



SENATE COMMITTEE ON CURRICULAR AFFAIRS
COURSE SUBMISSION AND CONSULTATION FORM

Principal Faculty Member(s) Proposing Course

Name	User ID	College	Department
KARL ZIMMERER	KSZ2	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: **3**

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

Course Designation

(GEOG 3N) Food and the Future Environment

Course Information

Cross-Listed Courses:

Prerequisites:

Corequisites:

Concurrents:

Recommended Preparations:

Abbreviated Title: Future of Food

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 Curricular Responsibility: Geography (UPEM_GEOG)

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 3 specifically focuses on food and the environment. It introduces an integrated human-environment perspective on food systems in the United States, with emphasis on the Northeast and Western U.S., as well as in diverse locations around the world. The course offers a global perspective on the major challenges and opportunities facing food systems, including the sustainability of agriculture, organization of global food systems and local food initiatives, food insecurity, and the influence of modern diets on human health. Topics include introduction to the coupled human natural system (CHNS) perspective of human-environment interactions in agri-food systems (geographic and historical development; socioeconomic dimensions; biogeophysical factors including soil, water, biota and climate; future changes of climate; urbanization; dietary choices; and demography).

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

Week 1: Introduction to Food and Sustainability in the Anthropocene
Week 2: Geography and Environment-Food Challenges
Week 3: Geographic and Historical Contexts: Domestication & Diversity
Week 4: Agroecology and Soil Nutrient Management in Land Use
Week 5: Food and Water: Nexus Issues in Env-Soc Geography
Week 6: Exam Review and Exam 1
Week 7: Food and Climate Change
Week 8: Global Industrial and Alternative Food Systems
Week 9: Food Security/Insecurity: Global and National
Week 10: Biodiversity and Place-Based Geography in Agri-Food Systems
Week 11: Exam Review and Exam 2
Week 12: Diet and Nutrition Issues
Week 13: Agroecosystems and Social Movements
Week 14: Future Food Scenarios
Week 15: Final Review

Course Description:

GEOG 3 introduces students to the multiple connections of people and the environment through the dynamics of food and the places where it is produced, processed, and consumed. It introduces an integrated human-environment perspective on food systems in the United States, with emphasis on the Northeast and Western U.S., as well as in diverse locations around the world. The course offers a global perspective on the major challenges and opportunities facing food systems, including the sustainability of agriculture, organization of global food systems and local food initiatives, food insecurity, and the influence of modern diets on human health.

This course promotes critical thinking regarding key concepts in Environment and Society Geography such as coupled human-environment systems, the Anthropocene; anthropogenic landscapes and domestication; carrying capacity; ecological footprint; life-cycle analysis; globalization; urbanization, dietary change and land use; soils and society; environmental and social justice; climate change and resilience; agrobiodiversity and adaptive capacity; human-environment interactions involving vulnerability;

regional analysis; geography and culture of food systems; development and food security; and social-ecological systems.

Students are encouraged to examine their role and responsibilities for the sustainability of the social-ecological systems we inhabit and to take action in their own lives to contribute to a more equitable and sustainable environment. The course will provide students with the opportunity to read, learn, and debate the ways in which humans value, use, affect, and are affected by small-scale and large-scale human-environment interactions. It will provide skills for the critical analysis and evaluation of the ways in which humans have transformed the environment in different parts of the world. Students will also learn how to assess what future pathways are sustainable and ethically sound. One key course goal is to help students increase their sensitivity, awareness, and knowledge concerning the global and international context of human interactions with nature.

Upon completion of this course, students will be able to:

1. Survey and analyze environmental resources in relation to systems of food production, land use, and consumption;
2. Survey and analyze how human food systems significantly alter the earth's environmental systems and landscapes;
3. Use environment and society geography to understand the resilience of agri-food systems in contexts of climate change, human population changes, and socioeconomic, cultural and policy factors.

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

1 Name: KARL ZIMMERER (KSZ2)

Title: PROFESSOR AND HEAD

Phone: +1 814 865 3094

Address: 0302 WALKER BLDG

Campus:

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.

