Economic Analysis of Environmental Policy, Fall 2012
(FIN/ECON 490)

“We could have saved the Earth. But we were too ... cheap” - Kurt Vonnegut

Sections:  TR 9:30 AM - 10:50 AM (138 Wohlers)
           TR 12:30 PM - 1:50 PM (138 Wohlers)

Professor: Tatyana Deryugina  Email: deryugin@illinois.edu

Office Hours (in 4029 BIF):  W 3:30pm-5:30pm or by appointment
Course Web Page:  https://compass2g.illinois.edu/

Course Description

This course covers advanced undergraduate environmental economics with an emphasis on policy design and analysis. The focus will be the design and critique of policies that address issues such as air and water pollution, toxins, and climate change. Examples of such policies include: voluntary actions, liability law, taxation, command-and-control, permit markets, and corporate social responsibility. In addition to assessing the effectiveness of these policies, we will consider their distributional features, including effects on business. We will also explore the role of technological change, trade, and international agreements in addressing environmental issues. Finally, we will discuss optimal resource use and sustainable development.

Prerequisite

Intermediate microeconomics of some sort. Contact me if you do not meet this prerequisite to discuss if this course is appropriate for you.

Recommended Textbook

Course Requirements

1. **Problem sets.** There will be 7 problem sets assigned during the semester. I will drop the problem set with the lowest grade from the final grade calculations. Problem sets are due (a) in class at the beginning of class on the due date or (b) in my mailbox by 9 am on the due date. No late assignments will be accepted for any reason. To save paper, I will not hand out paper copies of the problem sets in class. The problem sets will be made available on Compass.

   You may work on the assignments as a group. However, you **must** write up your answers independently and turn in separate work. Photocopies or multiple printouts of essentially the same computer file do not qualify as “separate work.” While numerical results may look identical for individuals in the same study group, each person must write his answer and accompanying explanations separately. That is, you should provide your answers in your own words. If presentation and written explanations are too similar to those of others, then they will receive no credit. Please include the names of the members of your study group on your assignment when you hand it in.

2. **Written assignment.** There will be one written assignments asking students to analyze and improve an environmental policy.

3. **One mid-term examination.** The mid-term examination will be a closed-book, closed-notes exam and will take place during class time.

4. **In-class presentations.** Students will work in teams of 2-3 people to present a comprehensive economic analysis of an environmental policy. Presentations will last 20-25 minutes and will be followed by a Q&A session. Teams will be assigned. You also have the option to do a solo presentation. In that case, your presentation will count for 30% of your grade and the final will count for 20% of your grade.

5. **Participation during in-class presentations.** Students will be given credit for asking questions and providing comments during other students’ presentations.

6. **Final Exam.** The final exam will be a closed-book, closed-notes exam and will be taken during the scheduled final exam period.

   No makeup exams will be given. If you miss the midterm, the final will count for 50% of your grade.
Grading (if presentation is done as part of a team)

- Written assignment  
  15% of the grade  
- Problem sets (graded on a V/V-/V+ basis)  
  10% of the grade  
- Team presentation  
  20% of the grade  
- Participation during team presentations  
  5% of the grade  
- Mid-term examination  
  20% of the grade  
- Final exam  
  30% of the grade

The following are upper bounds for the class grade cutoffs:

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<tr>
<th>Percentage</th>
<th>Grade</th>
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<tr>
<td>98%</td>
<td>A+</td>
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<tr>
<td>93%</td>
<td>A</td>
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<tr>
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<td>D+</td>
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<tr>
<td>63%</td>
<td>D</td>
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<tr>
<td>60%</td>
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Students who earn the percentages shown will receive at least the corresponding letter grade. However, the cutoffs may be adjusted downward based on the distribution of points across both sections.

Re-grading

If you believe a mistake in grading has been made, I will re-grade your ENTIRE assignment. Your grade may go up OR down as a result.

Lecture notes

Slides from the lecture will be available on the course website the evening following the class.

