

EC 336: Economics of the Environment and Natural Resources

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Office Hours: MW 10:00-1:00 & by appointment

Office: Pray-Harrold 703J

Class Hours: TR 12:30 - 1:45pm

Class Room: Pray-Harrold 303

Course Description

Course Overview

This course focuses on applying basic economic theory to natural and environmental resources problems. Topics include economic perspectives on the concepts of sustainability and natural resource scarcity (static and dynamically efficient allocations) for nonrenewable or depletable resources (minerals, groundwater), optimal management of renewable resources (surface water, fisheries, forests), and pollution management strategies (including use of economic incentives such as pollution taxes and/or tradable permits, and legal liability for pollution control).

Goals for the course include: familiarity with the economic models pertaining to issues of allocation and management of natural resources and environmental goods; expanded understanding of externalities, a topic not covered in much detail in most other field courses in economics; familiarity with how economists conduct benefit-cost analysis of alternative allocations of environmental goods where markets do not exist; and an introduction to the political economy of environmental protection.

Learning Outcomes

- Strategies to deal with:
 - environmental externalities
 - management of common resources whether they be renewable or nonrenewable and the importance of discounting in obtaining the efficient solution
 - management of environmental quality (pollution policies and regulatory policies)
- Valuation techniques
- Main issues confronting countries with respect to natural resources, population, food and climate change.

Prerequisites

ECON 202 (Principles of Microeconomics) is a prerequisite of this course. The basic premise of this course is to apply the economic concepts you learned in ECON 202 to environmental and natural resource issues. We will typically review the relevant concepts before applying them but I expect that you will already be somewhat familiar with them. Your notes or textbook from ECON 202 may be a useful resource.

Course Materials

Recommended Textbook: Nathaniel O. Keohane and Sheila M. Olmstead. [Markets and the Environment](#).

Supplemental Reading: There will be additional directed readings to supplement the textbook. These readings will be posted on Canvas as we go through the course. Also, when appropriate, related news articles/editorials will be posted on Canvas. You may be asked to comment on the issues addressed in any of the news articles or editorials discussed in class and posted on Canvas.

Course Structure

Canvas

All announcements, assignments, quizzes, grades, and extra materials will be posted on canvas; you are responsible for all materials posted on canvas. The canvas announcements in this course will contain critical information, so make sure you are receiving them. If you have any difficulties accessing canvas it is your responsibility to resolve the issue; for help with canvas you can contact the IT Help Desk at 734-487-2120 or visit their [website](#).

Grading Policy

Your final course grade will be based solely on your performance in the course and will be determined as follows:

- 20% Midterm 1
- 20% Midterm 2
- 30% Final Exam
- 30% Homework

Once all coursework is graded, I will assign final letter grades according to the following distribution:

Above 93%	A
90-92%	A-
87-89%	B+
83-86%	B
80-82%	B-
77-79%	C+
73-76%	C
70-72%	C-
67-69%	D+
63-66%	D
60-62%	D-
Below 60%	F

Unless there has been a legitimate grading or clerical error, once final letter grades are awarded, I will not consider rounding or changing your grade so please do not ask.

Assessments

Exams: There are three exams for this course. The first midterm is scheduled for **Thursday, February 9, 12:30pm**, the second midterm is scheduled for **Thursday, March 23, 12:30pm**, and the final exam is **Tuesday, April 27, 11:30am-1:00pm**. Detailed exam procedures will be posted on Canvas and announced in class before each exam.

Assignments: There are six homework assignments for this course. Assignments are due **Friday at 11:59pm** on Canvas. Homework assignments will be announced on Canvas and in class. Please see the course schedule at the end of the syllabus for topics and anticipated due dates.

Late Assignment Policy: There is a 48 hour grace period after which homework will still be accepted for full credit, no questions asked. After this, assignments will not be accepted for credit, unless an extension has been approved by the instructor.

Course Policies

Make-up Assignments

If you cannot take the exam at the scheduled exam time and you know beforehand, please contact me **before the scheduled exam time**. Unless there are extreme circumstances, I do not offer make-up assignments after the deadline has passed. In such extreme circumstances that cause you to miss a midterm exam, I will consider re-weighting your grade towards the final exam. To qualify for re-weighting, you must notify me within two days after an exam. You should work with the Dean of Students' office to provide verification that your absence was due to an extreme circumstance. A missed final due to an unanticipated emergency will be handled with an incomplete for the course until the exam is completed. Please notify me as soon as possible if

you will not be able to take the final or have missed it due to an emergency. Otherwise, a grade of zero will be assigned to the missed final exam.