The Future of Food is an introductory-level science course that introduces students to an integrated human-environment perspective on food systems and their environmental contexts in locations within the United States and internationally. It offers a global perspective on the major challenges and opportunities facing the development of the current environment-food systems, including sustainability of agriculture, organization of global food systems and local food initiatives, food insecurity, and the influence of modern diets on human health. Topics covered include introduction to the coupled natural human system (CNHS) perspective of human-environment interactions, geographic and historical development of food systems and environmental resources, socio-economic aspects of the food system, interaction of the food system with the earth's environmental systems including soil, water, biota and climate, and the future of the food system considering potential changes such as in climate, urbanization, dietary choices, and demography.

When students successfully complete this course, they will be prepared to:

- o Understand and apply the concept of coupled human-environmental interactions through the Coupled Natural-Human System (CNHS) framework to food systems nationally and internationally through which: (1) humans and their societies exert impacts on the environment; and (2) the environment provides feedbacks and conditions impacting food systems that can influence human societies.
- o Analyze the land, biological, energy and water resources and climatic conditions in relation to food production systems.
- o Analyze how human food systems significantly alter earth's ecosystems, landscapes, surface processes, atmosphere and waterways.
- o Apply the perspective of coupled human-environmental interactions through the Coupled Natural-Human System (CNHS) to such issues as the evolution and functioning of food systems and the characteristics of resilience, adaptive capacity, and vulnerability.
- o Evaluate scenarios for the future of food considering resilience in the context of climate change, human population growth and socio-economic, and cultural factors.

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.

This course will rely on a variety of methods to assess and evaluate student learning, including:

- Module Assignments - Formative and summative assignments are required for each module that requires students to demonstrate their understanding of topics and processes presented in each module. Examples: Ask the student to explore a website/article/video, then write about it, diagram something; Fill in a worksheet with online or provided data tables that illustrate central messages about food system function, impacts, and sustainability; or answer questions about the material to demonstrate their understanding of the concepts addressed in the module.
- Capstone activity - In order to assess the students understanding of the interdisciplinary topics covered in this course, students will need to demonstrate mastery of the course learning objectives via the completion of a capstone project. Example: Require that students assess the current status of the food systems in an assigned three-county region of the United States (or similar size overseas region) and consider the food systems in that region for the future scenarios of human population growth and increased temperatures.
- Weekly Quizzes that cover course material for the week's module.
- Weekly Blog Postings that require students to reflect on what they have learned.

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.

No direct linkage to other courses, but complements any course dealing with Earth sustainability, natural resources, production related topics e.g. food and agriculture, and geospatial/geographic aspects of human-environment interactions.

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.

This course will be required in the Earth and Sustainability minor being proposed to the Faculty Senate. It can be used as an introductory human or physical geography course for the existing Geography minor. The course will fulfill a General Education/Integrative Studies requirement in Social Sciences and/or Natural Sciences, and is appropriate for inclusion as a BA Fields course.

A description of any special facilities:

Either a technology classroom or online delivery.

Frequency of Offering and Enrollment:

Offered once each semester (i.e., 3 times per year) with an expected enrollment of approximately 300.

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.

Removing cross-listing with AGECO 3; adding Interdomain GS/GN and BA Fields designation. AGECO 3 will remain in the curriculum

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: GEOG 3 requires students to bring together information from multiple sources and contexts and critically and analytically evaluate that information to develop in-depth and broad-based understandings of agri-food systems and make informed decisions regarding these systems. Material presented in GEOG 3 challenges students to question taken-for-granted assumptions about the production and consumption of our food, and to carefully examine the implications of different food decisions and their impacts on environments and societies across the world.

INTEGRATIVE THINKING: A core focus of GEOG 3 is the exploration of the interconnectedness of people and the environment. As such, all topics draw from both natural and social sciences to provide a deeper understanding of human-environment relations. In addition to asking students to integrate natural and social science approaches, students are also asked to think across and integrate geographical and historical approaches, national and international contexts, and environmental and societal challenges.

GLOBAL LEARNING: One key goal of GEOG 3 is to help students increase their sensitivity, awareness, and knowledge of the global and international context of human interactions with nature. The course emphasizes the interconnections of our current food

systems between places, exploring how human-environment systems including food systems may be unevenly experienced or accessed in different places, and how changes in human-environment interactions in one place often impact people and systems in distant places. In addition to exploring the connections between places, GEOG 3 students are taught to examine the specificity of each place. For example, the week on place-based geography in agri-food systems teaches students the importance of paying in-depth attention to the historical, geographical, and social contexts of a particular place in order to understand the agri-food system present in that place.

