Syllabus: AEB 3450, Introduction to Natural Resources and Environmental Economics, Fall 2024

Alternatively, download pdf format of the syllabus.

Navigation: - Syllabus: AEB 3450, Introduction to Natural Resources and Environmental Economics, Fall 2024 - Teaching Mode - Course Description - Overview - Student Learning Goals - Prerequisites - Textbook - Technology - Minimum Technology Requirements - Supplemental Technology Requirements - Minimum Technical Skills - In Case of a Technical Failure - Grading - Translating Points to Letter Grades - Canvas Calculated Grades - Grade Bump Requests - Class Policies - Late Assignments - Academic Honesty: - Plagiarism: - Use of Generative AI and Large Language Models - Treasure Hunt - Attendance and Make-Up Work: - Students Requiring Accommodations - Course Evaluation - Software Use - Student Privacy - Netiquette Statement - Campus Resources: - Health and Wellness - Academic Resources - Lauren's Promise: I will listen and believe you if someone is threatening you. - Tentative Class Schedule

AEB 3450, Introduction to Natural Resources and Environmental Economics, Fall 2023[1]

Instructor: Dr. Xinde "James" Ji
Email: xji1@ufl.edu
Tel: (352)294-7658
Office Hours: Tuesday/Thursday 2-4:00 pm
Location: Physically at my office (1181 McCarty Hall A) and virtually via Zoom https://ufl.zoom.us/j/98346551673

Teaching Assistant: TBD
Email: TBD@ufl.edu
Office Hours: TBA
Location: TBA

Undergraduate Advisor: Mr. Trey Gifford; 1170B McCarty Hall A; (352)294-7640;
E-mail: agifford1@ufl.edu; Schedule an appointment

Undergraduate Coordinator: Dr. Misti Sharp; 1189 McCarty Hall A; (352)294-7632;
E-mail: mistisharp@ufl.edu; Schedule an appointment

FRE Technology Assistance: Dave Depatie; 1197 McCarty Hall A; (352) 394-7641;
E-mail: ddepatie@ufl.edu

Teaching Mode

This class is taught completely online. Lectures, assignments, and exams are available asynchronously on eLearning. Synchronous discussion sessions run on every other Wednesday afternoons (3:00 - 3:50 pm).

Synchronous discussion sessions are held every other Wednesday, 3:00-3:50 pm via Zoom: https://ufl.zoom.us/j/92768266966. You are expected to attend all synchronous sessions. Video recordings will be available on eLearning for those who cannot attend the synchronous sessions.

Course Description

Introduces natural and environmental resource economics. Emphasizes understanding economic concepts such as resource scarcity, market failure, externality, property rights and common property resources and their application to studies of forest, land, water, energy and coastal resources. Prerequisite: AEB 3103 or ECO 2023. Credit cannot be received for both AEB 3450 and ECP 3302.

---

[1]Disclaimer: part of this syllabus is generated by Microsoft CoPilot, v1.104.341.

Overview

How much is an endangered species worth? How damaging is air pollution to our health, and how should we deal with it? Why are so many fisheries over-exploited, forests cut down, aquifers depleted, and are there ways to prevent that? How should we address the ongoing climate crisis, and what are the best ways to mitigate and adapt to it?

Human society is intrinsically connected with nature. This course aims to provide an introduction to the economics of natural resources and the environment. Students will gain an understanding of how economists approach environmental and resource problems from philosophical, methodological, and analytical perspectives. Key topics include market failures, policy instruments to correct them, property rights, and methods to evaluate the benefits and costs of environmental protection.

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 our planet, as most major 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.

Student Learning Goals

After successful completion of the course, you should be able to:

1. Distinguish between facts and rhetoric in public policy debates related to natural resources and the environment by critically analyzing arguments and evidence.
2. Understand and explain the key concepts and frameworks used by economists to address natural resource and environmental problems.
3. Apply economic tools and methods to critically evaluate and compare natural resource and environmental policies and alternatives.
4. Develop and demonstrate an economic mindset by analyzing and proposing solutions to real-world environmental problems using economic reasoning.