Attendance Policy

Your grade will not formally depend on your attendance during the lectures, but you are responsible for everything covered in class. Any notes posted to Canvas are not intended to be a perfect substitute for class time.

Office Hours Policy

My office hours are specific times set aside for you. I encourage you to stop in during these hours to ask any questions or discuss any material from the course. If you cannot make my office hours, please e-mail me and we can set up an appointment.

The best way to contact the professor is via e-mail. You can expect a response from me within **48 hours** during business hours. All communication should come from your Eastern Michigan University email address or through Canvas.

Academic Integrity and Honesty

Any violations of the academic integrity policy will result in a failing grade for the assignment or exam and a complaint may be filed with the University's Academic Integrity Office. Cheating or plagiarism of any form will not be tolerated (using AI, such as ChatGPT, is considered plagiarism).

In addition to the articulated course specific policies and expectations, students are responsible for understanding all applicable university guidelines, policies, and procedures outlined in the [EMU Student Handbook](#). For questions about any university policy, procedure, practice, or resources, please contact the Office of the Ombuds: 248 Student Center, 734-487-0074, emu_ombuds@emich.edu, or visit the [website](#). For a list of EMU course policies, please click [here](#).

Accessibility and Accommodations

Eastern Michigan University is committed to providing equal opportunity for participation in all university programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Disability Resource Center (DRC), 246 Student Center, 734-487-2470. Once your eligibility for an accommodation has been determined, you will be issued a letter of accommodation (LOA). Please present your LOA to me at the start of the academic semester or once it has been distributed to you by the DRC.

Schedule and weekly learning goals

The schedule is tentative and subject to change. Any changes to the schedule will be announced in class and on Canvas. The learning goals below should be viewed as the key concepts you should grasp after each week, and also as a study guide before each exam, and at the end of the

term. The applications in the second half of the term tend to build on the concepts in the first half of the term though, so it is still important to at least review those concepts throughout the term.

Week 01, 01/09 - 01/13:

- Introduction
- 202 Review (Chapter 2, Chapter 4)

Week 02, 01/16 - 01/20:

- Externalities (Chapter 5)

Week 03, 01/23 - 01/27:

- Coase Theorem (Chapter 8)
- Common Property Resources-Fisheries (Chapter 7)
- **Homework 1 due Friday at 11:59pm**

Week 04, 01/30 - 02/03:

- Common Property Resources-Forests and Water (Chapter 7)
- Applications of Renewable Resource Issues

Week 05, 02/06 - 02/10:

- Midterm Review
- **Midterm 1: Thursday Feb 9, 12:30pm**
- **Homework 2 due Friday at 11:59pm**

Week 06, 02/13 - 02/17:

- Time Discounting (Chapter 2)
- Non-renewable Resources (Chapter 6)

Week 07, 02/20 - 02/24:

- Non-renewable Resources (Chapter 6)
- Energy

Week 08, 02/27 - 03/03:

- **Spring Break; No classes.**

Week 09, 03/06 - 03/10:

- Valuation Methods (Chapter 3)
- **Homework 3 due Friday at 11:59pm**

Week 10, 03/13 - 03/17:

- Valuation Methods (Chapter 3)
- Benefit-Cost Analysis (Chapter 3)

Week 11, 03/20 - 03/24: Midterm 2

- Midterm Review
- **Midterm 2: Thursday, March 23, 12:30pm**
- **Homework 4 due Friday at 11:59pm**

Week 12, 03/27 - 03/31:

- Market-Based Instruments (Chapter 8, 9, 10)

Week 13, 04/03 - 04/07:

- Market-Based Instruments (Chapter 8, 9, 10)
- **Homework 5 due Friday at 11:59pm**

Week 14, 04/10 - 04/14:

- Government Regulations
- Sustainability (Chapter 11)

Week 15, 04/17 - 04/21:

- TBA/Extra Topics
- Final Exam Review
- **Homework 6 due Friday at 11:59pm**

Week 16, 04/24 - 04/28:

- **Final Exam: Thursday, April 27, 11:30am-1:00pm**