integrative thinking are able to transfer knowledge within and beyond their current contexts.
- CREATIVE THINKING** – the capacity to synthesize existing ideas, images, or expertise in original ways and the experience of performing, making, thinking, or acting in an imaginative way that may be characterized by innovation, divergent thinking, and intellectual risk taking.
- GLOBAL LEARNING** – the intellectually disciplined abilities to analyze similarities and differences among cultures; evaluate natural, physical, social, cultural, historical, and economic legacies and hierarchies; and engage as community members and leaders who will continue to deal with the intricacies of an ever-changing world. Individuals should acquire the ability to analyze power; identify and critique interdependent global, regional, and local cultures and systems; and evaluate the implications for people's lives.
- SOCIAL RESPONSIBILITY AND ETHICAL REASONING** – the ability to assess one's own values within the social context of problems, recognize ethical issues in a variety of settings, describe how different perspectives might be applied to ethical dilemmas, and consider the ramifications of alternative actions. Individuals should acquire the self-knowledge and leadership skills needed to play a role in creating and maintaining healthy, civil, safe, and thriving communities.

What component(s) of the course will help students achieve the General Education Learning Objectives covered in the course? Provide evidence that students in the course have adequate opportunities to achieve the identified learning objectives.

Critical and analytical thinking:

Lectures will demonstrate how geography, as an integrated discipline that spans the social and natural sciences, approaches sustainability and the complexity of human-environment systems. They will illustrate the critical and analytical thinking necessary to address the contradictions between economic development and resource conservation, for example. Written responses to questions posed in lectures and recitations will require students to actively engage in critical and analytical thinking and support their arguments with evidence. In addition to directed writing responses, students will discuss readings and respond to documentaries in recitation, which will allow them to practice recognizing, understanding, and responding to alternative viewpoints. All topics covered in the course encourage critical thinking by requiring students to consider how human-environment systems have developed, how they differ from place to place, and why various people groups experience the costs and benefits associated with these systems differently.

Integrative thinking:

Focused on human-environment systems, the topics in this course require constant integrative thinking, primarily between the social and natural sciences. Students study how both natural scientists and social scientists approach questions of climate

change, natural resource use and conservation, the value of wilderness, and the resilience of our food system. Further, students are required to think about the different questions a social or natural scientist might approach these issues with and how bringing both perspectives together creates new opportunities and challenges for decision-making concerning the environment. Examples are regularly provided from the United States and other world regions to show how social and ecological patterns are dynamic and reciprocal, while also being produced by contextual factors. For example, in discussing a human hazard such as flooding, the Atlantic seaboard (such as the Outer Banks, North Carolina) is contrasted with flooding in the Okavango Delta of Botswana. This is designed to reveal similarities and differences in vulnerability to the hazard, and also variations in the capacity to adapt to the hazard.

Global learning:

GEOG 030 teaches students about human-environment systems in various historical and geographical contexts, with particular attention paid to how different groups experience environmental change differently. The course thus requires students to consider how human-environment relations differ from place to place and over time, and also encourages students to consider how current human-environment relations may benefit some people more than others. Specifically, the 'governing the commons', 'environmental justice', and 'environment and development' sections teach students to attend to power relations at work in human-environment systems. Further, students are frequently required to ask questions about how human-environment relations take different forms across the globe, such as when we discuss wildlife conservation through the examples of both grizzlies in Yellowstone and elephants in South Africa. Finally, the climate change section requires students to grapple with the idea that individual and national decisions have global, or at least international, implications. Students will explore how this problem is approached through international climate negotiation efforts.

How will students be assessed to determine their attainment of the Learning Objective(s) of General Education covered in this course? This assessment must be included as a portion of the student's overall performance in this course.

The primary methods for assessing the attainment of the General Education Learning Objectives in GEOG 030 are two written assignments (total 25% of class grade), three exams (40% of class grade) and in-class and recitation exercises (25% of class grade). In lectures and recitation, students are presented with a directed question which they respond to in writing. These written exercises are intended to assess students critical thinking processes regarding complex topics, their ability to integrate natural and social science approaches and theory to environmental problems, and their ability to recognize differences and similarities across space and time and understand reasons behind those differences/similarities. Students are also given two writing assignments that are used to assess their attainment of critical thinking, integrative thinking, and global learning in relation to the topics in the course.

General Education Domain Criteria

General Education Designation: Inter-Domain

GN Criteria

- Explain the methods of inquiry in the natural science fields and describe how the contributions of these fields complement inquiry in other areas
- Construct evidence-based explanations of natural phenomena
- Demonstrate informed understandings of scientific claims and their applications
- Evaluate the quality of the data, methods, and inferences used to generate scientific knowledge
- Identify societal or philosophical implications of discoveries in the natural sciences, as well as their potential to address contemporary problems

What components of the course will help students achieve the domain criteria selected above?

