

## **ECON 228: ENVIRONMENTAL ECONOMICS**

**Spring Semester, 2008**

**Prof. Stacy Sneeringer**

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**Course Website: [http://www.wellesley.edu/Economics/Sneeringer/econ\\_228/index.html](http://www.wellesley.edu/Economics/Sneeringer/econ_228/index.html)**

**Office hours: Mon. 12:30-1:30pm, Tues., 11:15-12:15, Thurs. 1-2pm and by appointment**

### **COURSE DESCRIPTION:**

This course considers the economic aspects of resource and environmental issues. After examining the concepts of externalities, public goods, and common property resources, we will discuss how to measure the cost and benefits of environmental policy, in order to estimate the socially optimal level of the environmental good. Applications of these tools will be made to air and water pollution, renewable and non-renewable resources, and global climate. In addressing each of these problems we will compare various public policy responses such as regulation, marketable permits and tax incentives.

**PREREQUISITE:** ECON 101. You are expected not merely to have taken Econ101, but also to recall the material. I also assume that you have high school math skills including summation, algebra, and geometry. If you need to refresh your memory on these topics, please go to the library and review math textbooks.

### **COURSE MEETINGS:**

The class meets on Mondays and Thursdays from 11:10-12:20pm in PNE127. Students are strongly encouraged to attend classes, as class attendance is a good indicator of class performance.

### **COURSE CONFERENCE:**

You will automatically be subscribed to the course conference. Please get in the habit of checking it when you check your email. I will use the conference to make announcements and post assignments and handouts, and you can use it to ask questions of me or of your fellow students. I also at times use it to clarify material or answer questions from lecture that I did not have time to answer. *You are responsible for everything on the course conference.*

### **TEACHING ASSISTANT AND TUTORING:**

The course teaching assistant, Lauren Nelson, has drop-in hours in the Econ Help Room on Wednesdays from 7-9pm. The TA is not responsible for answering any questions outside of these hours, so please do not send her email. Students who are interested in having an individual tutor should speak with me and contact the PLTC.

### **COURSE REQUIREMENTS:**

1. **PROBLEM SETS.** There will be four problem sets. You **MUST** work in groups of between 2 and 3 people, and hand in one set of answers per group. If you work alone, I will deduct points from your grade. The problem sets will be due **AT THE BEGINNING** of class. **I DO NOT ACCEPT LATE PROBLEM SETS AT ALL.** Please use double-sided printing for printed problem sets.
2. **SHORT RESPONSE PAPERS.** There will be four short response papers. You are welcome to work with other students on these but you must turn in separate, different papers. These are due **AT THE BEGINNING** of class. **NO LATE RESPONSE PAPERS WILL BE ACCEPTED.** Please use double-sided printing.
3. **RESEARCH PAPER.** Due on May 14<sup>th</sup> by 4:30pm. A 15-page research paper will be written by student groups on a topic on sustainability issues on campus. Students **MUST** work in groups of three. Additionally, there will be two required Paper Proposals due during the semester, as well as written responses to another group's work. More specific guidelines will be handed out regarding topics and format requirements.
4. **RESEARCH PAPER PRESENTATION.** Each group will give a 15-minute presentation of its research paper in class on April 28<sup>th</sup>, May 1<sup>st</sup>, or May 5<sup>th</sup>. These classes are **MANDATORY**; if you do not attend, I will deduct points from your grade.

5. RUHLMAN POSTER PRESENTATION. Each group will create a poster for their research paper and present this at the Ruhlman conference on April 30<sup>th</sup>.
6. 2 MIDTERMS. The midterms will occur on March 13<sup>th</sup> and April 24<sup>th</sup> in class. They will cover all material up to the class preceding them. While the second midterm is not cumulative, you may need to know concepts from the first half of the class to do well.
7. COURSE PARTICIPATION. This can occur in a variety of ways other than just classroom participation; these alternatives will be outlined during the semester.

#### **GRADING:**

Grades will be based on two midterm exams (each 22%), a research paper and class presentation (25%), problem sets (12% total), short response papers (10% total), a Ruhlman poster presentation (8%), and course participation (1%).

Working with other students is permitted on everything except the midterms and short response papers. Please notify me by **February 4<sup>th</sup>** about any foreseeable conflicts with the midterms; after this date, make-ups will be allowed only for serious medical or personal problems and a note from a doctor or Class Dean may be required. If you do not show up to a midterm and I do not hear from your class dean, you will receive a zero for the midterm. Late semester papers will result in a penalty of one half of a grade per day and will not be accepted more than 3 days late.