SOCIAL RESPONSIBILITY AND ETHICAL REASONING: GEOG 3 students are encouraged to examine their role in and responsibilities for the sustainability of the social-ecological systems we inhabit and to take action in their own lives to contribute to a more equitable and sustainable environment. Students will also learn how to assess what current and future pathways for food production, distribution, and consumption are sustainable and ethically sound. In class, students will draw on required readings to respectfully and productively discuss and debate how humans' choices affect other people and places through food systems and the ethical ramifications of these choices.

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.

Students achievement of the learning objectives will be gauged primarily through five written formative and summative assessments (15% of class grade); participation in class discussions (15% of class grade); and a take-home final exam/project (20% of class grade). The take-home final will include a capstone activity through which students use course material to construct scenarios of future regionally based agri-food systems. Written assessments and participation will allow evaluation of how the students are integrating multiple approaches into their thinking about food systems and human-environment interactions; how they are grappling with their social and ethical responsibilities within globally connected food systems; and how they are recognizing, appreciating, and drawing on differences, similarities, and connected processes across space and scale. Exams (50% of class grade) will also demonstrate attainment of the global learning and integrative thinking objectives.

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?

EOG 3 students examine the functions of biogeophysical factors in agri-food systems, including the roles of soil, water, biota and climate in agri-food systems. Students are introduced to a variety of methods used by natural scientists to study the ecology and biogeography of food-producing landscapes and food systems, including landscape modelling, soil nutrient testing, water testing, and remote sensing.

Further, GEOG 3 students are taught natural science approaches to examining biodiversity, agroecology, adaptive capacity, carrying capacity, ecological footprint, life-cycle analysis, land use, soil nutrient management, and social-ecological systems. They are taught how natural scientists make claims and build evidence, as well as how to evaluate the evidence supporting the claim. Finally, students are encouraged to grapple with the societal implications of natural scientists' discoveries and consider how natural scientific exploration can be used in ethical reasoning.

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?

By focusing on the agri-food system as a major mode of human-environment relations, GEOG 3 illustrates how biogeophysical factors; political, economic, and cultural systems; historical conditions; and social identities interact in shaping human experience, behavior, and institutions. Recognizing the complex array of factors which influence human behaviors and institutions is core to the definition of human-environment geography, and these complex relationships are emphasized in this course.

GEOG 3 introduces students to social science approaches to studying agri-food systems, including research on the history of plant domestication and sedentary agriculture; the international economic and geopolitical organization of the global agri-food system; the relationship of population to food; and social resiliency, adaptation, and vulnerability to environmental and social factors such as climate change, economic globalization, migration, and urbanization.

GEOG 3 requires students to grapple with the ethical implications of social scientists' findings regarding the unevenly shared burdens and benefits of the modern, global agri-food system. Students are introduced to a number of social scientists whose research emphasizes and attempts to address these inequalities.

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 course that is fully centered on the interactions of humans and the environment, GEOG 3 draws extensively from both the natural sciences and social sciences to examine complex human-environment relations. Critical to these analyses are both biogeophysical processes and patterns such as landscape dynamics, distribution of soil nutrients, changing atmospheric patterns, and water systems. Of equal importance are social processes and patterns such as geopolitical relationships, global capitalist economic systems, governance institutions including non-profits and grassroots organizations, and human identity and social hierarchies such as race, class, and gender. The central objective of GEOG 3 is providing students with interdisciplinary frameworks that span the natural and social sciences to address the most pressing challenges of the 21st century.

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 GEOG 3 topics include discussion of how physical geographers (natural scientists) and human geographers (social scientists) contribute different approaches to answering questions regarding human-environment interactions, and particularly agri-food systems. GEOG 3 is guided by four key course objectives:

- 1) Survey and analyze environmental resources in relation to systems of food production, land use, and consumption across the globe;
 - 2) Survey and analyze how global and local human food systems significantly alter the earth's environmental systems and landscapes;
 - 3) Use environment and society geography to understand the resilience of agri-food systems in contexts of climate change, human population changes, and socioeconomic, cultural and policy factors which are interconnected but vary across space.
- All three objectives are addressed using theories, frameworks, and research methods from both the social and natural sciences.