The section on climate change (4 weeks) attends to climate science: how climate research is conducted, how evidence-based claims are made, and the societal implications of climate change. The climate change section includes discussion of the quality and reliability of climate research and resulting data.

Similarly, the weeks on human-environment systems and geography, biodiversity conservation, and agriculture (4 weeks) focus on how physical geographers study natural landscapes and produce scientific knowledge on natural resources, fire ecology, biodiversity, ecosystems, landscape resiliency, and ecological sustainability.

Students are taught about the emergence of ecology, as a field using scientific analysis to understand the interactions between organisms and their environment, and how the emergence of ecology changed dominant approaches to predator management and fire suppression in the U.S. Students engage with the work of Aldo Leopold, Rachel Carson, and Gifford Pinchot; all of whom challenged and reworked conservation management through the use of scientific principles.

GS Criteria

- Explain the various methods of inquiry used in the social and behavioral sciences and describe how the contributions of these fields complement inquiry in other areas
- Identify and explain major foundational theories and bodies of work in a particular area of social and behavioral sciences
- Describe the ways in which many different factors may interact to influence behaviors and/or institutions in historical or contemporary settings
- Explain how social and behavioral science researchers use concepts, theoretical models and data to better understand and address world problems
- Recognize social, cultural, political and/or ethical implications of work in the social and behavioral sciences

What components of the course will help students achieve the domain criteria selected above?

GEOG 30 teaches students how social scientists approach questions of natural limits, inequality, uneven development, identity, and power in the context of human-environment systems. How are decisions made about the environment? Who makes those decisions? How are different people groups effected? How might current decisions effect the lives of future populations? How do decisions made in one part of the world, such as the U.S., affect the lives of people living in other parts of the world (e.g. Mexico, South Africa, or China) through environmental systems? The course introduces theoretical approaches within the social sciences including environmental justice, uneven development, sustainable development, tragedy of the commons, political economy, and political ecology, showing students how these approaches have been used to understand problems of inequality, poverty, and economic systems, as well as how these theoretical approaches have been critiqued.

The course emphasizes the complexity of human-environment systems, and how multiple factors (including human institutions and individuals as well as natural systems) interact to influence human behavior and experience. It requires students to grapple with the implications of particular actions for people in various places and positions, and encourages them to question the social responsibility of various economic and political practices. Written assignments provide students opportunities to research social science approaches to these topics, and to practice asking questions that would be important to social scientists.

Integrative Studies

Explain how the intellectual frameworks And methodologies of the two Knowledge Domains will be explicitly addressed in the course and practiced by the students.

As a human-environment focused course, all topics include discussion of how physical geographers (natural scientists) and human geographers (social scientists) contribute different approaches to answering questions regarding human-environment interactions.

GEOG 30 is guided by four key questions:

- (1) What is a human-environment system? How does the geographic discipline contribute towards understanding human-environment systems and sustainability?
- (2) Why do we conserve what we conserve? Is it possible to conserve natural resources and also meet human needs?
- (3) What are ways to mitigate the effects of economic development upon the natural environment? Is sustainable development possible?
- (4) How is climate change impacting social and ecological systems? Can we adapt to the impacts of climate change?

All four of these questions are addressed using theories, frameworks, and research methods from both the social and natural sciences. For example, question 2 on biodiversity conservation examines how wilderness as a social construction contributed to the emergence of national parks in the United States and strategies to erase indigenous populations from the landscape (drawing from William Cronon and Roderick Nash's work.) This is complemented by lectures and discussions on the emerging of ecology within the national park system, and how this changed dominant approaches to predator management and fire suppression (drawing from Aldo Leopold, Rachel Carson, and Gifford Pinchot's use of scientific principles to rework conservation management).

GEOG 30 will introduce students to how natural scientists study ecosystem and landscape resiliency, the changing climate, and biodiversity conservation. It will also introduce students to core social scientist concerns regarding inequality, power, and economic, political, and cultural systems, always as they are influenced by and influence the natural environment. One of the things that has made GEOG 30 such a popular course is that it is designed to rigorously integrate theories, frameworks, and research methods from both the social and natural sciences.

Demonstrate that each Of the two domains will receive approximately equal attention, providing evidence from course topics, assignments, or other course components, and that students will integrate material from both domains.

