



SENATE COMMITTEE ON CURRICULAR AFFAIRS
COURSE SUBMISSION AND CONSULTATION FORM

Principal Faculty Member(s) Proposing Course

| Name | User ID | College | Department |
|-------------------|---------|---------------------------------|---------------|
| JONATHAN BROCKOPP | JEB38 | Liberal Arts (LA) | Not Available |
| Mark Sentesy | mas986 | Liberal Arts (LA) | Not Available |
| GREGORY JENKINS | gsj1 | Earth and Mineral Sciences (EM) | Not Available |

Academic Home: Liberal Arts (LA)

Type of Proposal: Add Change Drop

Course Designation

(RLST 133N) Ethics of Climate Change

Course Information

Cross-Listed Courses:

PHIL 133N(LA) METEO 133N(EM)

Prerequisites:

Corequisites:

Concurrents:

Recommended Preparations:

Abbreviated Title: Ethics Climate Chg
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: Religious Studies (UPLA_RELLA)

Effective Semester: Upon Approval

Travel Component: NO

Course Outline

A brief outline or overview of the course content:

The course will have three components: 1) theories of nature and an understanding of climate science; 2) questions of justice, benefit and harm involved with our current energy system; 3) ethical consideration of proposed near- and long-term solutions.

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

Theories of nature and our place within nature - two weeks. An overview of the science of climate change - three weeks. Ethical theories: utilitarian, deontological and other ethical systems - two weeks. Application of ethical theories to climate change - three weeks. Understanding proposed solutions and others responses to climate change - two weeks. Ethical assessment of these proposals - two weeks Discussion of final projects - final week

Course Description:

Climate change is not only a political, economic, and social crisis, it presents one of the great moral problems of our time. This course will cover the science, policy, and ethics of climate change. It fulfills general science requirements by giving an overview of the role played by such diverse scientific disciplines as chemistry, earth systems, ecology, and geology in understanding our changing climate while also exploring mitigation and adaptation strategies being developed in the fields of engineering, forestry, agriculture, and others. It fulfills humanities requirements by delving into the ethical dimensions of climate change, including religious and humanistic theories of human flourishing, deontological and teleological theories of ethics, and analysis of specific choices addressed by international negotiators. A hallmark of this course is using Penn State as a "living laboratory" by taking advantage of both faculty expertise and the realworld activities of the Office of Physical Plant. Every week, students will interact with experts from various quarters of the University in order to see how climate change is being approached in a multi-disciplinary fashion. The first third of the course will feature guest lectures by EMS faculty working on paleoclimate, modeling, carbon sinks, ocean acidification and other aspects of climate science. The second portion will engage humanists, economists, historians, and artists at Penn State. The third will include tours of Penn State facilities, such as the East Campus Power Plant, and interviews with researchers developing new energy and sequestration technologies. In addition to exams and papers, students will prepare for a mock negotiation by learning about the energy profile and history of assigned countries. They will then have to set specific CO2 and temperature goals and come up with solutions to achieve these. The goal is to understand the role placed by ethical ideals in the pragmatic process of producing an equitable solution. In short, this course will give students the tools to understand the basic science of climate change and its ethical implications. Students will come away with a better sense of the moral dimensions of this phenomenon and the implications for human civilization and for the biosphere.

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

| Name: JONATHAN BROCKOPP (JEB38)

Title: ASSOC PROF RLST/HIST

Phone: +1 814 863 1338

Address: 0406 WEAVER BUILDING

Campus:

City:

Fax:

| Name: Mark Sentesy (mas986)

Title: Assistant Professor
Phone: +1 814 865 1674
Address: 0247 SPARKS BLDG
Campus:
City:
Fax:

Name: GREGORY JENKINS (gsj1)
Title: PROFESSOR OF METEOROLOGY
Phone: +1 814 865 0479
Address: 0510 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.

This interdomain course will give students the tools to understand the basic science of climate change and its ethical implications. Students will come away with a better sense of the moral dimensions of this phenomenon and the implications for human civilization and for the biosphere.