#### **READING ASSIGNMENTS:**

The primary text for the course is Scott J. Callan and Janet M. Thomas, *Environmental Economics and Management: Theory, Policy, and Applications*, 4<sup>th</sup> Ed., 2007, Thomson South-Western. In the syllabus, I refer to this text as "Callan and Thomas." The book is available at the college bookstore and will be placed on reserve at Clapp Library. In addition to the textbook, articles listed on the syllabus are also required reading for the course. Almost all of these articles are already available on the course conference. Reading assignments are subject to change in the course of the semester.

#### **CONTACTING THE PROFESSOR VIA EMAIL:**

I will make every effort to respond to emails quickly; however, allow 24 hours for a response to an email. I cannot guarantee that if you email me the night before something is due, that I will be able to respond in time for it to make a difference in terms of your assignment. Do not expect responses to emails after 5pm on the day before an exam. Additionally, I encourage you to use the class conference to ask questions, as other students may have similar concerns. If you have a question about class but would like for it to appear on the course conference anonymously, please email me it to me directly. Please state that you would like it posted anonymously to the course conference.

#### **RESPONSIBILITIES – MINE AND YOURS**

My responsibilities are to come to class prepared; respond to and encourage questions and other appropriate class participation insofar as class size permits; oversee grading of problem sets and exams; return graded assignments within two weeks; be available during office hours and for scheduled appointments; and stimulate enthusiasm for environmental economics and for learning.

Your basic responsibilities are to attend and participate in lecture; complete the assigned readings in a timely manner (allowing time to re-read difficult material); complete all assignments on time; take two in-class midterms; complete a group project; come to class on time so as not to disrupt other students' learning; and to turn off your cell phone COMPLETELY before class.

#### **ACADEMIC HONESTY POLICY**

In fairness to students who put in an honest effort, cheaters will be harshly treated. Any evidence of cheating will result in a score of zero (0) on that assignment or examination. Cheating includes but is not limited to plagiarism, bringing unauthorized material into an exam, copying off another person's exam, and allowing someone to copy off of your exam. Incidences of cheating will be reported to the General Judiciary Committee.

## **SPECIAL ACCOMODATIONS**

If you require special accommodations due to learning or other disability, you must contact Jim Wice, the Director of Disability Services. If you take an exam at a different time or a different location based on disability, it is your responsibility to contact me to schedule it.

## **INDIVIDUAL TUTORS**

Students who are interested in having an individual tutor should contact the PLTC. The PLTC (Pforzheimer Learning and Teaching Center) is on the 3<sup>rd</sup> floor of Clapp Library. If you would like an individual tutor for the class, you need to fill out the “Tutor Request Form” on the PLTC website (<http://www.wellesley.edu/PLTC/>). The PLTC will send me a note saying that you have requested a tutor. I do not need to approve a tutor. There is no cost to you for an individual tutor. If you feel you are struggling in the class, I strongly recommend getting an individual tutor as early as possible. Do not wait until after you have received a low score to get a tutor.

## **COURSE OUTLINE AND READINGS:**

### **I. Introduction and Basic Tools**

- Mon., Jan. 28: Introduction  
? Callan and Thomas, Chapter 1
- Thurs., Jan. 31: Case study:  
? Heifetz, R. 2000. “Leadership without easy answers: Tacoma.”  
? **Required:** 8pm, Alumnae Hall: Bill McKibben, Wilson Lecture
- Mon., Feb. 4: Valuing an Asset **(SHORT RESPONSE 1 DUE)**  
? Callan and Thomas, Chapter 2
- Thurs., Feb. 7: Present Value and the Choice of Discount Rate  
? Callan and Thomas, Chapter 9  
? Brennan, T. 1999. Chapter 8 in “Discounting in the Future: Economics and Ethics,” in Michael V. Russo (ed.) *Environmental Management: Readings and Cases*. Boston: Houghton Mifflin.

### **II. Failures of Markets to Provide Optimal Environmental Goods**

- Mon., Feb. 11: Property Rights, Externalities, and Public Goods  
? Callan and Thomas, Chapter 3  
? Hardin, Garrett. 1968. “The Tragedy of the Commons,” *Science*, New Series, vol. 162, issue 3859, Dec. 13. pp. 1243-1248.
- Thurs., Feb. 14: Economics of Climate Change **(SHORT RESPONSE 2 DUE)**  
? Lecture by Lauren Nelson ‘08  
? The Stern Review Short Executive Summary.  
? Ackerman, F. 2007. “Debating climate economics: The Stern Review and its critics.” Report to Friends of the Earth – UK.
- Mon., Feb. 18: No classes – President’s Day
- Thurs., Feb. 21: Property Rights and the Coase Theorem **(PROBLEM SET #1 DUE)**  
? Callan and Thomas, Chapter 3