All topics engage both natural and social science approaches in approximately equal proportion. Some topics, such as the science of climate change (4 weeks) are more heavily natural science focused, while others such as environment and development (4 weeks) are more social science focused. But rather than pigeonholing the course subjects (such as biodiversity conservation, sustainable development, or climate change) into one or the other category, the lectures and recitation discussions are committed to integrating the social and natural sciences in addressing the four guiding questions for the course:

- (1) What is a human-environment system? How does the geographic discipline contribute towards understanding human-environment systems and sustainability?
- (2) Why do we conserve what we conserve? Is it possible to conserve natural resources and also meet human needs?
- (3) What are ways to mitigate the effects of economic development upon the natural environment? Is sustainable development possible?
- (4) How is climate change impacting social and ecological systems? Can we adapt to the impacts of climate change?

The central objective of GEOG 30 is providing students with interdisciplinary frameworks that span the natural and social sciences to address the most pressing challenges of the 21st century.

Written assignment 1 is an example of how students' ability to use integrative thinking between natural and social sciences will be assessed. In this assignment students compare and contrast John Muir's thinking on preservation with Gifford Pinchot's thinking on conservation. In their analysis of the role of these two thinkers in the conservation history of the U.S., students must critically engage with two opposing views on conservation. They carefully analyze Muir's approach which emphasized the social aspects of human-environment systems, and Pinchot's approach which emphasized natural science approaches, and utilitarian efficiency, to determining human interactions with natural resources.

Briefly explain the staffing plan. Given that each Inter-Domain course is approved for two Knowledge Domains, it will be taught by an instructor (or instructional team) with appropriate expertise in both domains.

Geography is an inherently interdisciplinary domain, requiring expertise in and integrating both social and natural sciences. GEOG 30 is always taught by a human-environment geographer with extensive experience researching both the natural and social components of human-environment systems. In addition, human-environment geographers in the Penn State Geography department work closely with both physical geographers (including climatologists, landscape ecologists, and biogeographers) and human geographers (economic, political, and cultural). Course topics are informed by these intra-disciplinary connections and conversations.

Describe the assessments that will be used to determine students' ability to apply integrative thinking.

Written assignment 1 is an example of how students' ability to use integrative thinking between natural and social sciences will be assessed. In this assignment students compare and contrast John Muir's thinking on preservation with Gifford Pinchot's thinking on

conservation. In their analysis of the role of these two thinkers in the conservation history of the U.S., students must critically engage with two opposing views on conservation. They carefully analyze Muir's approach which emphasized the social aspects of human-environment systems, and Pinchot's approach which emphasized natural science approaches, and utilitarian efficiency, to determining human interactions with natural resources.

General Education Designation Requirements

Bachelor Of Arts Requirements:

- BA: Natural Sciences
- BA: Other Cultures
- BA: Foreign/World Lang (12th Unit)
- BA: Humanities
- BA: Social and BA: Behavioral Sciences
- BA: Arts
- BA: Quantification
- BA: Foreign/World Lang (All)

Intercultural Requirements:

One of the hallmarks of the discipline of geography is attention to how social and ecological processes interact and spread across spatial scales. This means that specific events, such as the consumption of particular product or the emission of greenhouse gases, connect sites within countries and across the globe. GEOG 30 meets the definition for both a US and international cultures course by emphasizing how current human-environment systems developed over time in the U.S. and across the globe. GEOG 30 examines how various political, economic, and cultural factors influenced the creation of the different forms of human-environment systems that exist today. Further, it teaches students to see nations, cultures, and social identities in relation to one another, exploring how decisions made in relation to a human-environment system in one place or by one people group can impact other people or places.

GEOG 30 raises awareness of social difference and inequality within the U.S. and globally. For example, the section on environmental justice introduces students to the idea that human-environment systems may differentially impact people of difference races, genders, and/or socioeconomic statuses, both within the U.S. and in other countries. The course encourages students to consider the various political and economic drivers that may have contributed to specific cases of environmental racism or injustice.

In the section on climate change, students are taught to consider how the actions taken within one country may impact the lives of people living in another. They are introduced to international climate negotiations, and encouraged to grapple with the difficulties of responding to the different concerns and priorities held by various people in different places regarding climate change.

Achievement of these objectives is assessed through in-class and recitation exercises (25% of class grade), written assignments (25% of class grade), and exams (40% of class grade). The remaining 10% assesses participation in the weekly recitation section.