Although all course topics weave together both natural science and social science approaches and concerns, some topics emphasize one approach more than the other, as outlined here:

Week 1: Introduction to Food and Sustainability in the Anthropocene 50% GN / 50% GS
Week 2: Geography and Environment-Food Challenges 50% GN / 50% GS
Week 3: Geographic and Historical Contexts: Domestication & Diversity 50% GN / 50% GS
Week 4: Agroecology and Soil Nutrient Management in Land Use 75% GN / 25% GS
Week 5: Food and Water: Nexus Issues in Env-Soc Geography 50% GN / 50% GS
Week 6: Exam Review and Exam 1
Week 7: Food and Climate Change 75% GN / 25% GS
Week 8: Global Industrial and Alternative Food Systems 25% GN / 75% GS
Week 9: Food Security/Insecurity: Global and National 25% GN / 75% GS
Week 10: Biodiversity and Place-Based Geography in Agri-Food Systems 75% GN / 25% GS
Week 11: Exam Review and Exam 2
Week 12: Diet and Nutrition Issues 25% GN / 75% GS
Week 13: Agroecosystems and Social Movements 50% GN / 50% GS
Week 14: Future Food Scenarios 50% GN / 50% GS
Week 15: Final Review

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.

GEOG 3 will be taught by Dr. Karl Zimmerer, or another Penn State human-environment geography faculty member, who has 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.

Formative and summative assessments (65% of class grade), in-class discussions (15% of class grade), and the final take-home project/exam (20% of class grade) are designed to assess students' ability to integrate questions, approaches, techniques, data, and research findings from both natural science and social science fields. To receive a high grade on these assignments, students must demonstrate that they recognize and draw from both biogeophysical processes and human/social processes in explaining complex human-environment and agri-food systems.

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)

As explained elsewhere in the proposal, GEOG 3 integrates natural and social science perspectives on human-environment interactions in agri-food systems (geographic and historical development; socioeconomic dimensions; biogeophysical factors including soil, water, biota and climate; future changes of climate; urbanization; dietary choices; and demography). The course offers a global perspective on the major challenges and opportunities facing food systems, including the sustainability of agriculture, organization of global food systems and local food initiatives, food insecurity, and the influence of modern diets on human health.

Campuses That Have Offered (GEOG 3) 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
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GEOG 3 Food and the Future Environment Syllabus

Credits: 3

Prerequisites: none

Course Designations: GenEd, Interdomain for GN (Natural Sciences) & GS (Social Sciences)

General Education Learning Objectives:

1. **CRITICAL AND ANALYTICAL THINKING** – the habit of mind characterized by comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating a conclusion.
2. **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.
3. **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.
4. **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.

Course Description:

GEOG 3 introduces students to the multiple connections of people and the environment through the dynamics of food and the places where it is produced, processed, and consumed. It is an introductory course in the subfield of Environment and Society Geography. This subfield understands the relations of people and the environment through the concepts of coupled, social-ecological systems and human-environment interactions. In addition the course uses Geography to integrate major environmental and societal challenges from multiple angles and thus introduces students to interdisciplinary integration. It provides an introductory-level learning experience broadly engaged with current issues, theory, methods, and history in global and regional relationships between human activity and the physical environment.

GEOG 3 specifically focuses on food and the environment. It introduces an integrated human-environment perspective on food systems in the United States, with emphasis on the Northeast and Western U.S., as well as in diverse locations around the world. The course offers a global perspective on the major challenges and opportunities facing food systems, including the sustainability of agriculture, organization of global food systems and local food initiatives, food insecurity, and the influence of modern diets on human health. Topics include introduction to the coupled human natural system (CHNS) perspective of human-environment interactions in agri-food systems (geographic and historical development; socioeconomic dimensions; biogeophysical factors including soil, water, biota and climate; future changes of climate; urbanization; dietary choices; and demography).

This course promotes critical thinking regarding key concepts in Environment and Society Geography such as coupled human-environment systems, the Anthropocene; anthropogenic landscapes and domestication; carrying capacity; ecological footprint; life-cycle analysis; globalization; urbanization, dietary change and land use; soils and society; environmental and social justice; climate change and resilience; agrobiodiversity and adaptive capacity; human-environment interactions involving vulnerability; regional analysis; geography and culture of food systems; development and food security; and social-ecological systems.

