

## Environmental Economics

**Class Time:** TTh 1:20-2:35pm in Seelye 301

**Office Hours:** T 2:45-3:45pm and W 1:30-2:30pm in my office (Wright 219)

### Course Description

This course uses the tools of economics to analyze environmental and natural resource issues. The goal of the course is to create informed consumers and producers of information regarding the economics of environmental issues and the role economics can play in explaining and crafting solutions to environmental challenges. Throughout the course, an equal emphasis will be placed on learning key results and learning to explain the fundamental ideas. We will also emphasize the role of economic models in helping us answer questions about environmental issues. At the end of the course, students should understand the fundamental elements of an economic model and be able to construct a narrative and/or graphical model of an environmental issue.

We will spend considerable time exploring the economic notion of efficiency, including discussions of what economists mean by efficiency and how this concept relates to other notions of good or desirable outcomes. We will rely heavily on marginal analysis and will see that many of the key results in environmental economics are examples of one of the fundamental rules of microeconomics: net benefits are maximized where marginal benefit equals marginal cost. During the course, you will learn to use supply and demand diagrams, as well as diagrams of pollution and clean up to predict the outcomes of various policies. Moreover, we will pay considerable attention to both the aggregate outcomes and the disparate impacts policies can have on different groups.

### Text

The one required text for the class is *MARKETS AND THE ENVIRONMENT* by Keohane and Olmstead. It is available in the bookstore and on Amazon and is relatively inexpensive. I highly encourage you to purchase a copy. You also have electronic access through the library. I will also be placing a textbook that I used in a previous version of the course (*THE ECONOMICS OF THE ENVIRONMENT* by Berck and Helfand) on reserve in the library. If you would like access to a more traditional textbook treatment of the material, this is a useful supplement.

### Grading

Your grade will have 4 components:

- 35% Homework
- 20% Midterm
- 15% Policy Analysis Project
- 30% Cumulative Final Exam

### ***Problem Sets***

There are five homework exercises in the course and I will drop the lowest score. Assignments are due at the beginning of class on the date indicated in the assignment. Late assignments will not receive credit, but will be graded for your own reference upon request.

Working in groups on the assignments is encouraged, but you must prepare and submit your own answers in your own words. Copying your answers from anyone or allowing a classmate to copy your answers is a violation of the Honor Code. If you have any concerns about what constitutes independent work, please discuss them with me prior to the due date.

Answers should be neatly written and ***stapled***. Please make any graphs large enough to be easily seen. Some of your assignments will involve working with computer models and you may be required to submit your electronic files. In these cases, you will upload your electronic files to Moodle.

### ***Exams***

There are two exams in this course: an in-class midterm on October 24 and a self-scheduled ***cumulative*** final exam during the regular exam period. Both exams will contain a mix of problems and short-answer questions.

### ***Policy Analysis Project***

In this multi-part project, you will first work with a group of classmates to develop an economic model of a current environmental policy debate and briefly present the model to your classmates. You will then write individual papers that make a recommendation on whether or not to adopt the policy. Presentations will be on November 12 and 14. The policy analysis paper is due on Tuesday, November 26.

## **Course Policies**

### ***Email***

I encourage you to email me at [ssayre@smith.edu](mailto:ssayre@smith.edu) with ***brief*** questions. I will make every effort to respond to your emails within one business day (i.e. within 24 hours during the week and by the end of the day Monday for emails received over the weekend). If an answer will take more than 1-3 sentences, please come to office hours or make an appointment to see me.

### ***Office Hours***

I enjoy talking with students and I am happy to talk through anything related to the course in more detail. Feel free to stop by anytime during office hours and to email me to make an appointment for another time if you cannot come to my office hours. Please come see me early if you need help with the course material.

### ***Class Attendance***

I do not explicitly take attendance and will not lower your grade for missed classes. That said, it is virtually impossible to succeed in this course without regularly attending class.

Your textbook focuses on explaining the basic intuition of the models we are working with, but I will go into more detail in class lectures and activities. Exam material will draw on both the textbook and the in-class additions. We will cover material in class that is not in your textbook and you are responsible for everything discussed during class. If you must miss class for any reason, it is your responsibility to get the notes from that day from a classmate.

### ***Technology in class***

Please make sure that all mobile devices are silenced before class. If you have an emergency, quietly leave the classroom and take your call in the hallway. I find that students using laptop computers in class is distracting to me and other students, in part because the temptation to take “just a second” to check email or messages is hard to resist. Moreover, research demonstrates that students using a laptop to take notes typically retain less information than those taking notes by hand. If you feel that your learning will be hampered by not having access to your laptop for note-taking or other class-related purposes, please let me know. Otherwise, keep your laptop turned off and stowed away during class.

### ***Error Checking Policy***

Throughout the course of the class, I will post a number of handouts on Moodle, including problem set answer keys and additional explanatory handouts. I make every effort to have these handouts be fully correct but occasionally I miss an error on editing. If I notice a substantive error myself, I will update the handout and email the class. To maximize the probability of everyone having access to error free materials, I will offer a small amount of extra credit on a problem set for finding and notifying me of errors in any handout.

I will award 2 percentage points of extra credit on the next problem set to the first person emailing me about a substantive error. I will award points to only one person per error and each student can earn extra points only once during the semester. While I appreciate you pointing out smaller errors like typos that do not change the meaning of the handout, I will only award points for errors that I deem *substantive* and likely to cause confusion or mistakes if they remain unfixed.

### ***Academic Honesty***

As in any other course at Smith, you are required to adhere to the provisions of the Honor Code. I take academic honesty very seriously and will report any suspected violations of the Honor Code to the Honor Board.

## Tentative Schedule

Week	Dates	Topic
1	9/5	Introduction
2	9/10, 9/12	Ch. 2 Economic Efficiency and Environmental Protection
3	9/17, 9/19	Ch. 3 Measuring Benefits and Costs
4	9/24, 9/26	Ch. 4 Efficiency of Competitive Markets
5	10/1, 10/3	Ch. 5 Market Failures
6	10/8, 10/10	Ch. 8 Principles of Market-Based Environmental Policy
7	10/15, 10/17	Fall Break, TBD
8	10/22, 10/24	Review, Midterm Exam
9	10/29, 10/31	Chs. 9/10 Market-Based Instruments
10	11/5, 11/7	Environmental Justice, Otelia Cromwell Day
11	11/12, 11/14	Group model presentations
12	11/19, 11/21	Trade and the Environment
13	11/26, 11/28	Ch. 6 Natural Resources as Capital Assets, Thanksgiving
14	12/3, 12/5	Ch. 7 Renewable Resource Management
15	12/10, 12/12	Ch. 11 Sustainability and Growth, Review