Course Objectives:

1. Analyze major concepts used to study human-environment systems in the U.S. and globally, and how the geographic discipline contributes in addressing them across diverse places
2. Examine the historical underpinnings that shape current understandings and debates on human-environment interactions within the U.S. and internationally, including discussion of how understandings and debates differ across the globe
3. Evaluate the role of divergent global and national processes, such as states, markets, and institutions, in shaping human-environment systems across time and space
4. Consider how to make informed decisions about the ways in which we, as individuals, communities, and nations, relate to the natural environment

Course Outline:

1. Human-environment systems and geography (1 week)
2. Global and U.S. population, consumption, and resources (1 week)
3. Wilderness and conservation (4 weeks)
 - a. History of the wilderness ideal and conservation in the U.S.
 - b. Conservation in the U.S.
 - c. Global conservation
4. Environment and development (5 weeks)
 - a. Conservation and community development
 - b. Environmental justice in the U.S. and globally
 - c. U.S. agriculture and global impacts
 - d. International development
 - e. Global sustainable development
5. Climate change (4 weeks)
 - a. The science of climate change
 - b. The global impacts of climate change
 - c. Adapting to climate change
 - d. International climate change action

All of the five elements of the course outline above are designed to satisfy the US/IL expectations. A central objective of GEOG 30 is to have students connect their actions and experiences in the United States with dynamics elsewhere. Lectures, recitation

discussion sections, and readings use concrete examples and case studies from both the United States and international settings. For example, the discussion of global climate change engages with the social and biophysical dimensions of climate change across scales. Students are shown that the effects of climate change are uneven and differentially experienced, which is a product of ecological factors (rainfall, soil fertility, sea-level rise) coupled with social dynamics (capacity for adaptation, institutional sectors for emergency response, gender). This is intended to connect processes in the United States, such as the production of greenhouse gases, with effects elsewhere, such as sea-level rise and hazards for island nations. It also provides a framework for evaluating differences between the United States and other countries and how cultural, political, economic, and ecological dynamics influence the impacts stemming from global climate change.

Another example comes from lectures and recitation exercises on agricultural commodity chains. Students report on the types of foods they consumer over a several day period and then trace the origins of these products, which invariably involve many other countries. Our readings and discussions on "organic," "fair trade," and "food miles" help demonstrate the interconnections of the global food system and how the United States, and the students, are part of them.

Campuses That Have Offered (GEOG 30) Over The Past 4 Years

semester	AB	AL	BK	BR	BW	CR	DS	ER	FE	GA	GV	HB	HN	HY	LV	MA	NK	PC	SH	SL	UP	WB	WC	WS	XC	XP	XS	YK
----------	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Course syllabus for GEOG 030
Geographic Perspectives on Sustainability and Human-Environment Systems

Credits: 3

Prerequisites/Co-requisites/Concurrent Requirements/Recommended Preparation: None

Course Attributes/Designations: GenED , GN, GS, BA US, IL

General Education Learning Objectives

- (c) Critical and Analytical Thinking
- (d) Integrative Thinking
- (f) Global Learning

Course Description

One of the major themes in the discipline of geography is the examination of the relationships between humans and the natural environment. GEOG 030 introduces students to these relationships, in addition to the theories and methods that geographers employ in addressing them. The course begins with an overview of theories and key concepts to understand and predict the interactions between social and ecological systems, across settings in the United States and globally. The course will provide students with the opportunity to read and learn about the ways in which humans think about, use, and are affected by the natural environment. It will also provide skills for analyzing and evaluating the ways in which humans have transformed the environment in different parts of the world through the integration of knowledge from the natural and social sciences. This class is designed to address big questions in human-environment interactions at the present time, while drawing upon their histories and key conceptual ideas. The specific questions that we will address this semester are:

- (1) What is a human-environment system? How does the geographic discipline contribute towards understanding human-environment systems and sustainability?**
- (2) Why do we conserve what we conserve? Is it possible to conserve natural resources and also meet human needs?**
- (3) What are ways to mitigate the effects of economic development upon the natural environment? Is sustainable development possible?**
- (4) How is climate change impacting social and ecological systems? Can we adapt to the impacts of climate change?**

One of the hallmarks of the discipline of geography is attention to how social and ecological processes interact and spread across spatial scales. This means that specific events, such as the consumption of particular product or the emission of greenhouse gases, connect sites within countries and across the globe. GEOG 030 meets the definition for both a US and international cultures course by emphasizing how current human-environment systems developed over time in the U.S. and across the globe. GEOG 030 examines how various political, economic, and cultural factors influenced the creation of the different forms of human-environment systems that exist today. Further, it teaches students to see nations, cultures, and social identities in relation to one another, exploring how decisions made in relation to a human-environment system in one place or by one people group can impact other people or places.

Course Learning Objectives

This course has four specific objectives:

(1) Analyze major concepts used to study human-environment systems in the U.S. and globally, and how the geographic discipline contributes in addressing them across diverse places

(2) Examine the historical underpinnings that shape current understandings and debates on human-environment interactions within the U.S. and internationally, including discussion of how understandings and debates differ across the globe

(3) Evaluate the role of divergent global and national processes, such as states, markets, and institutions, in shaping human-environment systems across time and space

(4) Consider how to make informed decisions about the ways in which we, as individuals, communities, and nations, relate to the natural environment

Course materials

This class will use a combination of books and articles. Articles will be available through E-reserve and linked to the course through Angel. The required book, which is available at the bookstore, is:

Robbins, P., J. Hintz, and S.A. Moore. 2014. *Environment and Society*. Malden, M.A.: Wiley-Blackwell. Second edition.