Students are encouraged to examine their role and responsibilities for the sustainability of the social-ecological systems we inhabit and to take action in their own lives to contribute to a more equitable and sustainable environment. The course will provide students with the opportunity to read, learn, and debate the ways in which humans value, use, affect, and are affected by small-scale and large-scale human-environment interactions. It will provide skills for the critical analysis and evaluation of the ways in which humans have transformed the environment in different parts of the world. Students will also learn how to assess what future pathways are sustainable and ethically sound. One key course goal is to help students increase their sensitivity, awareness, and knowledge concerning the global and international context of human interactions with nature.

Student learning outcomes: Upon completion of this course, students will be able to:

1. Survey and analyze environmental resources in relation to systems of food production, land use, and consumption;
2. Survey and analyze how human food systems significantly alter the earth's environmental systems and landscapes;
3. Use environment and society geography to understand the resilience of agri-food systems in contexts of climate change, human population changes, and socioeconomic, cultural and policy factors.

Readings: Required readings are listed for each week and must be completed prior to the Monday class meeting of that week unless otherwise noted. Readings average 50-60 pages/week. Many readings are the selected portions of the online modules that have been developed and tested during the past two years as part of the “Environment and Food” and “Future of Food” initiatives. There is one required book to purchase for the course (Environment and Food. By Colin Sage, 2011. New York: Routledge).

Disabilities: I will adjust the course for you to accommodate disabilities provided that you disclose them to me in the first week of classes. You must have current documentation from Penn State's Office for Disability Services (ODS) that confirms your disability status and supports your request for academic adjustments, auxiliary aids, and services:
<http://equity.psu.edu/ods/current-students>.

Academic Integrity: Please act with personal integrity and be respectful of other students. Do not engage in, or tolerate, acts of falsification, misrepresentation, or deception. Your individual assignments must be your own work and use proper citations. A first infraction will lead to a grade of zero on the assignment or exam on which you cheat; a second incident will result in

course failure. The EMS College policy on Academic Integrity, that we will follow, is explained in more detail at http://www.ems.psu.edu/current_undergrad_students/academics/integrity_policy.

Attendance policy: This course abides by the Penn State Class Attendance policy given at <http://senate.psu.edu/policies/42-00.html#42-27>.

Weather: Check WPSU-FM at 91.5 MHz, the web site <http://wpsu.org/closings>, or PSU (<http://live.psu.edu/>) for the official announcements about delay or cancellation advisories.

Grading and Requirements: Grades will be based on exams, written assessments in the on-line modules that will be assigned throughout the semester, and participation.

Exams: Make-up exams require a valid excuse and instructor permission prior to missing a regularly scheduled exam, and will be based on alternative formats and materials. The Final Exam will be take-home format and will involve a capstone activity building on course learning in order to construct the scenarios of a future regionally based agri-food system. More specific information on preparation for this capstone activity will be provided in weeks 3, 6, 11, 14, and 15.

Assessments: There will be a total of five (5) required sets of Formative and Summative Assessments as well as occasional Knowledge Checks. These will be graded as Complete/Incomplete. It is important your work be well-written, given thoughtful consideration, and submitted by the designated due date in order to receive credit as Complete. I strongly advise not waiting until the last minute to complete these assignments—give yourself adequate time. You'll learn more and better!

Participation: Participation is imperative and includes being well-prepared so you can be involved in thoughtful, verbal engagement during the class meetings. No more than two unexcused absence are permitted. In order to receive participation credit it is required you arrive on time, remember to turn off and put away your cell phone, and remain seated until completion. If you need to leave either early, please discuss your situation with me or the undergraduate course assistant prior to the start of class. When corresponding via email. Remember this is an academic exchange and treat it accordingly. No texting or otherwise checking your phone. Seriously. If caught, I will ask you to leave the class as it is a distraction to your classmates and to me. Moreover, I will deduct one percentage point from your final grade.

Grading: You will have the opportunity to earn up to 100 points this semester:

<i>Activity</i>	<i>Points</i>	<i>Percentage</i>
Exam 1 (2/15)	25	25
Exam 2 (3/29)	25	25
Exam 3 (Final)	20	20
Formative and Summative Assessments	15	15
Participation	15	15

Grades will be determined based on overall points, with the below classification, though I reserve the right to adjust a grade based on extenuating circumstances:

A = 93-100%

A- = 90-92%

B+ = 87-89%

B = 83-86%

B- = 80-82%

C+ = 77-79%

C = 73-76%

C- = 70-72%

D = 60-69%

F = <60%