In this course, students will learn about the natural greenhouse effect and recent sources of carbon and non-carbon greenhouse gas emissions, which have enhanced the greenhouse effect leading a warmer earth. The various components of the Earth System (atmosphere, cryosphere, hydrosphere and biosphere) and their relationship anthropogenic climate change and projected changes from climate models are presented. We also discuss the role of aerosols, along with positive and negative feedbacks, which will determine the magnitude of climate change. Further, experts from PSU will give presentations on aspects of climate change including: sea level rise, ice-sheet loss, ocean acidification and changes to the biosphere. These elements provide the physical foundation of climate change for students to learn about the ethics of climate change. Therefore, as a general sciences (GN) course, students will be evaluated on the following objectives: 1) ability to explain the methods of inquiry in the various climate science fields; 2) demonstration of informed understandings of scientific claims and their applications; 3) evaluation of the quality of the data, methods, and inferences used to generate scientific knowledge about climate change.

By treating climate change as an ethical issue, not merely a scientific or policy problem, this course also delves into large, fundamental questions at the heart of the humanities. These questions will be examined through classical forms of ethical reasoning, addressing both the duties that we owe one another and also the consequences of our actions. These forms of analysis will be explored through the reading of ancient and modern texts, including excerpts from religious texts. The goal is to provide tools for students to appreciate the views of others as well as to better formulate their own views.

Therefore, as a general humanities (GH) course, students will be evaluated on the following objectives: 1) ability to explain the methods of inquiry in ethic; 2) demonstration of competence in critical thinking about topics such as human interaction with nature and the value of human and ecological flourishing; 3) critical evaluation of class texts, especially their ethical dimensions.

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.

Examinations will ensure mastery of scientific concepts. Papers will offer a space for integrative thinking, ethical reflection, and analysis. Mid-semester, students will form collaborative groups to research individual countries. They will then be trained in negotiation techniques and engage in a mock negotiation, mirroring international efforts. Participation in class discussions will also be evaluated, with suggestions for improvement. A final written project will allow students to explore a specific aspect of climate change ethics.

Fulfillment of general sciences (GN) objectives will be identified through participation in class discussion, acceptable achievement on the first unit exam (25%), and through the writing of a response paper (10%) to one of our readings in this first unit.

Fulfillment of general humanities (GH) objectives will be identified through participation in class discussion, preparing for and participating in a mock negotiation (20%), and through the writing of a response paper (10%) to one of our readings in this second unit.

A final research project (20%) will allow students to explore a specific aspect of climate change ethics based on both scientific and ethical competence. Participation (including attendance) will make up the remaining 15% of the class evaluation.

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.

This course is designed to introduce students to the multitude of scientific disciplines working on aspects of climate change, and to the ethical issues this scientific work brings up. As such, it provides an excellent introduction to related subjects in both science and engineering. These connections are too numerous to list here, but Meteorology for example currently offers several advanced courses related to climate change. In the humanities, this course provides an excellent introduction to courses on environmental ethics, bioethics, and philosophy of technology, while the focus on different religious responses to climate change engages the critical analysis of the role of religion as a source for ethical norms. The interdisciplinary minor in sustainability leadership is another path that will be of interest to students coming out of this course.

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.

In addition to the interdisciplinary minor in sustainability leadership mentioned above, this general education course may serve a role in several majors and minors across the University, such as Philosophy, Religious Studies, and Meteorology.

A description of any special facilities:

None

Frequency of Offering and Enrollment:

Every semester

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.

Climate change poses challenging ethical problems. Integrative thinking is essential to addressing these problems because effective ethical analysis requires both a basic scientific literacy as well as comprehension of ethical theories. These theories reflect fundamental notions of the meaning of life and the purpose of action found in classical texts, religious scripture, and other sources.

[Social responsibility and Ethical Reasoning] Students will be challenged to understand and develop their own ethical commitments in reflecting on these and other writings.

[Critical and Analytical Thinking] Key to this reflection is the ability to analyze and critically assess views that are different from ones that students may hold, and also to assess the various ways that people employ scientific information in formulating their arguments.

[Effective Communications] It is also a fundamental presumption of the instructors that students work out these responses best by communicating them to their peers in written and oral form.

Due to the interdisciplinary nature of this course, the four General Education Learning Objectives noted above will be integrated throughout the semester. However, CRITICAL AND ANALYTICAL THINKING are especially emphasized in the first unit, where the course will emphasize the science of climate change in light of larger questions of how we regard nature and our place within nature. When we address the scientific data of climate change, students will be asked to critically evaluate this evidence, adding both integrative thinking and critical analysis from the beginning. EFFECTIVE COMMUNICATION of this analysis will begin already in this unit, but is especially emphasized in the second unit, focusing on both writing and public speaking in preparing for the mock negotiation in this unit. Finally, the third unit puts an especial emphasis on SOCIAL RESPONSIBILITY AND ETHICAL REASONING, as demonstrated in the final research project. This project must demonstrate competence in both GH and GN objectives, demonstrating the INTEGRATIVE THINKING that is central to this course.