The publisher has an online version available at:

<http://www.wiley.com/WileyCDA/WileyTitle/productCd-EHEP003112.html>. Additionally, I have put a copy of the book on reserve at the Deike library.

Please note that we expect students to complete all of the required assignments in order to prepare for class and recitation sections. All of the reading material is fair game for exams and other assignments. If you fail to keep up with the reading and class sessions, you will do poorly in this class.

Course expectations

This course will utilize a mix of evaluative methods, including three multiple choice exams, two 5 – 6 page writing assignments, in class recitation assignments, and in class participation. Final grades will be determined on a number of factors. The course breakdown is as follows:

Exam #1	10%
Exam #2	15%
Exam #3	15%
Essay #1	10%
Essay #2	15%
In-class and recitation assignments	25%
Participation	10%

Final grades will be assigned using the following classification:

A = 93-100%	B+ = 87-89%	C+ = 77-79%	F = <65%
A- = 90-92%	B = 83-86%	C = 72-76%	
	B- = 80-82%	D = 65-71%	

Attendance

This course abides by the Penn State Attendance Policy E-11:

<http://undergrad.psu.edu/aappm/E-11-class-attendance-effective-fall-2016.html>, and Conflict Exam Policy

44-35: <http://senate.psu.edu/policies-and-rules-for-undergraduate-students/44-00-examinations/#44-35>. Please also see Illness Verification Policy: <http://studentaffairs.psu.edu/health/welcome/illnessVerification/>, and Religious Observance Policy: <http://undergrad.psu.edu/aappm/R-4-religious-observances.html>. Students who miss class for legitimate reasons will be given a reasonable opportunity to make up missed work, including exams and quizzes. Students are not required to secure the signature of medical personnel in the case of illness or injury and should use their best judgment on whether they are well enough to attend class or not; the University Health Center will not provide medical verification for minor illnesses or injuries. Other legitimate reasons for missing class include religious observance, military service, family emergencies, regularly scheduled university-approved curricular or extracurricular activities, and post-graduate, career-related interviews when there is no opportunity for students to re-schedule these opportunities. Students who encounter serious family, health, or personal situations that result in extended absences should contact the Office of Student and Family Services for help: <http://studentaffairs.psu.edu/familyservices/>. Whenever possible, students participating in University-approved activities should submit to the instructor a Class Absence Form available from the Registrar's Office: http://www.registrar.psu.edu/student_forms/, at least one week prior to the activity.

Disabilities

Penn State welcomes students with disabilities into the University's educational programs. Every Penn State campus has an office for students with disabilities. The Office for Disability Services (ODS) Web site provides [contact information for every Penn State campus: http://equity.psu.edu/ods/dcl](http://equity.psu.edu/ods/dcl). For further information, please visit the [Office for Disability Services Web site: http://equity.psu.edu/ods](http://equity.psu.edu/ods). In order to receive consideration for reasonable accommodations, you must contact the appropriate disability services office at the campus where you are officially enrolled, [participate in an intake interview, and provide documentation: http://equity.psu.edu/ods/guidelines](http://equity.psu.edu/ods/guidelines). If the documentation supports your request for reasonable accommodations, your [campus's disability services office](#) will provide you with an accommodation letter.

Academic Misconduct

Plagiarism and cheating are both academic crimes. Never (1) turn in an assignment that you did not write yourself, (2) turn in an assignment for this class that you previously turned in for another class, or (3) cheat on an exam. If you do so, it may result in a failing grade for the class, and possibly even suspension from the college. Please see me or your teaching assistant if you have any questions about what constitutes plagiarism. Anyone caught cheating on an exam will be reported to the provost in line with recognized university procedures. Any violations of academic integrity will be dealt with following the University's procedures, which are described in detail at <http://www.psu.edu/dept/oue/aappm/G-9.html>

Campus Emergencies

Campus emergencies, including weather delays, are announced on [Penn State News](#) and communicated to cell phones, email, the Penn State Facebook page, and Twitter via PSUAlert ([Sign up at: https://psualert.psu.edu/psualert/](https://psualert.psu.edu/psualert/)).

