

ECON 415: Environmental Economics

University of Illinois at Urbana-Champaign
College of Liberal Arts & Sciences
Department of Economics

Dr. Bryan Buckley

Fall 2022

319 Gregory Hall

Meeting Time

- 11:00 AM to 12:20 PM

Communication

- E-mail: bbuckley@illinois.edu
- Zoom Office Hours: Use Moodle to register for a time.

Catalog Description

This course covers advanced undergraduate environmental economics with an emphasis on policy design and analysis. This course will focus on the economics of environmental issues and will start with establishing how property rights and environment quality interact. The course will then explore different methods of reducing inefficiency by using markets, incentive-based regulation and command and control regulation. The course will also explore trends in environmental data. (3 Hours) Prerequisite: ECON 302

Course Outcomes

- Discuss the development of property rights and the effects of different property rights regimes on environmental quality.
- Graphically and mathematically analyze competitive markets with externalities.
- Graphically and mathematically analyze competitive markets for natural resources for dynamic efficiency.
- Discuss regulatory and non-regulatory methods of pollution control and the costs and benefits of each.
- Become familiar with trends in the data for environmental degradation and improvements.

Modality

Course lectures will be delivered in-person in Gregory Hall. Math Assignments and formative tutorials will be available through Moodle. There will be readings and assignments from provided sources and one required textbook. Exams will be given in-person during regularly scheduled lecture time.

Required Items

Textbooks

Anderson and Libecap. (2014) Environmental Markets. *Cambridge University Press*.

Supplemental

TI-89 Graphing Calculator

Student Assessment

Final scores will be rounded to the nearest integer. There is no curve in this class.

Grade Weights

- Assignments (30%)
- Data Project (15%)
- Highest-Scoring Midterm (10%)
- Lowest-Scoring Midterm (20%)
- Final Exam (25%)

Plus/Minus Grade Cutoffs

A+ ≥ 97	90 > B+ ≥ 87	80 > C+ ≥ 77	70 > D+ ≥ 67	60 > F
97 > A ≥ 93	87 > B ≥ 83	77 > C ≥ 73	67 > D ≥ 63	
93 > A- ≥ 90	83 > B- ≥ 80	73 > C- ≥ 70	63 > D- ≥ 60	

Assignments

Assignments are administered through the Moodle. There are two types of Assignments: Math and Graph Assignments and Reading Assignments. Reading assignments will be due at the start of class on the day they are discussed (11:00 AM). Math and Graph Assignments will be due at 11:00 PM on the day of the exam in which they are tested. No exceptions will be made for technological problems. Start assignments with enough time before the deadline to accommodate potential issues. The lowest online assignment grade will be dropped when calculating the average for the homework portion of your grade.

Math and Graph Assignments

Math and Graph Assignments may be completed multiple times before their due date. The highest scored attempt will be kept of the Assignment Average. Once the due date for a Math and Graph Assignment has passed, the same assignment can be accessed as Practice (After Due Date). Practice (After Due Date) versions of the assignments are worth 70% of the points scored. If the partial credit score of a Practice (After Due Date) version is greater than the score on the original, then the original grade will be replaced. Practice (After Due Date) versions cannot lower your score.

Reading Assignments

There are four reading assignments for economics article that are provided as PDFs. Also, there is a book which is divided into two additional reading assignments. Each reading assignment will be a summary of the article or portion of the text. Each assignment will be accompanied by instructions which will give additional guidance to that assignment. Save your summaries as Word Documents or PDF documents and submit them through Moodle by their due date and time to receive full credit.

Reading Assignments turned in after their due dates will be worth 0.5 points less per hour late.* Assignments in formats that cannot be opened will count as late based on the time the readable assignment is turned in. This period will include the time it takes to tell the student that the file is unreadable. *This penalty will approximate 10 points per day late.

Readings

- Anderson and Libecap. (2014) Environmental Markets. *Cambridge University Press*.
- Coase, R. (1960) The Problem of Social Cost. *Journal of Law and Economics*.
- Hayek, H. A. (1945) The Use of Knowledge in Society. *American Economic Review*.
- Mankiw, N. G. (2009). Smart Taxes: An Open Invitation to Join the Pigou Club. *Eastern Economic Journal*.
- Yandle, B. (1999) Baptists and Bootleggers in Retrospect. *Regulation*.

Extra Credit

There are two forms of extra credit available. Many lectures have extra credit tutorials associated with them. These tutorials will walk you through solving a common type of problem in the course. Completing all tutorials will score 5 points added to your Assignment Average.

There are also extra credit discussion forums about the readings. Posting in these forums will earn 0.5 points of per post with a maximum of 1 point per forum. These points will be added to your Assignments Average.

Data Project

At the end of the semester, students are required to turn in a Data Project. The data project is a paper which describes what has been happening to a measure of environmental quality over time. This paper is approximately eight pages in length. See: Data Project Instructions for more details.