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.

When it comes to climate change, General Education objectives depend on mastery of basic factual information, assessed by acceptable achievement on the first unit exam (25%). A response paper (10%) to one of our readings in that first unit demonstrates our understanding that the process of writing is an essential element in forming persuasive arguments, a key to the emphasis on CRITICAL AND ANALYTICAL THINKING in this unit. But because papers will ask students to draw out the ethical implications from the scientific data, considering multiple points of view, it also introduces students to SOCIAL RESPONSIBILITY AND ETHICAL REASONING.

Written preparation is also fundamental to participation in a mock negotiation (20%) in the second unit, where students will learn "integrative negotiation" strategies that require both broad knowledge and a willingness to consider multiple goals. Students will form research teams to delve into the history and energy profiles of individual countries. All of these country teams must then negotiate specific climate goals in an integrative (aka collaborative) way, in order to find a solution that is mutually acceptable. Therefore, writing and public speaking are integrated into the EFFECTIVE COMMUNICATION focus for this unit; a second response paper (10%) builds on the notions of SOCIAL RESPONSIBILITY AND ETHICAL REASONING introduced in the first unit.

Finally, a research project (20%) at the end of the course caps the focus on INTEGRATIVE THINKING that makes up the special focus for this unit. This project will allow students to explore a specific aspect of climate change ethics integrating both scientific and ethical competence. Essential to this task is the ability to accurately report matters of fact, correctly account for different ethical opinions, and make substantial arguments in favor of one view while respecting opposing positions. Participation (including attendance) will make up the remaining 15% of the class evaluation.

General Education Domain Criteria

General Education Designation: Inter-Domain

GH Criteria

- Explain the methods of inquiry in humanities fields and describe how the contributions of these fields complement inquiry in other areas
- Demonstrate competence in critical thinking about topics and texts in the humanities through clear and well-reasoned responses
- Critically evaluate texts in the humanities— whether verbal, visual, or digital— and identify and explain moral or ethical dimensions within the disciplines of the humanities
- Demonstrate knowledge of major cultural currents, issues, and developments through time, including evidence of exposure to unfamiliar material that challenges their curiosity and stretches their intellectual range
- Become familiar with groups, individuals, ideas, or events that have influenced the experiences and values of different communities

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

By treating climate change as an ethical issue, not merely a scientific or policy problem, this course delves into large, fundamental questions at the heart of the humanities. These questions will be examined through classical forms of ethical reasoning, addressing both the duties that we owe one another and also the consequences of our actions. These forms of analysis will be explored through the reading of ancient and modern texts, including excerpts from religious texts. The goal is to provide tools for students to appreciate the views of others as well as to better formulate their own views. Climate Change poses especially difficult ethical problems, because there is a disconnect between those who are causing the harm and those who are suffering the first consequences. A second disconnect comes from the fact that consequences of current decisions will be visited on generations (and a biosphere) of the future. Why we should care about these people removed from us in time and space is not immediately obvious, and requires acts of imagination and reason. Students will demonstrate their ability to reason through these difficult issues through both essays and the "mock negotiation" process described above.

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?

Fundamental to the formation of ethical judgments is the ability to understand the factual basis of the issue at hand. But this course goes well beyond description of the "facts" of climate change to include a deeper appreciation of the methods used by scientists to understand the changes that they are observing in the natural world and the changes they project for the future. To guide this exploration, a textbook (such as Richard Alley's Earth: The Operator's Manual) will be used to help make sense out of the many different scientific fields involved. But this class is also based on the notion of using Penn State as a living laboratory. As such, guest lectures (from researchers such as Alley, Ken Davis, Ray Najjar, Denise Wardrop, and more) will provide an opportunity to learn from Penn State scientists the ways that the scientific method is used to reason from observation to theory. Field trips will give students the opportunity to engage in first-hand observation of, for example, ice cores in the Deike freezer and hemlock stands in the Alan Seeger natural area.

This course also covers work on mitigation and adaptation to climate change, and therefore includes an overview of applied scientific endeavors. These endeavors include cutting-edge research on carbon sequestration as well as research on batteries and sustainable energy. Forestry and Agriculture also have important roles to play in carbon sequestration. Further, Penn State's own Office of Physical Plant is setting emissions goals for the University as a whole, and students will have the opportunity to tour power plants and other installations on campus.