Course Copyright

All course materials students receive or to which students have online access are protected by copyright laws. Students may use course materials and make copies for their own use as needed, but unauthorized distribution and/or uploading of materials without the instructor's express permission is strictly prohibited. University Policy AD 40, the University Policy Recording of Classroom Activities and Note Taking Services addresses this issue. Students who engage in the unauthorized distribution of copyrighted materials may be held in violation of the University's Code of Conduct, and/or liable under Federal and State laws.

Classroom Etiquette

This is a large class and in order to support a positive learning environment, certain practices are expected. Please turn off your phone and do not text or use social media in class. While I do not ban laptops from class,

most students will do more poorly with them. Please do not go online or do anything that would be a distraction to others. Know that if you are using your laptop computer for social media or the Internet, you might as well have stayed home.

Course Schedule

(1) What is a human-environment system? How does the geographic discipline contribute towards understanding human-environment systems and sustainability?

Week 1 (August 22 – 26)

- 22 Introduction and expectations
- 24 Human-environment systems and geography
Read Robbins, Hintz, and Moore 1 – 30

Recitation topic: No recitation section the first week of classes

Week 2 (August 29 – September 2)

- 29 Population, markets, and consumption
Read Robbins, Hintz, and Moore 31 – 48
- 31 Governing the commons
Read Robbins, Hintz, and Moore 49 – 64

Week 2 Recitation: Human-environment systems and geography

Week 3 (September 5 – 9)

- 5 *No class due to Labor Day*
- 7 The Wilderness Idea
Read Robbins, Hintz, and Moore 65 – 97

Week 3 Recitation: The trouble with wilderness (*Read Cronon 1997*)

(2) Why do we conserve what we conserve? Is it possible to conserve natural resources and also meet human needs?

Week 4 (September 12 – 16)

- 12 Conservation in historical perspective
Read Robbins, Hintz, and Moore 119 – 137
Read Lynn White Jr. 1967
Read Leopold 1949
- 14 The national park: our greatest idea?
Read Sellars 1 – 46
Read Quammen 2016 (Available online at National Geographic website)

Week 4 Recitation: Dam Hetch Hetchy!?! (*Read Muir and Read Pinchot*)

Week 5 (September 19 – 23)

- 19 Preserve or use! People and predators in Yellowstone National Park
Read Robbins, Hintz and Moore 183 – 202
- 21 Grizzlies in Yellowstone National Park

Week 5 Recitation: Population and consumption (*Read McKibben 1998*)

Week 6 (September 26 – September 30)

26 Catch-up and review for Exam #1

28 **Exam #1**

Week 6 Recitation: The Omnivore's Dilemma (*Read Pollan 2006*)

Week 7 (October 3 – 7)

3 Global conservation

Read Conca and Dabelko 326 – 337

Read Myers et al. 2000

5 Protecting the African elephant: human-wildlife conflicts in Southern Africa

Read Christy 2012

Week 7 Recitation: Challenges to biodiversity conservation

(3) What are ways to mitigate the effects of economic development upon the natural environment? Is sustainable development possible?

Week 8 (October 10 – 14)

10 Conservation and community development

Read Chapin 2004

12 Political economy and environmental justice

Read Robbins, Hintz, and Moore 98 – 115

Week 8 Recitation: Declining tuna and growing lawns (*Read Robbins, Hintz, and Moore 224 – 258*)

Essay #1 Due

Week 9 (October 17 – 21)

17 Environmental justice continued: Green

19 Agricultural commodity chains and Big Organic

Read Robbins, Hintz, and Moore 279 – 298

Week 9 Recitation: E-waste and global environmental justice (*Read Robbins, Hintz, and Moore 299 – 315*)

Week 10 (October 24 – October 28)

24 The state of the world: Geographies of international development

26 Catch-up and review for Exam #2

Week 10 Recitation: Development as a ladder or as a trap (*Read Sachs 2005 and Broad and Cavanagh 2006*)

Week 11 (October 31 – November 4)

31 **Exam #2**

2 Environment and development

Week 11 Recitation: What is sustainable development?

Week 12 (November 7 – 11)

7 Sustainable development
Read Conca and Dabelko 76-93, 207-217
Read Kates, Parris, and Leiserowitz 2005

9 Green consumerism
Read Robbins, Hintz, and Moore 259 – 278

Week 12 Recitation: Sustainable development? (*Read Conca and Dabelko 224-236*)

(4) How is climate change impacting social and ecological systems? Can we adapt to the impacts of climate change?