Exam Policy

Midterm Exam Policy

- There are two midterm exams.
- There are no make-ups for missed exams.
- If an exam is taken, then the grade will count towards the student's grade.
- The lowest-scoring midterm will be worth 10% of your score in the course. The highest-scoring midterm will be worth 20% of your score in the course.
- If a student misses either or both midterm exams, the weight from the missed midterm exam will be redistributed to the final exam using the following system:
 - One missed midterm exam: Final Exam Weight 35%
 - Two missed midterm exams: Final Exam Weight 55%
- For each midterm taken, 0.25 points will be added to your score in the course.
- No outside materials are permitted which includes, notes and textbooks. Cell phones are not permitted in the exam room.
- All requests for grading corrections must be submitted before the following exam.

Final Exam Policy

In the event that a student cannot attend the exam or the conflict exam, undergraduate students must obtain the approval of the dean of their college to defer a final examination without receiving a grade of "Absent from Exam" (ABS). Undergraduate students who must miss a final examination should report this fact to the dean of their college as soon as possible. For satisfactory reasons, students may be "excused" by the dean of their college and be examined later by their instructor (<http://www.las.illinois.edu/faculty/advising/incompletes/>). The date of the deferred exam will be the scheduled by the Department of Economics during the beginning of the next full semester.

Students who miss their scheduled exam time will receive an ABS grade. Students in this situation may take the deferred final if and only if they have taken at least one midterm exam. The ABS grade will be replaced by the grade earned with the deferred final.

Statement on Accommodations

To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the Disability Resources Educational Services (DRES) as soon as possible. To contact DRES you may visit 1207 S. Oak Street, Champaign, call 333-4603 (V/TTY), or email a message to disability@uiuc.edu.

Academic Integrity

"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.

Expectations of Students:

It is the responsibility of each 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 Part by virtue of its publication. Regardless of whether a student has actually read this Part, a student is charged with knowledge of it. Ignorance is not a defense."

Semester Schedule

Part 1

Week 1- August 23 and 25

- Tues: Class Overview and Lesson 1.1- Positive and Normative
- Thurs: Lesson 2.1 to 2.3- Markets

Week 2- August 30 and September 1

- Tues: Lesson 2.4 and 2.5- Taxes and Subsidies
- Thurs: Hayek Reading Assignment due at 11:00 AM and Lesson 3.1 to 3.3- Present Discounted Value

Week 3- September 6 and 8

- Tues: Lesson 3.4- Dynamic Optimization
- Thurs: Lesson 3.5- Renewable Resource Use

Week 4- September 13 and 15

- Tues: Lesson 4.1 and 4.2- Positive Externalities
- Thurs: Lesson 4.3 to 4.5- Negative Externalities and Pecuniary Externalities

Week 5- Tuesday, September 20

- Tues: Review Lesson 1.1 to 4.5
- Thurs: Midterm Exam 1 and Part 1 Assignments, and Syllabus Quiz Due by 11:00 PM

Part 2

Week 6- September 27 and 29

- Tues: Lesson 5.1 and 5.2- Pigou and Taxes
- Thurs: Mankiw Reading Assignment due at 11:00 AM and Lesson 5.3 and 5.4- Missing Markets and Pigovian Subsidies

Week 7- October 4 and 6

- Tues: Lesson 6.1 to 6.3- Property Rights and Open Access
- Thurs: Coase Reading Assignment Due at 11:00 AM and Lesson 6.4 to 6.6- Coase, Ostrom, and the Commons

Week 8- October 11 and 13

- Tues: Lesson 7.1 and 7.2- Interactive Resources
- Thurs: Lesson 7.3- Pollution Permits

Week 9- October 18 and 20

- Tues: Data Project Discussion
- Thurs: A&L 1-4 Reading Assignment due 11:00

Week 10- October 25 and 27

- Tues: Lesson 5.1 to 7.3
- Thurs: Midterm Exam 2 and Part 2 Assignments: Pigovian Tax, Cap and Trade due at 11:00 PM

Part 3

Week 11- November 1 and 3

- Tues: Lesson 8.1 and 8.2- Pollution Control
- Thurs: Lesson 8.3 and 8.4- Policy Assessment

Week 12- November 8 and 10

- Tues: Class Canceled for Election Day
- Thurs: Class Canceled for Reading and Data Project Work. A&L 5-8 Reading Assignment Due at 11:00 AM.

Week 13- November 15 and 17

- Tues: Yandle Reading Assignment Due at 11:00 AM and Lesson 9.1 to 9.3- Public Choice
- Thurs: Lesson 10.1 and 10.2- Pollution Trends and Environmental Kuznets Curve

Fall Break

Week 14- November 29 and December 1

- Tues: Lesson 10.3- Property Rights and Environmental Improvements)
- Thurs: Lesson 10.4 and 10.5- Entrepreneurship and the Future

Week 15- December 6

- Tues: Review Lesson 1 to 10 and Data Project Due by 11:00 PM

Week 16- Examination Period

- Final Exam Tentatively Scheduled for Friday, December 9 from 8:00 to 11:00 AM.