Prerequisites

Students are expected to have the knowledge of microeconomics at the level of AEB 3103 (Principles of Food and Resource Economics) or ECO 2023 (Principles of Microeconomics). I will assume that you have knowledge regarding the concepts and the analytical and graphic tools to analyze supply and demand, consumer and producer surplus, and opportunity cost. Please schedule a meeting with me if you are not sure you meet the prerequisites of the course.

Textbook

Required
Markets and the Environment (2nd Edition), by Nathaniel Keohane and Sheila Olmstead, Island Press (2016)

Optional   Environmental and Natural Resource Economics (11th Edition), by Tom Tietenberg and Lynne Lewis, Prentice Hall (2018)
Economics and the Environment (7th Edition), by Eban Goodstein and Stephen Polasky, Wiley

(2013)
`Pricing the Pricelss, by Spencer Banzhaf, Cambridge University Press (2023)`

Readings Additional readings will be posted on Perusall, an interactive reading and discussion software available via eLearning. Here is Perusall's privacy policy.

Technology

Minimum Technology Requirements The University of Florida expects students entering an online program to acquire computer hardware and software appropriate to their degree program. Most computers are capable of meeting the following general requirements. A student's computer configuration should include:

- Webcam
- Microphone
- Broadband connection to the internet and related equipment (cable/DSL modem)
- Microsoft Office Suite installed (provided by the university)

Individual colleges may have additional requirements or recommendations, which students should review before starting their program.

Supplemental Technology Requirements In addition to the minimum technology requirements, this course requires the use of the following technology:

- Zoom Video Conferencing: This course will use Zoom for synchronous discussion sessions and office hours. You can download Zoom from the UF Zoom website. Accessibility information for Zoom can be found here: Zoom Accessibility.
- Perusall: This course will use Perusall for reading assignments. You can access Perusall through the eLearning course page. Accessibility information for Perusall can be found here: Perusall Accessibility.

Minimum Technical Skills To complete your tasks in this course, you will need a basic understanding of operating a computer and using word processing software.

In Case of a Technical Failure We understand that technology failures can happen and may disrupt your ability to participate in course activities. In case that happens, the following accommodations are available:

- If a learning platform (Canvas/Perusall/Mediasite) is partially or completely unavailable, notify the instructor immediately. Assignment due dates will be extended as necessary to accommodate such platform outage.
- If you experience a technical issue during an exam (i.e., issues unrelated to the content of the exam), notify the instructor immediately. Appropriate accommodations will be made to ensure that you are provided with the opportunity to complete the exam.
- Make-up assignments (in the form of Perusall reading) will be provided for any synchronous discussion sessions that you are unable to attend due to a technical and/or scheduling issue. Notify the instructor as soon as possible to request a make-up assignment.

Grading

You will be evaluated with a total of 500 points, which consist of the following:

1. **Reading and reflection (via Perusall) (75 points, 15% of your grade)**
   - You will be reading a number of documents for each module and reflect on them via Perusall.
   - For these assignments, login to eLearning and go to the Perusall tool. Here is a help page and a getting started guide should you need it.
   - Your grade will be automatically determined by Perusall. Grading criteria include careful reading, writing constructive comments and/or questions, and interacting with your peers through upvoting and responses.
   - The two lowest scores for Perusall reading assignments will be dropped.

