



COURSE INFORMATION

Course Number and Title: ECON322 Environmental and Natural Resource Economics

Credits: 3

Description

Energy and environmental issues are critically important to the modern global economy. This course examines public policies to address climate change, air pollution, water quality and natural resource management.

This study of environmental issues and policies is focused through the lens of economic theory. We study supply, demand, and efficiency in markets, the incentive structure that leads to environmental problems and seek to examine why energy and environmental markets have historically been subject to extensive government intervention.

This course is intended to equip you with the conceptual, graphic and algebraic tools used in environmental economics and in the analysis of environmental policies. Our concerns are centered on issues of efficiency and equity in the study of environmental policies

Our objective in this course is to:

- 1) highlight the role of incentives in leading to behaviors that cause environmental problems and,
- 2) show that economic incentives in environmental policy have the potential to provide flexible mechanisms for achieving environmental policy goals in a least cost manner.

COURSE DETAILS

Readings

We will read peer-reviewed journal articles and discuss them in class.

No textbook is required for this class. If you would like to read a textbook, I would recommend:

1. Environmental and Natural Resource Economics 11th edition, Thomas Tietenberg and Lynne Lewis
2. Economics of the Environment: Selected Readings 6th edition, Robert Stavins.

Course Grading

Achievement in this course will be assessed through completion of the following activities:

Assessment Name	Percentage	Date
Memo 1	6%	Friday, September 24, 2021
Memo 2	6%	Friday, October 8, 2021
Memo 3	6%	Friday, November 5, 2021
Memo 4	6%	Friday, November 19, 2021
Good will bonus!	1%	
Midterm Test	35%	11:00 a.m. - noon Wednesday, October 20, 2021
Final Test	40%	9:00 a.m. - noon Wednesday, Dec 15, 2021*
Total	100%	

Homework

The homework assignments will provide you with an avenue to critically assess the theory underlying the evaluation of environmental policies and apply these principles to real world problems. The homework assignments involve the reading and discussion of assigned published papers in environmental economics.

These assignments will focus on real life policy questions. Grading will stress two things: (1) the degree to which you have made a strong effort to integrate the relevant course material into your discussion; and (2) the extent to which your work is polished and professionally done.

It is crucial that you complete these assignments on time. Note that there will be a deduction of 10% per day for late submissions.

Tests

The two tests will be made up of true/false and short response answers that mirror some of the questions you will have seen in the quizzes but provide for a more comprehensive assessment of your achievements in the course.

The tests are one hour in length.

Grading Scale

Grades are determined by a cumulative point total as follows:

Letter	Percentage
A	93%+
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-72%
D	60-69%
F	59% or less

Outline of the Course

The course is broken up into seven (7) modules. The following outline presents the topics to be covered in each module

1. Foundations of Economic Analysis

- 1.1. Producer Behavior
- 1.2. Consumer Behavior

2. Environmental Valuation

- 2.1. Use of Environmental Valuation in Litigation, Benefit-Cost Analysis, and Economic Analysis
- 2.2. Stated Preferences
- 2.3. Revealed Preferences
- 2.4. Considerations in the Use of Environmental Valuation

3. The Economics of Pollution Control

- 3.1. Ecological Values and the Political Response: The Comprehensive Environmental Response, Compensation and Liability Act
- 3.2. The Efficient Level of Pollution Control

4. The Economic Approach: Market Failure and the Role of Government

- 4.1. Market Failures: Transaction costs, externalities and public goods
- 4.2. The Theorem of Coase
- 4.3. Public goods
- 4.4. Externalities

5. Industrial Organization and the Regulation of Markets

- 5.1. Natural Monopolies: Electric Power and Utilities
- 5.2. Monopoly Pricing and Regulation

6. Environmental Policy Instruments

- 6.1. Climate Change and Energy Policy: The Clean Power Plan and the Clean Air Act
- 6.2. Oil and Gas Markets
- 6.3. Emissions Markets
- 6.4. The Clean Water Act
- 6.5. Water Treatment and Supply

7. Natural Resource Management

- 7.1. Tragedy and Management of the Commons
- 7.2. Management of the Commons: Reputation, reputation, trust and cooperation.
- 7.3. Fisheries Management
- 7.4. Chesapeake Bay Program

