

Environmental Economics

AAE / Econ / Envir. St. 343

Fall 2017

Instructor:

Prof. Bill Provencher
Department of Agricultural and Applied Economics
519 Taylor Hall
Email: rwproven@wisc.edu

Teaching Assistants:

Mingxuan Fan
Department of Agricultural and Applied Economics
319 Taylor Hall
Email: mfan6@wisc.edu

Nick Hudson
Department of Agricultural and Applied Economics
312 Taylor Hall
Email: nhudson@wisc.edu

Class Meetings: 9:30-10:45 (T Th) 1520 Microbial Sciences

Office Hours: Provencher: Monday, 3-4
Hudson: Friday, 3:30-4:30
Fan: 4-5

Course Description

The primary goal of this course is to introduce students to major concepts in the field of environmental economics. Given the diverse backgrounds of students with respect to previous coursework in economics, the approach taken in this course is to convey concepts using a mix of standard graphical exposition, case studies, classroom games, and short problem sets. The focus throughout the term is on real-world problems.

The course is organized around four major questions:

1. Why do environmental problems occur and how can we do better?
2. How much environmental damage should be allowed?
3. Are we running out of natural resources?
4. What is the role of economics in the major environmental issue of our time?

We will examine each of the first three major questions by developing a set of economic tools and then analyzing real-world cases related to each question. The fourth question applies these tools in an examination of climate change and energy policy.

Readings:

The textbook for this class is **recommended**, not required.

Keohane, N.O. and S.M. Olmstead. 2016. *Markets and the Environment*. Island Press. Second Edition.

The textbook is available on-line at Amazon and directly from Island Press. I've also put it on order at the UW Bookstore.

Course Material on the Web

Course material such as the syllabus, lecture slides, homework assignments and solutions, reading materials, and solutions to exams will be available at [Learn@UW](#). We are using the Canvas platform for the course.

Grading

Grading is based on two in-class exams, lecture and discussion participation, and homework assignments. Exams will cover material presented in class and discussion, assigned readings, and homework assignments. Emphasis is placed on material presented in class and discussion, so attendance is necessary for a satisfactory performance. The exams each count for 30% of your grade, the homework assignments count for 27%, and lecture and discussion participation count for 12%. Additional information about your grade for participation and homework is provided below. In summary:

30	points for the first exam
30	points for the second exam
27	points for the problem sets (9 problem sets, each worth 3 points)
12	points for participation in lecture and discussion (36 total designated lectures/discussions, each worth 1/3 point)
1	point free!

100	points total

Exam dates (exams are in class): October 26, December 14

Top Hat student engagement platform

We will be using Top Hat during lectures and discussion. This educational platform allows students to use their mobile devices (smartphones, laptops, iPads, etc.) to respond to questions I ask in class. This requires you to create an account. The cost is \$16 for a semester, or \$20 for the year, and this subscription fee covers all UW courses that use Top Hat. For instructions on creating an account, go [here](#). A student guide is [here](#). Once you have an account, enroll in the UW course titled, "Environmental Economics".

Do not procrastinate on creating your Top Hat account and enrolling in this course! We will test the Top Hat software in the first and second lectures. If you do not have an account by the third lecture (September 12), your participation grade will suffer because, as described below, responses to Top Hat polls are the basis for receiving participation credit in lecture and discussion.

Lecture and Discussion Participation: Grading

12% of your grade is based on active participation in the course. Course participation involves responding to questions in lecture and discussion using Top Hat.

Polling serves three basic purposes. The first is to break up the lecture a bit –75 minutes is a long time for a student to stay focused on class material –by having students participate in the lecture via their polling responses to questions raised in class. Questions will range from those querying your opinion about environmental or other matters (e.g. “Do you believe the U.S. should have pulled out of the Paris Climate Accord?”), to those specific to the material presented in the class (“Under this tax system, how many units of pollution will firm X emit?”) **Your responses will never be graded.**

The second purpose of polling is to give us feedback on whether you understand the material we present. If I ask a question about the material and find out that most of you have no idea about what is going on, then I have good reason to go back through the material, presenting it a little differently to facilitate your understanding.

