AEB 3450 Introduction to Natural Resource and Environmental Economics

Spring, 2026
In-person, 3 credits

Course Time and Location

- Tuesday 3:00 – 4:55 PM (CSE E221); Thursday 4:05-4:55 PM (MCCB G086)

Instructor

- Dr. Thomas M. Anderson, Assistant Professor, Food and Resource Economics Department
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- Office Hours: Wednesdays 3:00 – 4:00 pm

Teaching Assistant

- TBD
- Office: TBD
- Email: TBD
- Office Hours: TBD

Course Description

Introduces natural resource and environmental economics. Emphasizes understanding economic concepts such as resource scarcity, market failure, externalities, property rights, and common property resources and their application to studies of forest, land, water, energy, and coastal resources**.** Credit cannot be received for both AEB 3450 and ECP 3302.

Course Learning Objectives

After the successful completion of AEB 3450, students should be able to:

- Analyze how property rights and other institutions create incentives for the use of natural resources
- Identify positive and negative externalities and describe why externalities are often used a justification for government policy
- Define a public good and explain why markets tend to provide fewer public goods than the public would like
- Illustrate why resources held as common property, such as fisheries, forests, and groundwater, often are overexploited
- Describe policy tools that can help to align private and public interests, within the context of environmental and natural resource management
- Critically evaluate common natural resource and environmental policy designs and identify tradeoffs between them
- Explain how economists estimate the value of goods and services that are not typically exchanged in the marketplace

Course Overview and Purpose

How much is an endangered species worth? Are we going to run out of fuel in the next 50 years? Are there ways to prevent deforestation, overfishing, and over-extraction of groundwater? These big challenges center around our relationship with the environment. Economics offers a promising framework for analyzing and predicting human behavior, evaluating the effectiveness of public policy, and designing solutions for emerging environmental problems

AEB 3450 aims to introduce the economics of natural resources and the environment. Students will gain an understanding of how economists approach environmental and natural resource problems from philosophical, methodological, and analytical perspectives.

This course is a core component of the Environmental Science major, designed to equip students with essential economic knowledge for addressing environmental issues. For economics majors, it offers a practical application of economic theories and paradigms to real-world environmental challenges. Additionally, it is valuable for students interested in environmental policy, natural resource management, and sustainable development. By integrating economic principles with environmental concerns, the course fosters a multidisciplinary approach to problem-solving.

Understanding environmental economics is crucial for anyone concerned about the future of the planet as most environmental problems stem from an economic root and require an economic solution. This course empowers students to critically analyze the impact of individual behaviors, social institutions, and government policies on the environment. By the end of the course, students will be better equipped to contribute to discussions and decision-making processes related to sustainable development, environmental conservation, and climate change mitigation.

Course Prerequisites

- AEB 3103 or ECO 2023

Textbooks, Learning Materials, and Supply Fees

The following texts are recommended but are not required for this course. A large proportion of my lectures come from the following two texts and I have listed recommended readings from them in the lecture schedule. However, all assignments and assessments will be based on material that I will provide in lecture or which I have made available to you on Canvas.

- Tietenberg, T. and Lewis, L. (2023). *Environmental and Natural Resource Economics*. Routledge, 12th Edition

  Tietenberg and Lewis (TL) is a comprehensive textbook with far more material than we will be able to cover in a single semester. My page references will be for the 12th edition, but much of the material is likely available in earlier editions.

- Keohane, N. and Olmstead, S. (2016). *Markets and the Environment*. Island Press, 2nd Edition.

Keohane and Olmstead (KO) offer a much more succinct treatment, focusing on the intuition of key concepts. The first edition is available in the library.

