

# ECON 435

## Natural Resource Economics

Fall 2024

Tue/Thur 2:30-4:20pm MGH 044

5 Credits

Instructor: Abby Schamp (she/her)

OH: TBD

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### ***Overview***

ECON 435 is a survey of the economics of natural resources. Topics include nonrenewable resources, climate change, renewable resources such as fish and trees, and valuation of the environment. A principal theme in analyzing these topics is the determination of the optimal trade-offs between the benefits and costs of resource use, with special emphasis on trade-offs between current and future resource use and implications for sustainability.

### ***Learning Goals***

- Understand conditions under which the free market fails to use natural resources optimally, often leading to environmental harm for future generations.
- Identify optimal levels of environmental policies using economic tools.
- Analyze how environmental policies affect market efficiency and the trade-offs between current and future generation's consumption.
- Evaluate how policies that affect future generations are valued today and identify when policy effects are sufficient to motivate political activity.

### ***Readings***

We will be discussing several required readings in class throughout the term. Required readings will be posted on Canvas.

While there is no required textbook, you may find a natural resource economics textbook to be helpful. Any more recent textbook should work. *Environmental & Natural Resource Economics* by Tietenberg and Lewis is recommended. Please speak to Abby before purchasing a copy if you miss the first lecture.

### ***Canvas***

Many required and supplemental readings will be posted on the course Canvas site, along with assignments. You will be responsible for accessing the site on a regular basis.

### ***Grading***

Grades will be determined as follows:

Midterms (2)	45%
Assignments	15%
Final Project	40%

### ***Mid-terms***

There are two mid-term exams during the term, each counting for 22.5% of the grade. The exams emphasize the most recently covered material, and are not explicitly cumulative. The exams will be all short and long answer questions that will ask you to apply models from class. Make-up exams may be offered for valid excuses. You should contact Abby before the exam, as soon as possible, if you cannot attend an exam.

Exam 1: 10/22/24

Exam 2 : 11/19/24

***Assignments*** will be posted on Canvas. I expect approximately one assignment every 1-2 weeks. You may turn your assignments in on canvas in Word or PDF format or in class on the day it is due at the beginning of class. Late assignments will be accepted but will lose 10% per day.

### ***Final Project***

In the lieu of a final exam, we will have a final paper in which you will apply the skills you have learned in this course. You will research and analyze a current local, state, national or global environmental or natural resource issue. You will find a policy that has been proposed for your issue, or a policy for a similar issue, and evaluate how the policy will change the incentives causing the issue and how the policy will affect market efficiency. You will then evaluate if the policy is likely to be enacted. More information on the paper will be provided before the second midterm.

### ***Extra Credit***

I will offer several opportunities to earn extra credit. We will play several in-class games to reinforce concepts, and some of these games will be scored for extra credit. Total extra credit points will not exceed 10% of total non-extra credit course points.

### ***Policies***

#### ***Attendance***

This class covers wide range of tools and factual material, including new ways of thinking about and managing natural resources. Attendance will not be taken during class. However, attending and participating in class is the primary way to understand the models being used and how they apply to the problems we are studying; attendance is essential to doing well in this class.

#### ***Collaboration***

Your peers are often your best resource for learning. Working in groups to complete exercises and plan and revise your final paper is strongly encouraged. However, any work you turn in must be in your own words. It is suggested you make sparse notes in a group setting, and then write up your own answers to turn in.

#### ***Re-Grading***

If you want an assignment or mid-term to be regraded, you may submit your work back to me with a written document explaining why you believe the grading is incorrect. I will consider your explanation and respond within approximately one week.

### *Academic (Mis)Conduct*

At the University level, passing off anyone else's scholarly work (which can include written material, exam answers, graphics or other images, and even ideas) as your own, without proper attribution, is considered academic misconduct. Because I am interested in how well you understand and can explain the situations and models discussed in class, it is imperative your work is in your own words. Shared homework or test answers or plagiarized assignment answers, will receive a zero for the assignment for involved parties and will be referred to the university for disciplinary action.

Plagiarism, cheating, and other misconduct are serious violations of the University of Washington [Student Conduct Code \(WAC 478-120\)](#). I expect that you will know and follow the university's policies on cheating and plagiarism. Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the College of the Environment [Academic Misconduct Policy](#) and the University of Washington [Community Standards and Student Conduct website](#). University plagiarism policies apply.

### *Disability*

Full participation in this course requires the ability to read and synthesize written material, attend two classroom sessions a week, participate in class discussion, and compose mathematical and graphical answers to homework's and projects. If you anticipate or experience barriers to your learning or full participation in this course based on a physical, learning, or mental health disability, please contact the instructor to discuss possible accommodation(s) within the first week of class, or at least a week before you anticipate an issue. The instructor will maintain confidentiality of the disability and associated accommodations.

A more complete description of the disability policy of the College of the Environment can be found <http://coenv.washington.edu/intranet/academics/teaching/disability-accommodation/>. If you have, or think you have, a temporary or permanent disability that impacts your participation in any course, please also contact Disability Resources for Students (DRS) at: [206-543-8924](tel:206-543-8924) V / [206-543-8925](tel:206-543-8925) TDD / [uwdss@uw.edu](mailto:uwdss@uw.edu) e-mail / <http://www.uw.edu/students/drs>.

### *Religious Accommodations*

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy \(https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/\)](https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/). Accommodations must be requested within the first two weeks of this course using the [Religious Accommodations Request form \(https://registrar.washington.edu/students/religious-accommodations-request/\)](https://registrar.washington.edu/students/religious-accommodations-request/)

*Class Schedule (Preliminary and subject to revision)*

<b>Date</b>	<b>Topic</b>	<b>Class</b>	<b>Readings</b>
9/26	Syllabus and Introduction		
10/1	Property Rights and Public Goods	Public Goods Game	
10/3	Coase Theorem and Discounting		
10/8	Dynamic Efficiency		
10/10	Depletable Resources: Oil		Oil Kirsch
10/15	Climate Change		IPCC Reading
10/17	Climate Change		
10/22	---	<b>EXAM 1</b>	
10/24	Common Pool Resources	Goat Farming Game	
10/29	Water		Water Hoekstra
10/31	Forests		
11/5	Forests		
11/7	Fisheries	Final Project Intro	
11/12	Fisheries		MPA's Hilborn
11/14	Fisheries		
11/19	---	<b>EXAM 2</b>	
11/21	Risk: Oil Spills	Excel Exercise	
11/26	Cost-Benefit Analysis		
11/28	---	<b>THANKSGIVING (NO CLASS)</b>	
12/3	Non-Market Valuation		Beaches Penn
12/5	---	Final Project Peer Review	