SNES 2000: Environmental Sciences Colloquium

FALL 2008: Climate Change and Our Energy Options

"Every human has a fundamental right to an environment of quality that permits a life of dignity and well-being."
(United Nations Conference on Human Environment)

135 Emerson
Fridays 12:20-1:10pm

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Office Hours: Wed 1-2 and by arrangement (Riha)
Wed 11-12 and by arrangement (Lehmann)

Grading: S/U, 1 credit

I. Rationale

Contemporary environmental issues pose complex challenges to societies that require multidisciplinary views and interdisciplinary approaches to their solution. This colloquium is designed to facilitate an in-depth, multi-faceted understanding of a current environmental issue. In addition, it will give students the opportunity to meet and interact with other students, faculty and guest speakers with a strong interest in the environment.

Typically, the colloquium is taken for credit by SNES majors in both their Sophomore and Senior year. The Environmental Sciences Colloquium will be open to the entire Cornell community and the public. It is a forum and focal point for the Environmental Sciences community at Cornell.

II. Course Aims and Objectives

Aims

This course should provide a platform for discussion about current issues in the Environmental Sciences and introduce students to the complexity of information, views, and approaches. The colloquium serves as a meeting point for SNES majors across all semesters.

Specific Learning Objectives

By the end of this course, students will:

- have a current overview of a major environmental topic.
- have researched a new topic.
- be acquainted with a leading authority on a major environmental issue.

III. Format and Procedures

Each Spring, the SNES steering committee in conjunction with SNES students will choose an overall theme for the following Fall term. The theme should have contemporary relevance, be of regional concern, combine biophysical, economical and policy aspects and have appeal to a broader audience. A committee consisting of at least two faculty instructors and two SNES students will develop a list of topics and speakers that are relevant to the theme proposed for that year. The committee will invite the speakers and each speaker will be interviewed and introduced during the session by a group of students assigned to a particular session. Each

session consists of a presentation by the speaker followed by a discussion section that is organized and prepared by the students.

Students that take the course for credit will be assigned to groups of 2-3 students who will each organize one session during the semester. The students will interview the speaker about his/her career and motivation for the environmental sciences, discuss with the speaker the overall goals of the colloquium, the framework and other session topics that will be given during that particular year as well as facilitate the presentation by the speaker organizationally. The students will also introduce the speaker at the beginning of the session and guide the discussion section. In coordination with the speaker, students are expected to develop reading material and three questions that will be circulated to all registered participants prior to each session.

IV. Assumptions

This course should be a fun way to familiarize ourselves with the most pertinent issues in the environmental sciences today. The topics should be inspiring and the speakers should cover a wide range of aspects. The contemporary concerns over environmental degradation are expected to foster engaged discussions and profound preparation by the students. The speakers come from academia as researchers and teachers, but also from journalism, administration, politics, non-government organizations, or industry. The different perspectives will provide for balanced and varied view points.

The responsibility for the success of each session rests to a large part with the group of students that are charged with the preparations. This responsibility is thought to motivate the students to research the topic thoroughly.

V. Course Requirements

1. Class attendance and participation policy: Attendance at all class times is required.

2. Course readings: One week before each speaker session, reading material will be posted on the course web site.

3. Assignments:

(a) The first week, groups will be formed and assigned to one specific topic and speaker, student groups are then requested to perform a background research on the topic. This can be done by using search engines such as Google or ISI Web of Science to search for title key words. In addition, students should research the scientific and popular publications and any other material of the speaker. This information should be used as the basis for formulating questions to the speaker about the topic.

(b) During the following week, student groups will get in contact with their respective speakers and gather more information from the speakers about their topic.

(c) The student groups will prepare reading material in consultation with the speakers and distribute those through the course web site a week before their scheduled session.

(d) In addition, student groups will formulate at least three questions about the topic that are likely to motivate further discussion.

(e) Student groups will host the speakers. This means students will be the point people for their stay in Ithaca (if they are from out-of-town) and make sure that speakers have all the technical and organizational back-up that they need. Students will also introduce the speaker before the talk, listing educational background, professional career and any other pertinent information (about 2-3 minutes). This brief introduction requires a conversation with the speaker and background research.

(f) Students will also chair the question and answer session and foster discussion by asking the prepared questions.

4. This course does not require students to take any exams.

VI. Grading Procedures
S/U only. Class success will be based on full attendance, organization of reading material, questions prepared and organization of the session.

VII. Academic Integrity
Each student in this course is expected to abide by the Cornell University Code of Academic Integrity. Any work submitted by a student in this course for academic credit will be the student's own work.

You are encouraged to study together and to discuss information and concepts with other students. You can give "consulting" help to or receive "consulting" help from such students. However, this permissible cooperation should never involve one student having possession of a copy of all or part of work done by someone else, in the form of an e mail, an e mail attachment file, a diskette, or a hard copy.

Should copying occur, both the student who copied work from another student and the student who gave material to be copied will both automatically receive a zero for the assignment. Penalty for violation of this Code can also be extended to include failure of the course and University disciplinary action.

VIII. Accommodations for students with disabilities
In compliance with the Cornell University policy and equal access laws, we are available to discuss appropriate academic accommodations that may be required for student with disabilities. Requests for academic accommodations are to be made during the first three weeks of the semester, except for unusual circumstances, so arrangements can be made. Students are encouraged to register with Student Disability Services to verify their eligibility for appropriate accommodations.

IX. Additional Resource Readings (for those who are interested, not mandatory)

- posted on website -

X. Course Schedule (*May change to accommodate presenter schedules & student needs*)

August 29	Introduction to the course: Organization, expectations, format
September 5	Group discussion and preparation for first speaker
September 12	Biofuels: Part of the solution to global climate change? *Robert Howarth, Cornell University, Ecology and Evolutionary Biology*
September 19	To be announced
September 26	Strategic choices for biofuel energy and GHG mitigation *John Duxbury, Cornell University, Crop and Soil Science*
October 3	Biogas: Sustainable energy systems with a bioenergy correctness! *Norm Scott, Cornell University, Biological and Environmental Engineering*
October 10	Reducing CO_2 generation in energy systems: Inventions and breakthroughs needed *Frank DiSalvo, Cornell University, Chemistry and Chemical Biology*
October 17	To be announced
October 24	Meeting our energy needs and environmental goals – issues to consider *Mark Watson, New York State Energy Research and Development Authority (NYSERDA)*
October 31	Putting a price on CO_2: The regional greenhouse gas initiative *Douglas Mitarotonda, Office of Climate Change, New York State*
November 7	Kicking and screaming: How the American media is covering climate change *Aries Keck, Freelance science journalist*
November 14	The Cornell University Renewable Bioenergy Initiative (CURBI) *Drew Lewis, Cornell University*
November 21	A community partnership for climate protection *Gay Nicholson, Sustainable Tompkins Program Coordinator, Southern Tier Energy$mart Communities Regional Coordinator*
November 28	Thanksgiving, no class
December 5	Final discussions