

APPLICATION FOR COURSE APPROVAL FOR GENERAL EDUCATION PROGRAM

Course Number: HPR 201

Course Title: Global Change

Check the general education core area for this course: *

English Communication

Fine Arts & Literature

Foreign Language/Cross-cultural Competence

Letters

Natural Sciences

Social Sciences

Mathematical & Quantitative Reasoning

*Note: courses can qualify in more than one area but a separate form is required for each request. Students may use a course for general education credit in one area.

Department(s) in which course will be taught: Honors Program

Faculty member(s) responsible for course: Steven D'Hondt, GSO, Judith Swift, Communication Studies and Theatre, Arthur J Spivack, GSO

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Will non-tenure track faculty teach this course?

Yes

No

If yes, approximately what percentage of sections will be taught by non tenure-track faculty?

The integrated skills** that this course will focus on are:

- Examine human differences
- Read complex texts
- Speak effectively
- Use of artistic activity
- Use of qualitative data
- Use of quantitative data
- Use of information technology
- Write effectively

*Note: At least three integrated skills are required.

Course description (as would be found in catalog):

A critical analysis of the (1) scientific evidence relevant to global environmental changes, their causes and potential consequences, (2) potential pathways for responding to or mitigating them, and (3) social and economic costs and opportunities associated with global change. The colloquium will include, public lectures by internationally recognized experts across a range of fields, including scientists, journalists, politicians, and social critics as well as a film series.

Faculty member's signature

For Professors Spivack and D'Hondt _____

Chairperson's signature _____

Dean's signature _____

The purpose of this application is to assure that the proposed course meets explicit goals established for the general education program. These are:

the ability to think critically in order to solve problems and question the nature and sources of authority

the ability to use the methods and materials characteristic of each knowledge area with an understanding of the interrelationship among and the interconnectedness of the core areas

a commitment to intellectual curiosity and lifelong learning

an openness to new ideas with the social skills necessary for both teamwork and leadership

the ability to think independently and be self-directed; to make informed choices and take initiative

PART I

This part consists of six questions designed to highlight fundamental aspects of the general education program. Only answer question 5 if it is relevant to your course.

□

1. If not stated in your syllabus, please indicate the primary learning objective(s) of your course.

Students will develop an understanding of a range of interdisciplinary fields related to global environmental change. Specifically, they will develop the ability to analyze the strengths and weaknesses in scientific evidence and hypotheses, the social and economic costs and the political and societal responses to human caused global change.□

2. How does the proposed course meet the goals established for the general education program?

The course combines readings, lectures and films that, 1) present a basic scientific view of the earth/climate system, 2) critically examine potential physical, biological, economic and societal impacts of global change and 3) examine policy and technological responses to mitigate climate change. These areas will also be examined within an historical context. The class will meet twice weekly. Lectures by internationally recognized experts and screening of films followed by panel discussions will be on alternate weeks. One class period each week will be used for a combination of lecture and class participatory discussion. The readings will be related to the topics presented by the lecturers and used to prepare the students with the background to critically evaluate and challenge the presentations of the lecturers.

There will be homework assignments that include essays and quantitative reasoning. These are designed to have the students focus on distinguishing the strengths and weaknesses in data and hypotheses, between evidence and inference, and between scientific objectives and societal objectives. The essays will be designed to have the students intellectually prepared for the discussions. With three faculty and one TA we

will be able to breakdown the large class into sub-groups that will allow all the students to actively participate in the discussions.

3. How is the course suitable for the general education area you have requested it be classified:? Please refer to the criteria for the relevant division as described in Appendix A as well as to your course materials appended to this form

Topics covered in this course that are directly related to the definition of general education Natural Science courses include, the physical controls on climate, the record of climate variability, the interactions between biological activity, atmospheric composition and climate, the anthropogenic greenhouse effect, and marine ecosystems.

Criteria in Appendix A for a Natural Science Course and responses are in the following italicized list.

Courses in Natural Sciences will:

1. Develop student understanding of how scientists collect and interpret data in one or more disciplines within the natural sciences.

This will be covered in readings on the scientific basis and evidence for global climate and biological change. Homework assignments have been developed that require students to analyze actual data sets and models. These include, sediment records of climate change, ice core records of atmospheric chemical composition, and global climate models. The basic data that informs scientific arguments about global change will be analyzed and discussed.

2. Provide a foundation of knowledge in one or more areas of a natural science.

This course is fundamentally interdisciplinary and includes basic concepts of climatology, biology, physics and chemistry.

3. Create assignments designed to develop critical thinking skills necessary to understand and interpret scientific information

Homework assignments have been developed that require the interpretation of data as well as developing the ability to use mathematical concepts such as scientific notation and statistics. There will also be essays and discussions concerning responses to climate change that require the evaluation of scientific data.

4. Develop student understanding of the importance of the natural sciences in resolving real life problems

This area is central to this course. A major portion of this course will focus on responses to global environmental change.

4. Explain how this course provides opportunities for practice in each of the integrated skills you have listed on the coversheet.