Week 13 (November 14 – 18)

14 Climate change and its impacts
Read Robbins, Hintz, and Moore 141 – 162

16 Adapting to climate change?
Read Conca and Dabelko 338 – 351

Week 13 Recitation: Sustainable development continued (*Read Specter 2008*)

Week 14 (November 21 – 25)

21 No class: Happy Thanksgiving

23 No class: Happy Thanksgiving

Week 14 Recitation: No recitation this week

Week 15 (November 28 – December 2)

28 Catch-up and review for Exam #3

30 **Exam #3**

Week 15 Recitation: Climate change and its impacts

Week 16 (December 5 – 9)

5 Climate change futures

7 Last class: Futures for human-environment systems

Week 16 Recitation: Wrap-up

Essay #2 due the first day of finals (December 12)

Supplemental readings

- Broad, R., and J. Cavanagh. 2006. The hijacking of the development debate: how Friedman and Sachs got it wrong. *World Policy Journal* 23(2): 21-30.
- Chapin, M. 2004. A challenge to conservationists. *WorldWatch Magazine* (November-December): 17-31.
- Christy, B. 2012. Ivory Worship. *National Geographic*. October.
- Conca, K., and G.D. Dabelko (eds.). 2010. *Green Planet Blues: Environmental Politics from Stockholm to Johannesburg*. Boulder: Westview. Fourth edition.
- Cronon, W. 1997. The trouble with wilderness: Or, getting back to the wrong nature. In *Out of the Woods: Essays in Environmental History*, C. Miller and H. Rothman (eds.), 28-50. University of Pittsburgh Press, Pittsburgh.
- Kates, R.W., Parris, T.M., and A.A. Leiserowitz. 2005. What is sustainable development? *Environment: Science and Policy for Sustainable Development* 47(3): 8-21.
- Leopold, A. 1949. *A Sand County Almanac*. New York: Oxford University Press.
- McKibben, B. 1998. A special moment in history. *The Atlantic Monthly*.
- Muir, J. 1890. The treasures of the Yosemite. *The Century Magazine* XL (4).
- Myers, N., R. A. Mittermeier, C. G. Mittermeier, G. A. B. da Fonseca and J. Kent. 2000. Biodiversity hotspots for conservation priorities. *Nature* 403: 853–858.
- Pinchot, G. 1910 and 1947. Ends and means. In *The American Environment: Readings in the History of Conservation*, R. Nash (ed.), 58-64. Addison-Wesley, Reading, MA.
- Pollan, M. 2006. Mass natural. *The New York Times Magazine*, June 4.
- Quammen, D. 2016. How national parks tell our story- and show who we are. *National Geographic*. January. Available at: <http://ngm.nationalgeographic.com/2016/01/national-parks-centennial-text>
- Sachs, J. 2005. The end of poverty. *Time Magazine*.
- Sellars, R.W. 1997. *Preserving Nature in the National Parks: A History*. New Haven, CT: Yale University Press.
- Specter, M. 2008. Big Foot. *The New Yorker*.
- White, L. Jr. 1967. The historical roots of our ecologic crisis. *Science*

General sources

- Brown, L.R. (ed.). Yearly. *The State of the World*. Earthscan.
- Institute for Development Studies at Sussex. Information online at: <http://www.id21.org/>
- International Institute for Environment and Development in London. Information online at: <http://www.iied.org/>
- United Nations. Yearly. *Human Development Report*. Oxford University Press.
- Unwin, T. (ed.). 1994. *Atlas of World Development*. London: Wiley.
- World Bank. Yearly. *The World Development Report*.
- World Resources Institute. Yearly Reports available at: <http://www.wri.org>

Proposed changes to Geography courses and curricula

The Department of Geography is **restructuring its undergraduate B.A. and B.S. curricula – see Appendix A**. Geography has always been a “discovery” major. We typically see fewer than 6 freshmen (across all campuses) starting with an intended geography major. **The geography major has long been designed such that students can complete major requirements starting in their junior year at University Park**, assuming that they have completed general education/prerequisite/elective requirements in the first two years. Therefore, the proposed changes to undergraduate curricula should have minimal impact on students starting at another Penn State campus. Specifically, **the B.A. will require 43 credits in geography; at least 77 credits could be completed at any Penn State campus**. The **B.S. will require 52 credits in geography, with 12 additional credits of supporting courses that may be geography or related disciplines; at least 68 credits could be completed at any campus**.

The current structure of having **options** of 21 (B.A.) to 30 (B.S.) credits **will be replaced by undergraduate certificates**, allowing for greater flexibility and better accommodating diverse student interests. At present, both degrees have a General Geography option; the B.A. has options in Human Geography and Nature-Society Geography; the B.S. has options in Geographic Information Science and Physical/Environmental Geography. At present, for example, a student cannot do options in both Human Geography and Geographic Information Science (since one is in the B.A. and the other in the B.S.); under the proposed scheme, it will be possible for a student to earn certificates in any combination of Human Geography, Physical Geography, Environment-Society Geography, and Geographic Information Science, with room in the curriculum to complete 2 certificates within the 120-credit framework. Doing 2 certificates has value for exposing majors to the diversity of the geographic discipline while providing relevant training for the job market.

