

Economics 436
Environmental Economics
Spring 2018
Prof. Robert Halvorsen

This course analyzes the relationship between economic activity and environmental quality. The major topics considered are the economic origins of environmental problems, the trade-offs involved in determining the goals of public policy toward the environment, the choice of policy instruments for attempting to attain those goals, and the role economic analysis has played in the formulation of actual environmental policy in the U.S.

By the end of the course, students should understand how to apply economic analysis to determine the optimal level of environmental quality, the circumstances under which a free market system will and will not result in optimal outcomes, and the advantages and disadvantages of alternative policy instruments for improving on market outcomes.

Two, non-cumulative, exams will count for 70% of the course grade, with the (curved) grade for the exam on which you do better receiving a weight of 0.6 in calculating the overall exam grade and the exam on which you do worse receiving a weight of 0.4. Last year's exams are posted on the class website on Canvas and can be used both as a preview of the types of questions that will be asked and as sources of practice questions in studying for this Quarter's exams. Please refer to the next page for very important information concerning exam rules and policies with respect to academic integrity.

Six in-class quizzes will account for 20% of the course grade and eight problem sets will account for 10%. Detailed answer sheets will be provided for the problem sets and quizzes. Previous students have frequently reported that doing the problem sets was a very good way to learn the course material.

There is no textbook or course pack for this course. Lecture notes are posted on Canvas. Practice exams, problem sets, answers to problem sets and quizzes, as well as other course materials will also be posted there.

My office hours during the Spring Quarter are 10:00-11:00 on Monday, Tuesday, and Friday in Savery 351. An appointment to meet at another mutually convenient time can be made in person after class, by phone at 206-543-5546, or by email at halvor@uw.edu. You can also use email to ask any short questions that may arise as you review your notes or work on the problem sets.

Exam Rules

I Exam Absence Policy

1. If you are unable to make it to an exam period due to illness or another unexpected happening, do the following:
 - i. Notify me no later than the time of the exam that you are not able to take the exam and why.
 - ii. If you missed the exam for health reasons, you need to show me a note issued by a medical professional documenting the reason you missed the exam.
 - iii. If there was some other reason for missing the exam, come and see me to explain the reason. You will need to show appropriate documentation. Not waking up or missing your bus/plane is not an acceptable excuse.
2. If you know that you are going to be away due to a University-related activity, such as participation in an away sport or debate, let me know well in advance so that arrangements can be made.

II Exam Taking Rules

1. Material allowed during an exam.
 - i. You must bring a large, blank, bluebook for your answers.
 - ii. All books, papers, notebooks, etc., must be placed inside your backpack or other type of bag, which must be securely and fully closed. If you do not have a bag, you must place all your material out of your reach.
 - iii. No electronic devices, including calculators, can be accessible during the exam. Cell phones must be turned off and placed in your closed bag (not in your pocket). **If your cell phone is observed at any point during the exam, your exam will be taken away and assigned a grade of zero.**
 - iv. Baseball caps and any other kinds of headgear that conceal your eyes are not permitted.
2. Attendance and special accommodation
 - i. You are not allowed to leave the room during the exam. This includes restroom use; be sure to use the restroom before the beginning of the exam.
 - ii. If you arrive late to an exam, you cannot expect to get extra time after the official end of the exam to make up for the missing time at the beginning.
 - iii. If you have a documented disability, please show me documentation from the Office of Disability Resources for Students early in the Quarter so that I can make any arrangements required for accommodations.

III Academic Integrity

1. Exams are individual work and cheating will not be tolerated. Looking at notes or your neighbors' answers will result in the immediate termination of your exam time and a grade of zero for the exam.
2. Altering an exam before submitting it for a review of the grading, obtaining an advance copy of an examination, or arranging for a surrogate test-taker are all flagrant violations of University policy.
3. Cheating of any kind may result in expulsion from the University. The Department will follow University policy in case of academic misconduct. I strongly recommend that you review University policy at <http://www.washington.edu/uaa/advising/help/academicintegrity.php>. Students found to have engaged in academic dishonesty will be subject to sanctions, which range from a disciplinary warning to permanent expulsion from the University, depending on the seriousness of the misconduct.

Lecture, Quiz, and Exam Schedule

Dates shown for lectures, quizzes, and the first exam are subject to revision.

March 27th

Introduction
Derivation of the standard pollution diagram

March 29th

Coase Theorem

April 3rd Quiz 1

Policy design when MB and MD curves are known
Choice of policy instrument
Incentives for innovation
Monitoring and enforcement

April 5th: Lecture 4

Monopolistic polluter
Non-monotonic marginal damages
Non-convex total net benefits
Concentration of polluting activities

April 10th

Instrument choice when MB and MD curves are not known

April 12th Quiz 2

Instrument choice when MB and MD curves are uncertain

April 17th

Disaggregate pollution
Distributional effects of environmental policies

April 19th Quiz 3

Political economy of instrument choice

April 24th

Economic theory of policy evaluation
Porter Hypothesis

April 26th

Types of policy analysis

May 1st: In-class review for first exam

May 3rd: First exam covers material through political economy of instrument choice.

May 8th

Valuation of risks to life
Risk-risk analysis

May 10th Quiz 4

Water pollution control
Safe Drinking Water Act

May 15th

Air pollution control
 Regulated pollutants
 National Ambient Air Quality Standards
 Regulatory policies
 Benefit-cost analysis

May 17th Quiz 5

Global issues: 1973 perspective
Stratospheric ozone depletion
Global climate change
 Causes
 Economic Effects

May 22nd

 Technical alternatives for responding to global climate change
 International attempts to reduce climate change
 Obstacles to effective international agreements

May 24th: Quiz 6

Social discount rate
 Rate of time preference
 Opportunity cost rate
 Discounting formulas

May 29th: In-class review for second exam

May 31st: Second exam covers material since political economy of instrument choice.