Technical Support

UF Computing Help Desk & Ticket Number: All technical issues require a UF Helpdesk Ticket Number. The UF Helpdesk is available 24 hours a day, 7 days a week. https://helpdesk.ufl.edu/ | 352-392-4357

Weekly Course Schedule*

Week of	Unit	Topic	Assignment
13-Jan	Economic Principles	Efficiency and Market Failure	Introductions
20-Jan	Economic Principles	Evaluating Tradeoffs	PS 1 Due
27-Jan	Externalities and Economic Policy	Pigouvian Taxes and Subsidies	
3-Feb	Externalities and Economic Policy	Cap and Trade	PS 2 Due
10-Feb	Externalities and Economic Policy	Technology and Performance Standards	Econ Detective Proposal
17-Feb	Externalities and Economic Policy	Emergent Order and Collective Action	PS 3 Due
24-Feb	Measuring Benefits and Costs	Market Prices and Non-market Goods	Exam 1
3-Mar	Measuring Benefits and Costs	Stated and Revealed Preferences	
10-Mar	Measuring Benefits and Costs	Costs of Environmental Policy	PS 4 Due
17-Mar	**********	Spring Break	**********
24-Mar	Natural Resources	Dynamic Decisions and Discounting	
31-Mar	Natural Resources	Non-Renewable Resources	PS 5 Due
7-Apr	Natural Resources	Renewable Resources	Econ Detective Due
14-Apr	Natural Resources	Natural Resource Policy	PS 6 Due
21-Apr	Natural Resources	Perspectives on Sustainability	Exam 2

*This schedule is tentative and may be subject to change

Grading Policy

Course grading is consistent with UF grading policies.

Late Assignments

Late assignments will lose 10% for each 24-hour period following the posted deadline. After three days, assignments may be turned in at any time until midnight on the last day of class (April 21) for a maximum of 50% credit. Students are encouraged to submit their assignments well in advance of the Canvas deadline to avoid technical issues. To be fair to all students, deductions for late assignments are automatically assigned by Canvas based upon the recorded time of submission. This policy does not apply to the final "Econ Detective" report.

Regrade Policy

If you feel that you deserve a different score than what was awarded on an assignment or exam, you may request a regrade. This request must be made in writing directly to Prof. Anderson within seven calendar days of receiving the grade in question. In this request, you must provide a clear, concise argument as to why you feel that you deserve more credit than was awarded. Your assignment may be reviewed in its entirety, and your score may increase or decrease based on Prof. Anderson's evaluation. The new score will be final.

Course Grading Structure

- Problem Sets (30%): There will be a total of 6 problem sets assigned during the semester. I will drop your lowest score. You are welcome to work on these assignments together but each individual must turn in their own assignment, written in their own words.
- Exams (30%): We will have two in-class, closed-book exams during the semester. These will occur during a Tuesday class and will be conducted in the same location as our lectures.
- Economics Detective Assignment (30%): Students will be required to identify, diagnose, and propose an economic solution to an environmental or natural resource problem. More information on this project will be provided during the first week of the course.
- In-class Participation (10%): Students may be asked to participate in class discussions related to lecture materials or problems sets.

Grading Scale

Grade	Percentage	Total points	Grade Points
A	93% or more	≥ 465	4.00
A-	90.0 – 92.9%	450 - 464	3.67
B+	86.0 – 89.9%	430 - 449	3.33
B	83.0 – 85.9%	415 - 429	3.00
B-	80.0 – 82.9%	400 - 414	2.67
C+	76.0 – 79.9%	380 - 399	2.33
C	73.0 – 75.9%	365 - 379	2.00
C-	70.0 – 72.9%	350 - 364	1.67
D+	66.0 – 69.9%	330 - 349	1.33
D	63.0 – 65.9%	315 - 329	1.00
D-	60.0 – 62.9%	300 - 314	0.67
E	59.9%or less	≤ 299	0.00

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Campus Health and Wellness Resources

Visit https://one.uf.edu/whole-gator/topics for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact UMatterWeCare for additional and immediate support.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Privacy and Accessibility Policies

- Instructure (Canvas)
  - Instructure Privacy Policy
  - Instructure Accessibility
- Zoom
  - Zoom Privacy Policy
  - Zoom Accessibility