Read complex texts- There will be weekly reading assignments from a variety of sources include professional journals, books and UN reports. Examination of films is also a “reading” of complex texts when studied as a means to convey information, persuade through text and moving image, and capture an array of perspectives. Films also provide the opportunity to examine the efficacy of nonverbal communication in greater detail.

Speak effectively- Students are expected to actively participate in weekly discussions as well as present short oral reports with the opportunity for feedback and improvement.

Use of qualitative data- The written assignments will include the qualitative analysis of climate feedback systems.

Use of quantitative data- Homework assignments will include graphing and simple statistical analysis.

Use of information technology- Homework assignments will include the use of interactive climate models on the Internet.

Write effectively- Homework assignments will include short essays that will be evaluated and corrected with an eye to continuous improvement in both style and content.

5. Will your course sometimes be taught to groups of students larger than 60? If so, please explain what you will do to insure that each of the integrative skills will be achieved. Please explain how each integrative skill will be achieved.

While the course may have 60 students overall, the three instructors and a TA ensure that students receive instruction in smaller groups.

6. If other instructors (including per course faculty or teaching assistants) teach the course, what will be done to ensure that the proposed content and skills will be maintained across sections and instructors?(To be completed by department chair.)

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PART II

Please provide documentation of the means by which your course attempts to reach the goals of the general education program courses described above. Please attach a syllabus (mandatory) and all relevant course materials (e.g., exams, homework and laboratory assignments, classroom exercises) that will demonstrate how your course does this. In addition, please feel free to include any explanation(s) necessary showing how the course materials are linked to both the goals of general education program and specifically to the integrated skills.

List of lecture topics and speakers (subject to change):

Historical Background on Global Climate Change- Elizabeth Kolbert, author and columnist, New Yorker Magazine.

Human Effects on the Ocean and its Ecosystems- Professor Jeremy Jackson, UCSD.

Mitigation of Greenhouse Gasses and Geo-engineering- Dr. Ralph Cicerone, President of the National Academy of Science, invited.

Evidence of Global Climate Change- Professor Michael Mann, Pennsylvania State University.

The Role of States' Leadership in the Political Response to Human Caused Climate Change - Governor Arnold Schwarzenegger, invited. (Or a speaker with a similar focus)

Climate Change Mitigation Economics- Speaker to be announced.

Dr. Robert H. Bullard (or a speaker with a similar focus), Professor of Sociology at Clark Atlanta University and one of the leading authorities in the nation regarding environmental justice. (Green Box Event for Diversity Week)

List of films and associated topics from the following (subject to change):

The Day After Tomorrow – A big-budget, special-effects-filled Hollywood look at the “Armageddon” of global climate change leading to an Ice Age. Panel to discuss legitimate versus junk science, the impact of disaster rhetoric and images in effecting change.

Planet in Peril – A two-part, four-hour documentary that examines our changing planet from the perspective of four key issues: climate change, vanishing habitats, disappearing species and human population growth. The panel will focus on one selection, e.g. human population growth.

Katrina – A Storm That Drowned a City – NOVA’s investigation of the science of Katrina, focusing on the hurricane as well as the loss of wetlands, land subsidence and the peril facing coastal cities. Panel will discuss the historic pattern of human habitat in coastal regions and the collision of human values – aesthetic, economic, cultural – with those of shifting baselines in climate and weather.

The Great Warming – examination of international “contributions” to climate change from a Chinese family shopping for a first car to a Mongolian goatherd burning dirty fuel for electricity. Panel to discuss pressures of developing nations increasing their carbon footprint in emulation of the U. S. lifestyle of consumption of resources and creation of greenhouse gases and the role of faith-based organizations in reversing trends.

Soylent Green – The year is 2022. Natural food is extinct, the Earth is overpopulated and New York City has 40 million starving and poor who survive with water rations and a food called Soylent. Panel will discuss the prescient nature of film and its role as a motivator to effect change. Made in 1973, this film will provide a gateway to a discussion of the historical perspectives of technology, scientific discovery and application, many celebrated in their day but later condemned as harmful to the planet.

Six Degrees Could Change the World - National Geographic examination of anticipated change for each degree of temperature increase globally. Panel discussion will focus on literal degrees of change projected by scientists. Explanation of weather versus climate and how each 1° of change can be profound.

Waterworld – A futuristic thriller in which humans fight the ultimate in sea level rise. Panel to discuss actual projections for extremes in sea level rise.

Theatre:

It's a Shore Thing: A Coastal Cabaret – focuses on transmission of scientific understanding of major issues in the coastal zone including eutrophication, the value of estuaries, human attempts to control nature, anthropogenic impacts and historical perspectives. This event moves beyond the traditionally accepted modes of learning, i.e., abstract, visual, communication and applied, and incorporates emotional learning as a means to create “stickiness.”

“Green Box” Events:

These are events that will occur outside the regular Tuesday schedule and include a multi-venue exhibit of maps and images designed to promote visualization of global change issues and a website that ties all of the colloquium components together to allow wider dissemination of lectures and associated resources. A special lecture will focus on Diversity Week. Possible speaker: Dr. Robert H. Bullard (or a speaker with a similar focus), Professor of Sociology at Clark Atlanta University and one of the leading authorities in the nation regarding environmental justice.