Finally, we will use polling in several economic games to illustrate certain economic principles.

There are 36 designated lectures and discussions in which we will be conducting at least one poll. If you participate in at least 75% of the polling questions in a lecture/discussion, you will receive 1/3 of a point on your final grade. If you participate in all 36 designated lectures and discussions you will receive the maximum of 12 points for participation.

- Definition of a “designated” lecture: All lectures except the first two and the two set aside for exams. There are a total of 25 designated lectures.
- Definition of a “designated” discussion: Each meeting of your discussion section. Discussion sections are held every week except the first week of class, the week of the first exam, the week of Thanksgiving Day, and the last week of class, for a total of 11 meetings.

I will entertain requests for permitted absences due to illness, participation in UW athletic or scholastic events, etc., only if you present a written request with phone contact from the appropriate supervisory authority (such as your doctor or coach).

Problem Sets

Problem sets will focus on applying concepts from class to real-world environmental problems. There will be 9 problem sets throughout the term, each worth 3 percentage points, for a total of 27% of your grade. Homework assignments will be posted on the course website on the date indicated in the table below, and due **at the start of class** on the dates indicated in the table. Late assignments will not be accepted.

Posted	Due (start of class)	Returned (in discussion)
Sept 14	Sept 19	Sept 21
Sept 21	Sept 26	Sept 28

Sept 28	Oct 3	Oct 5
Oct 5	Oct 10	Oct 12
Oct 12	Oct 17	Oct 19
Nov 2	Nov 7	Nov 9
Nov 9	Nov 14	Nov 16
Nov 16	Nov 21	Nov 30
Nov 30	Dec 5	Dec 7

Policy concerning regrading

Homework assignments are not regraded except for an arithmetic error.

If you wish to have an exam regraded, you must give me your exam with a *written explanation of why you believe the scoring is incorrect*. The burden is on you to establish that the original scoring of your exam was unfair. I will not consider regrades without the attendant written request.

Lecture Schedule (subject to minor adjustments)

Introduction and Review

Meeting #1 (9-5): Introduction and review of syllabus

Meeting #2 (9-7): Economics review

Question #1: Why do environmental problems occur and how can we do better? Market failure and environmental policy.

Meeting #3 (9-12): Public goods and externalities I

Meeting #4 (9-14): Public goods and externalities II

Meeting #5 (9-19): Externalities and the Coase Theorem

Meeting #6 (9-21): Economics of pollution control I

Meeting #7 (9-26): Economics of pollution control II

Meeting #8 (9-28): Economics of pollution control III

Meeting #9 (10-3): Economics of pollution control IV

Question #2: How much environmental damage should be allowed? The economic costs and benefits of changes in environmental quality.

Meeting #10 (10-5): Cost-benefit analysis I

Meeting #11 (10-10): Cost-benefit analysis II

Meeting #12 (10-12): Economics of environmental valuation I

Meeting #13 (10-17): Economics of environmental valuation II

Meeting #14 (10-19): Economics of environmental valuation III

Meeting #15 (10-24): Economics of environmental valuation IV

*Meeting #16 (10-26): **First Exam** (in class)*

Question #3: Are we running out of natural resources? The economics of resource use over time

Meeting #17 (10-31): Resource use over time I

Meeting #18 (11-2): Resource use over time II

Meeting #19 (11-7): Resource use over time III

Meeting #20 (11-9): Resource use over time IV

Meeting #21 (11-14): Resource use over time V

Meeting #22 (11-16): Resource use over time VI

Question #4: What is the role of economics in the major environmental issue of our time?

Meeting #23 (11-21): Economics of climate change and energy policy I

Meeting #24 (11-28): Economics of climate change and energy policy II

Meeting #25 (11-30): Economics of climate change and energy policy III

Meeting #26 (12-5): Economics of climate change and energy policy IV

Meeting #27 (12-7): Economics of climate change and energy policy V

Meeting #28 (12-12): Economics of climate change and energy policy VI

*Meeting #29: (12-14): **Second Exam***