Foundational courses for Geography B.A. and B.S. majors in physical geography, human geography, environment-society geography, and Geographic Information Science **are being differentiated from introductory, General Education offerings intended for non-majors**. A suite of courses below the 100-level (e.g., GEOG 1- Global Parks & Sustainability; GEOG 3 - Food and the Future Environment; GEOG 6 - Maps and the Geospatial Revolution; GEOG 30—with updated title and content for which a proposal will be submitted soon) will serve the general education audience. Given the inherently interdisciplinary nature of geography, the introductory GenEd courses mentioned above will be submitted for the new Interdomain designation.

The required foundational courses for majors will mirror the discipline's primary subfields: GEOG 210 (physical), 220 (human), 230 (environment-society), 260 (GIScience). They will cover similar topics to existing lower level courses (10/20/30/160) at an introductory level, but focus will be to provide the subdisciplinary foundations that will be prerequisite to higher-level geography courses. **Geography's** assessment process will include a curriculum mapping to scaffold mastery of knowledge and skills across the discipline; such a mapping does not exist for the current curriculum. At University Park, offerings of GEOG 10, 20, and 160 will be discontinued, although these courses will remain available for use by other campuses/programs if desired (GEOG 30 will be retained as a General Education course, but with emphasis on areas of

broader interest rather than the prerequisite preparation offered in GEOG 230). **Exceptions will be made for the relatively few students each year who have taken GEOG 10/20/30/160 at another campus so that these courses may be used in the major or minor if necessary and/or serve as alternative prerequisites for 300-level courses.** GEOG 210, 220, 230, and 260 will be submitted for appropriate General Education designations.

Intermediate-level courses in the 300s will build on foundational knowledge gained in GEOG 210, 220, 230, and 260. Such intermediate courses are already at the 300-level in the Geographic Information Science subfield (e.g., 361, 362, 363) and a few physical/environmental courses (e.g., 310, 314, 333). Other **intermediate courses are being moved from 100-level to 300-level, with the relevant 200-level course as a prerequisite** (e.g. 210 prerequisite for landforms 115→315; 220 prerequisite for urban 120→320, cultural 124→324, economic 126→326, political 128→328; 230 prerequisite for political ecology 130→330); these courses will also be submitted for General Education designation as appropriate. In cases where 100-level courses have been used at other campuses, we are retaining those courses and creating new courses at the 300-level (the exception is GEOG 120, which has not been offered elsewhere, so submitted change rather than add proposal) so that other campuses may use the courses if desired. If not offered, they will phase out via the routine 5-year-drop processes. **The most significant difference between the 100- and 300-level courses on a similar topic (e.g. landforms, cultural, etc) is that the 300-level courses will assume mastery of concepts presented in the 200-level** foundational courses in the subfield, and will, in turn serve as prerequisites for related 400-level courses.

Appendix A: Geography B.A. & B.S. proposed curriculum revision

BA General Education		45	47	BS General Education	
GWS	ENGL 15 or 30 or 137H/138T	3	3	ENGL 15 or 30 or 137H/138T	
GWS	CAS 100 or 137H/138T or EMSC 100S	3	3	CAS 100 or 137H/138T or EMSC 100S	
GWS	ENGL 202 or EMSC 100S	3	3	ENGL 202 or EMSC 100SW	
GQ	choice (STAT 200 if GEOG 364 mt)	3	4	STAT 200	
GQ	choice	3	4	MATH 110/140 calculus	
GA	choice	6	6	choice	
GH	choice	6	6	choice	
GS	choice	6	6	choice	
GN	choice	9	9	choice	
GHW	choice	3	3	choice	
GEOG core		19	19	GEOG core	
210	physical	3	3	physical	
220	human	3	3	human	
230	envir&society	3	3	envir&society	
260	GIScience	3	3	GIScience	
301	thinking geographically	3	3	thinking geographically	
390	professional development	1	1	professional development	
4xx	engaged scholarship	3	3	engaged scholarship	
BA major courses		24	45	BS major courses	
	methods: 308 or 364	3	6	spatial analysis: 364 & 464	
	300-level	9	9	300-level: select from physical/human/envir&society	
	400-level, including capstone	12	12	400-level, including capstone	
				6 GIScience skills: select from 361, 362, 363, 365	
BA degree requirement courses		9-24	12	BS degree requirement courses	
	foreign language	0-12	12	supporting/related (may be GEOG or other)	
	BA fields	9			
	other cultures (may double count)	0-3			
Electives		8-25	9	Electives	
TOTAL		120	120	TOTAL	