2. **Synchronous Discussion (75 points, 15% of your grade)**
   - 5 synchronous sessions will be held throughout the semester on alternate weeks except for during the exam week.
   - Active participation in each session earns a maximum of 10 points.
   - The lowest grade will be dropped (meaning you need to attend at least 4 out of the 5 meetings).
3. **Assignments (150 points, 30% of your grade)**
   - There will be 10 assignments throughout the semester, one for each module.
   - All assignments are individual unless otherwise stated.
   - The lowest grade will be dropped.
   - Assignments will be returned within a week of the original due date (except for UF holidays).
4. **Interview a Professional (75 points, 15% of your grade)**
   - You will be interviewing a professional whose job function has something related to natural resources, the environment, economics, or policy. They could be a professor, a government official, a management/environmental consultant, or anyone else whose job is related to the environment and/or economic policy.
   - The interview can be conducted in person or virtually.
   - The interview should ideally touch on the following topics, amongst other topics that might interest you:
     – Ask the professional about their career journey which lead to their current job, their job responsibilities, and the best and worst parts of their job.
     – Ask the professional about their views on their field of specialization as it relates to the environment. If the professional is not an economist (broadly defined), ask them about their views on the role of economics in their field. If the professional is an economist, ask them about their views on the role of the environment in economics.
     – Seek advice from the professional on how to prepare for a career in their field.
   - You will need to schedule the interview on or before 10/7. The reflection paper is due on 10/11 by 11:59 pm.
5. **Exam (125 points, 25% of your grade)**
   - One mid-term exam will be issued on the week of 11/18.
   - You can attempt to take the exam during any time of that week. Once you started the attempt, you have two hours to finish the exam. You are only permitted with one attempt. Make sure you have stable internet connection before you start the attempt.
   - The exams are open book and open notes. Additionally, you are permitted to use any internet resources, including class resources, search engines, and generative AI, that may help you answer the questions.
   - Receive assistance from another human being during the exam is considered cheating. You will receive an automatic 0 plus be referred to the Dean of Students Office for further disciplinary actions.
6. **Three-minute video project (125 points, 25% of your grade)**
   - You may choose to complete a three-minute video project on a topic of your choice to replace your exam grade.
   - If you completed both the exam and the video project, only the highest grade will enter your final grade.
   - The video project is due on December 4th.

Translating Points to Letter Grades   Points will be translated into grades strcitly according to the following table. For information on current UF policies for assigning grade points, see here for details

Grade	Points	Grade Points
A	>465 (93%)	4.00
A-	450-464 (90%-92.9%)	3.67
B+	430-449(86%-89.9%)	3.33
B	415-429(83%-85.9%)	3.00

Grade	Points	Grade Points
B-	400-414(80%-82.9%)	2.67
C+	380-399(76%-79.9%)	2.33
C	365-379(73%-75.9%)	2.00
C-	350-364(70%-72.9%)	1.67
D+	330-349(66%-69.9%)	1.33
D	315-329(63%-65.9%)	1.00
D-	300-314(60%-62.9%)	0.67
E	<300(<60%)	0.00

Canvas Calculated Grades While I have tried my best to setup the Canvas gradebook to be as close as your actual grade, there might be some discrepancies due to the limitations of the Canvas gradebook, including but not limited to drops, extra credits, and missing assignments. You should always calculate your own grade based on the grading composition listed above.

Grade Bump Requests Since your letter grade is mechanically calculated using the above rubric, I will not entertain any grade bump requests.

Class Policies

Late Assignments Late work (including readings and assignments) are accepted with a 10% penalty each day.

Academic Honesty: As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "*On my honor, I have neither given nor received unauthorized aid in doing this assignment.*"

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see the DSO website.

Plagiarism: The Student Honor Code and Student Conduct Code states that: "A Student must not represent as the Student's own work all or any portion of the work of another." Plagiarism includes but is not limited to:

- Stealing, misquoting, insufficiently paraphrasing, or patch-writing.
- Self-plagiarism, which is the reuse of the Student's own submitted work, or the simultaneous submission of the Student's own work, without the full and clear acknowledgment and permission of the Faculty to whom it is submitted.
- Submitting materials from any source without proper attribution.
- Submitting a document, assignment, or material that, in whole or in part, is identical or substantially identical to a document or assignment the Student did not author."