Forum

I have created a forum on the course webpage. If you have any general questions about the class, please post them on the forum (you may do so anonymously). I will check the forum frequently and answer your questions. If you email me with a question that I believe is relevant for the whole class, I will repost it on the forum anonymously and answer it there. Please feel free to answer your fellow students’ questions and use the forum for general policy discussions!
Graduate students

In addition to completing the regular assignments, graduate students will have to write a longer (15-20 pages, single-spaced) research paper, to be handed in on the last day of class. The paper will count for 15% of the grade. The written assignment will serve as the rough draft of that paper (and will not count toward your grade). Paper topics must be relevant to the course and approved by me. It is expected that graduate students will do a lot of independent reading to complete the paper.

Academic Integrity

Exerts from the Student Code:

“The University has the responsibility for maintaining academic integrity so as to protect the quality of education and research on our campus and to protect those who depend upon our integrity. It is the responsibility of the student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions.”

“Students have been given notice of this rule by virtue of its publication. Regardless of whether a student has actually read this rule, a student is charged with knowledge of it. Ignorance of a rule is never a defense.”

For a discussion of what constitutes a breach of academic integrity (including but not limited to cheating, plagiarism, and fabrication), see Part 4 of the Student Code.

Please note that closely paraphrasing someone else’s work without due credit is considered plagiarism.

Disability Accommodations

Students with disabilities should contact me and the Division of Rehabilitation-Education Services (DRES) as soon as possible. To contact DRES, email disability@uiuc.edu, call (217) 333-1970 (V/TDD) or visit 1207 S. Oak Street in Champaign.

Letters of recommendation

I will be happy to write you a letter of recommendation if you earn an A or A+ in this course.
**Key dates**

| Problem set 1 due: | September 11th | (available on Compass on August 30th) |
| Problem set 2 due: | September 20th | (available on Compass on September 11th) |
| Problem set 3 due: | October 2nd | (available on Compass on September 20th) |
| Problem set 4 due: | October 11th | (available on Compass on October 2nd) |
| Problem set 5 due: | November 1st | (available on Compass on October 18th) |
| Problem set 6 due: | November 13th | (available on Compass on November 1st) |
| Problem set 7 due: | December 4th | (available on Compass on November 13th) |
| Written assignment due: | November 8th | (available on Compass on October 11th) |

**Midterm exam:** During class on Thursday, October 25th

**Final exams:** 8:00-11:00 AM, Saturday, December 15 (9:30 Section) and 7:00-10:00 PM, Monday, December 17 (12:30 Section)

**Broad course plan**

This course plan is preliminary. The topics covered may change as the semester progresses. A more detailed course plan will be made available to students at the beginning of the semester.

Although the student presentations are listed under the same heading, they will in fact occur throughout the semester. See the more detailed course plan for specific presentation dates.

1. Intro to course: Bhopal, discussion of environmental problems, positive v. normative analysis.

2. Overview of microeconomics and calculus.


4. Externalities; measuring the size of the externality.

5. Abatement technology.
6. Aggregating individual preferences.

7. Non-regulatory solutions:
   a. Voting.
   b. Negotiations and the Coase Theorem.
   c. Corporate Social Responsibility.

8. Regulation:
   a. Liability law, joint and several liability.
   b. Taxation.
   c. Command and control.
   d. Tradable permits.
   e. Creating water quality trading markets.

9. Assessing effectiveness of regulation:
   b. Ecological precision.
   c. Dynamic incentive effects and innovation.
   d. Leakage.
   e. Additionality.

10. Interaction of policy and imperfect competition.

11. General equilibrium effects.

12. Double dividend of green taxation.

13. International Environmental Problems
   a. Basic game theory.
   b. Stability of international agreements.
14. Optimal resource use:
   a. Renewable resources.
   b. Non-renewable resources.

15. Sustainable development.

16. Student presentation topics:
   a. Toxic Releases Inventory.
   b. US Superfund program.
   c. US CAFE standards.
   d. EU Emissions Trading System.
   e. Kyoto Protocol.
   f. LEED Certification.
   g. Endangered Species Act.
   h. Montreal Protocol.
   i. Renewable Portfolio Standards.