### III. Valuing the Environment

- Mon., Feb. 25: Correcting inefficiencies by valuing the environment  
? Callan and Thomas, Chapter 7
- Thurs., Feb. 28: Valuing the environment: Health impacts  
? Portney, Paul R. and Winston Harrington. "Health-Based Environmental Standards: Balancing Costs with Benefits" in *The RFF Reader in Environmental and Resource Management*. Washington, DC: Resources for the Future. pp. 27-33.  
? Van Houtven, George L. and Maureen L. Cropper. "When is a Life Too Costly to Save? The Evidence from Environmental Regulations," in *The RFF Reader in Environmental and Resource Management*. Washington, DC: Resources for the Future. pp. 43-49.
- Mon., Mar. 3: Valuing the environment: Hedonic Pricing/Environmental Justice **(PROBLEM SET #2 DUE)**  
? Been, Vicki. 1999. "Unpopular Neighbors: Are Dumps and Landfills Sited Equitably?" in *RFF Reader*. pp. 191-196.
- Thurs., Mar. 6: Valuing the environment: Contingent Valuation  
? Whitehead, John. 1999. "A Practitioner's Primer on Contingent Valuation."
- Mon., Mar. 10: Speaker: Jay Shimshack, Tufts University **(SHORT RESPONSE PAPER 3 DUE)**
- Wed., Mar. 12: **Midterm #1 Review, 5:00-6:30pm, PNE139**
- Thurs., Mar. 13: **Midterm #1 (in class)**

### IV. Waste and Pollution Control

- Mon., Mar. 17: Pollution Control Part I  
? Callan and Thomas, Chapter 4
- Thurs., Mar. 20: Pollution Control Part II **(PROPOSAL I DUE)**  
? Callan and Thomas, Chapter 4
- Mon., Mar. 31: Emissions trading  
? Callan and Thomas, Chapter 5
- Thurs., Apr. 3: Case study **(PROBLEM SET #3 DUE)**  
? "Negotiating Exercise of Tradable Pollution Allowances" class discussion
- Fri., Apr. 4: Optional: Environmental Studies Faculty Seminar, 12:30-2pm, PNE351  
? Prof. Sneeringer: "Feminist Ecological Economics"
- Mon., Apr. 7: Recycling  
? Callan and Thomas, Chapter 18

### V. Macroeconomic Issues and the Environment

- Thurs., Apr. 10: Sustainable Development: Perspective 1 **(PROPOSAL II DUE)**  
? Callan and Thomas, Chapter 20
- Mon., Apr. 14: Sustainable Development: Perspective 2 **(REACTIONS TO PROPOSALS DUE)**  
? Hackett, Steven C. "Sustainable Economic Development," in *Environmental and Natural Resources Economics: Theory, Policy, and the Sustainable Society, 2<sup>nd</sup> Ed.* Armonk, NY: M.E. Sharpe. pp. 327-353.

- Thurs., Apr. 17: Population and Environment **(PROBLEM SET #4 DUE)**  
 ? Ehrlich, Paul and John Holdren. 1971. "Impact of Population Growth," *Science* New Series  
 vol. 171(3977), Mar. 26, pp. 1212-1217.  
 ? Simon, Julian. 1996. "The Amazing Theory of Raw-Material Scarcity" and "The Reasoning  
 behind the Rhetoric" in *The Ultimate Resource 2*. Princeton, NJ: Princeton University Press,  
 pp. 23-37 and 537-546.  
 ? Videorecording: "Paul Ehrlich and the Population Bomb"
- Tues., Apr. 22: Ethical issues in the population / environment debate **(SHORT RESPONSE 4 DUE)**  
 ? Hynes, H. Patricia. 1999. "Taking Population Out of the Equation" in Jael Silliman and  
 Ynestra King (eds.), *Dangerous Intersections: Feminist Perspectives on Population,  
 Environment, and Development*. Cambridge, MA: South End Press. pp. 39-73.
- Wed., Apr. 23: **Midterm #2 Review Session, 5:00pm-6:30pm, PNE339**
- Thurs., Apr. 24: **Midterm #2 (in class)**

**VI Student Presentations of Semester Projects**

- Mon., Apr. 28: Student Presentations (MANDATORY CLASS)
- Wed., Apr. 30: Ruhlman Poster Presentations
- Thurs., May 1: Student Presentations (MANDATORY CLASS)
- Mon., May 5: Student Presentations (MANDATORY CLASS)
- Mon., May 14: **Research papers due by 4:30pm**