Date	Module	Topic	Notes
Wednesday, September 1, 2021		Introduction and Course Overview	
Friday, September 3, 2021	Foundations of Economic Analysis	Demand and Supply Review	
Monday, September 6, 2021	Foundations of Economic Analysis	Household Behavior	
Wednesday, September 8, 2021	Valuing the Environment	Valuing the Environment: Introduction	Rosh Hashanah
Friday, September 10, 2021	Valuing the Environment	Revealed Preferences Methods	
Monday, September 13, 2021	Valuing the Environment	Survey Based Methods: Contingent Valuation	
Wednesday, September 15, 2021	Valuing the Environment	The Contingent Valuation Debate: Private vs. Public Goods	
Friday, September 17, 2021	Valuing the Environment	Survey Design: Why Value the Environment?	
Monday, September 20, 2021	The Economics of Pollution Control	Ecological Values and the Political Response: The Superfund Act	
Wednesday, September 22, 2021		The Efficient Level of Pollution Control	Sukkot
Friday, September 24, 2021	The Economics of Pollution Control	CERCLA: Efficient Level of Pollution Control	Assignment 1
Monday, September 27, 2021	The Economic Approach	Efficient Level of Pollution Control and Market Failures	
Wednesday, September 29, 2021	The Economic Approach	Market Failure and the Role of Government	Simchat Torah
Friday, October 1, 2021	The Economic Approach	The Theorem of Coase: The Doctor and the Candyman	
Monday, October 4, 2021	The Economic Approach	Coase: Transaction Costs, Liability Rules and the Law	
Wednesday, October 6, 2021	The Economic Approach	Pigou v. Coase: Transaction Costs, and Community Organizing	
Friday, October 8, 2021	The Economic Approach	Externalities and the Behavior of the Firm	Assignment 2
Monday, October 11, 2021	The Economic Approach	Property Rights, Public Goods and the Free Rider Problem	
Wednesday, October 13, 2021	The Economic Approach	Public Goods and Preference Revelation	
Friday, October 15, 2021			
Monday, October 18, 2021			Fall Break
Wednesday, October 20, 2021		Test 1	
Friday, October 22, 2021	Regulation of Markets	Non-renewable Natural Resource Management	
Monday, October 25, 2021	Regulation of Markets	Oil and Gas Markets: Oil Production and the OPEC Cartel	
Wednesday, October 27, 2021	Regulation of Markets	Natural Monopolies: Electric Power and Utilities	
Friday, October 29, 2021	Regulation of Markets	Electric Power and Utilities: Monopoly Pricing and Regulation	
Monday, November 1, 2021	Environmental Policy Instruments: Air and Climate	Climate Policy in the Electric Power Industry	
Wednesday, November 3, 2021	Environmental Policy Instruments: Air and Climate	Auction Design and Emissions Markets	
Friday, November 5, 2021	Environmental Policy Instruments: Water	Clean Air Act	Assignment 3
Monday, November 8, 2021	Environmental Policy Instruments: Water	Sustainable Transportation	
Wednesday, November 10, 2021	Environmental Policy Instruments: Water	Water Pollution	
Friday, November 12, 2021	Environmental Policy Instruments: Water	The Clean Water Act	
Monday, November 15, 2021	Environmental Policy Instruments: Water	Water Treatment and Supply	
Wednesday, November 17, 2021	Environmental Policy Instruments: Water	Water Supply and Scarcity	
Friday, November 19, 2021	Natural Resource Management	Tragedy of the Commons	Assignment 4
Monday, November 22, 2021	Natural Resource Management	Governance of the Commons - Repetition, reputation, trust and cooperation	
Wednesday, November 24, 2021			Thanksgiving
Friday, November 26, 2021			
Monday, November 29, 2021	Natural Resource Management	Chesapeake Bay Program	
Wednesday, December 1, 2021	Natural Resource Management	Nutrient Trading	
Friday, December 3, 2021	Natural Resource Management	Policy Instruments for Water Pollution	
Monday, December 6, 2021	Natural Resource Management	Fishery Management	
Wednesday, December 8, 2021	Natural Resource Management	Biodiversity and the Endangered Species Act	
Friday, December 10, 2021			LDOC
Wednesday, December 15, 2021	Final Exam		

COURSE POLICIES

Late Assignment Policy

It is very important that work be turned in on time or students will find it very difficult to catch up. All work in the course (e.g. discussion, quizzes, and exams) will be due at the start of class on the date noted on the class calendar

Faculty Communication and Feedback

Please should give 48 hours for me to get back to you for any communication and one week for grading turnaround time.

If you have concerns about communication or feedback reach out to the instructor first. I am always happy to set up a zoom meeting to facilitate discussion, especially when email can be slow or may need additional follow up questions.

Academic Integrity and the Honor Code

The origin of our Honor Code at William & Mary dates back to 1736 when the college first demonstrated its highest commitment to the character of its students. The Honor Code has evolved along with the college and has gone from being a “gentlemen’s code” into a codified student honor system promoting individual responsibility on the part of all who are members of the William & Mary community relating to a student’s honor. The same high commitment to student character exists today, and the Honor Code is administered by the student body to help build a community of trust.

Upon matriculation at William & Mary, all students are asked to sign the Honor Code, expressing their commitment to not lie, cheat, or steal.

"As a member of the William & Mary community, I pledge on my honor not to lie, cheat, or steal, either in my academic or personal life. I understand that such acts violate the Honor Code and undermine the community of trust, of which we are all stewards."

Upon graduation, the Honor Code becomes the brand with which all William & Mary alumni will be judged. Our conduct during our time as students and beyond reflects our character and the character of our college. Therefore, we encourage students to be actively committed to safeguarding the Honor Code's "community of trust of which we are stewards."

Accessibility Services

William & Mary accommodates students with disabilities in accordance with federal laws and university policy. Any student who feels they may need an accommodation based on the impact of a learning, psychiatric, physical, or chronic health diagnosis should contact Student Accessibility Services staff at 757-221-2509 or at sas@wm.edu to determine if accommodations are warranted and to obtain an official letter of accommodation. For more information, please see www.wm.edu/sas