Mastery of this material will be assessed through both exams and papers.

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.

Until recently, climate change was perceptible primarily through the lens of scientific study. The unit on the science of climate change explicitly addresses the scientific methodology that makes the phenomenon evident, and the data, methods, and inferences that make the conclusions of climate science reliable. In addressing the ethical, societal, and philosophical implications of these discoveries throughout the remainder of the course, students will develop an informed understanding of these claims and their application.

Climate science is not only theoretical. It confronts humanity with phenomena that require ethical deliberation, critical thinking, effective communication, and sensitivity to the history and self-understanding of communities of all kinds. By beginning with early views of the human place in nature, and by examining questions of justice, ethics and religion in relation to climate change, the course requires students to read and interpret texts in the humanities, respond critically, and to use reason to expand their understanding of civilization and their role in the world.

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.

The course syllabus will fully integrate the two domains, beginning with early theories of nature and our place within nature that represent the best science of the pre-modern era. In this period, the best scientists were also ethical philosophers of renown. However, three weeks are then devoted to an overview of the modern science of climate change, and an exam will test student mastery of this material. Thereafter, ethics and modern science are deeply connected. The three weeks devoted to ethical theories will take climate science as its examples, and the time devoted to technologies of mitigation and adaptation will include an ethical assessment of these proposals. In both these cases, written papers will challenge students to integrate their understanding of scientific methods with ethical analysis.

The mock negotiation in mid-semester and the final project at the end of the semester will also require integration of these two domains. Because the mock negotiation will aim to achieve a specific result (e.g. a 1.5 degree Celsius rise in temperature), students must understand the relationship of CO2 production, carbon sequestration, and other feedback mechanisms to engage in the negotiation. Likewise, a final project will allow students to explore a specific aspect of climate change ethics.

Students will demonstrate their mastery of general sciences (GN) concepts through participation in class discussion, acceptable achievement on the first unit exam (25%), and through the writing of a response paper (10%) to one of our readings in this first unit. Students will demonstrate their general humanities (GH) competence by participation in class discussion, preparing for and participating in a mock negotiation (20%), and through the writing of a response paper (10%) to one of our readings in this second unit. The final research project (20%) requires integration of both knowledge domains.

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.

While each iteration of this course will be taught by a single faculty member, the instructional team of Brockopp (Religious Ethics), Jenkins (Meteorology), and Sentesy (Philosophical Ethics) will serve as an ongoing resource. Should other Penn State faculty members wish to teach this course, the instructional team is ready to provide advice and training, if needed. While all members of the team have appropriate expertise in this area, the course is specifically designed to incorporate 7-8 guest lectures, giving students the opportunity to delve deeply into specific information unique to each knowledge domain.

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

Written papers will challenge students to integrate their understanding of scientific methods with ethical analysis. The mock negotiation in mid-semester and the final project at the end of the semester will also require integration of these two domains. Because the mock negotiation will aim to achieve a specific result (e.g. a 1.5 degree Celsius rise in temperature), students must understand the relationship of CO2 production, carbon sequestration, and other feedback mechanisms to engage in the negotiation. Likewise, a final project will allow students to explore a specific aspect of climate change ethics.

Campuses That Have Offered () 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 |
|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------------------------------------|----|----|----|----|----|----|----|
| Spring 2018 | | | | | | | | | | | | | | | | | | | | | <input checked="" type="checkbox"/> | | | | | | | |

RL ST / PHIL / METEO 133: ETHICS OF CLIMATE CHANGE

M, W, F 1:25PM - 2:15PM

Chambers Bldg 105

Jonathan Brockopp

863-1338

406 Weaver

brockopp@psu.edu

Office Hours: Wednesdays, 10 a.m. to noon and by appointment

Course Description

Climate change is not only a political, economic, and social crisis, it presents one of the great moral problems of our time. This course is an introduction to the science, policy, and ethics of climate change. Students will also meet some of the key individuals working on climate change here at Penn State.

Course Objectives

This interdomain course will give students the tools to understand the basic science of climate change and its ethical implications. Students will come away with a better sense of the moral dimensions of this phenomenon and the implications for human civilization and for the biosphere.

As a general sciences (GN) course, students must be able to explain the methods of inquiry in the various climate science fields; demonstrate informed understandings of scientific claims and their applications; and evaluate the quality of the data, methods, and inferences used to generate scientific knowledge about climate change. Students will demonstrate their mastery of these concepts through participation in class discussion, acceptable achievement on the first unit exam (25%), and through the writing of a response paper (10%) to one of our readings in this first unit.

As a general humanities (GH) course, students must be able to explain the methods of inquiry in ethics, demonstrate competence in critical thinking about topics such as human interaction with nature and the value of human and ecological flourishing, and critically evaluate class texts, especially their ethical dimensions. Students will demonstrate their ability to incorporate the new knowledge they have gained in the first unit by participation in class discussion, preparing for and participating in a mock negotiation (20%), and through the writing of a response paper (10%) to one of our readings in this second unit.

A final research project (20%) will allow students to explore a specific aspect of climate change ethics.

Required Texts:

Don Brown. *Climate Change Ethics: Navigating the Perfect Moral Storm*.

Richard Alley. *Earth: The Operators' Manual*.

Pope Francis. *Laudato Si -- On Care for Our Common Home*.

[additional readings TBA]

Unit 1: the science

Week 1 Understanding nature and our relationship to it

Reading: Selections from Aristotle, *Nicomachean Ethics*, the Bible, Epic of Gilgamesh, The *Tao Te Ching*

Week 2 Energy and the natural environment previous to the 20th century

Reading: Alley, ix-40

Field Trip: Alan Seeger Hemlocks with Jim Hamilton

Week 3 Assessing the scientific method and the science of climate change

Reading: Alley, 43-93

Week 4 Lessons from the paleoclimate

Reading: Alley, 94-140 *Special meeting with Richard Alley*

Week 5 Carbon Dioxide and our current warming

Reading: Alley, 141-206

Week 6 Current impacts: Ocean acidification

Special meeting with Ray Najjar

First Unit exam

Unit 2: Ethical issues

Week 7 Ethical theories: duty, utility, human rights, and speciesism

Reading: Excerpts from Anthony Weston, *A 21st Century Ethical Toolbox*

Week 8 Special problems: historical responsibility; climate justice

Reading: Brown, 91-137; Jalonne White-Newsome, "A policy approach toward climate justice"

Virtual Field trip to Philadelphia

Week 9 The Climate Change debate

Reading: Brown, 3-54

Special meeting with Don Brown

Week 10 Negotiation – meeting CO₂ targets through international cooperation

Reading: Brown, 138-177

Week 11 The religious ethics of climate change

Pope Francis, 1-84

Unit 3: mitigation and adaptation

Week 12 Integral Ecology

Pope Francis, 85-140

Week 13 Wind and solar

Reading: Alley, 207-290

Special meeting with Jeffrey Brownson

Week 14 Conservation, sequestration and geo-engineering

Reading: Alley, 291-332

Field trip: West Campus steam plant (Paul Moser)

Week 15 Discussion of final projects

Grading Policy

The requirements for the course will be weighted as follows: two short response papers (10% each), first unit exam (25%), mid-term research project (20%), final research project (20%), participation (including attendance and discussion: 15%). For quantifiable data, A = 93 to 100; A- = 90 to 92.9; B+ = 87 to 89.9; B = 83 to 86.9; B- = 80 to 82.9; C+ = 77 to 79.9; C = 70 to 76.9; D = 60 to 69.9 and F = 59.9 and below. There is no curve; rather, grades are based on both objective and subjective criteria. Please, always present your own work (see the notice on academic integrity at the end of the syllabus).

Attendance Policy

Students are expected to attend every class session, and the participation grade will be reduced for any unexcused absences.

Exam Policy

To be determined. Please consult your instructor.

Academic Integrity

The Pennsylvania State University defines academic integrity as the pursuit of scholarly activity in an open, honest and responsible manner. All students should act with personal integrity, respect other students' dignity, rights and property, and help create and maintain an environment in which all can

succeed through the fruits of their efforts (Faculty Senate Policy 49-20). Dishonesty of any kind will not be tolerated in this course. Dishonesty

includes, but is not limited to, cheating, plagiarizing, fabricating information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Students who are found to be dishonest will receive academic sanctions and will be reported to the University's Judicial Affairs office for possible further disciplinary sanction. Please see the instructor if you have any questions on this policy.

Disability Policy

The Pennsylvania State University encourages qualified people with disabilities to participate in its programs and activities and is committed to the policy that all people shall have equal access to programs, facilities, and admissions without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. If you anticipate needing any type of accommodation in this course or have questions about physical access, please tell the instructor as soon as possible.