Use of Generative AI and Large Language Models   I view AI as a foundational tool in this post-AI world, just like calculators and search engines. Ways to generative AI effectively is an emerging skill that could, and should, be learned, just like you learned how to use a calculator in middle school. Hence, unless otherwise stated, you are welcome to complete work with the help of artificial intelligence tools and large language models (LLMs) unless otherwise stated (ChatGPT, GPT, DALL-E, Stable Diffusion, Midjourney, GitHub Copilot, and anything after) in an unrestricted fashion, for any purpose, at no penalty.

You should note that many large language models still have a tendency to make up incorrect facts and fake citations, code generation models have a tendency to produce inaccurate outputs, and solve mathematical problems with incorrect intermediate steps and final solutions.[2] You will be responsible for any inaccurate, biased, offensive, or otherwise unethical content you submit regardless of whether it originally comes from you or a generative AI.

The university's policy on plagiarism still applies to any uncited or improperly cited use of work by other human beings, or submission of work by other human beings as your own.

Here are some best practices on understanding and using generative AI (Gagnon 2023)[3]:

- AI can be a valuable tool for augmenting human decision-making and critical thinking, but it is not a replacement.
- If you provide minimum effort prompts, you will get low quality results. You will need to refine your prompts to get better outcomes. This will take time and practice.
- Don't trust anything the systems says. Assume it is wrong, unless you already know the answer and can verify with trusted sources. It works best for topics you deeply understand.
- Use your best judgement to determine if/where/when to use these tools. They don't always make products easier and/or better.
- Large language models and chatbots are ""look back"" machines. They don't advance knowledge (yet).

Treasure Hunt   You will be awarded 3 extra credit points if you submit the correct answer to the treasure hunt question. The treasure hunt is located as a quiz called "treasure hunt". You have until the end of the semester to complete the treasure hunt.

Please fill in: in which year was the University of Florida (specifically, UF's oldest predecessor the East Florida Seminary) founded?

Attendance and Make-Up Work: Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found. More information is available on the UF catalog.

Students Requiring Accommodations   Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Additionally, you can find information related to UF's assessibility through the Disability Resource Center.

Course Evaluation   Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at GatorEval here. Students are notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via UF Bluera. Summaries of course evaluation results are available to students on the gatorevals site.

---

[2]During the Fall 2023 semester, I asked chatGPT (version 3.5 to 4) to solve six Principles of Economics problems in class. ChatGPT got 4 out of the 6 problems wrong at the intial attempt, and 2 out of 6 wrong after iteration.

[3]The quoted texts are written by Dr. Ryan Gagnon (Clemson University) and shared via X.

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. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see the Notification to Students of FERPA Rights.

Netiquette Statement Effective and respectful communication is vital for a productive online learning environment. The following guidelines outline expectations for all forms of communication within this course, including email, discussion forums, assignments, and other asynchronous interactions.

- Respectful Tone: All community members must use a respectful tone in all forms of communication. This includes being considerate, kind, and polite, even when disagreeing with others.
- Written Communication: Use the official language of instruction for all written communications. Avoid popular online abbreviations, netspeak, or chatspeak. For example, use "you" instead of "u" and "are" instead of "r."
- Synchronous and online Discussion: Engage in discussions thoughtfully and constructively. Listen to others' viewpoints and respond respectfully. Avoid interrupting others and allow everyone the opportunity to contribute. Respect the diversity of perspectives and experiences shared by classmates.
- Email Communication:
  - Use a clear and descriptive subject line.
  - Start with a proper greeting and sign off with your name. You could address me as James, Dr. Ji, Professor Ji, or variations of those. Please do not start your email with "hey".
  - Allow up to 24-48 hours for a response, except on weekends and holidays.

Campus Resources:

Health and Wellness U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.

University Police Department: Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.

Academic Resources

- E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources.

- Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

- Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.
- Student Complaints On-Campus: Visit the Student Honor Code and Student Conduct Code webpage for more information.

- On-Line Students Complaints: View the Distance Learning Student Complaint Process.

Lauren's Promise: I will listen and believe you if someone is threatening you.   Lauren McCluskey, a 21-year old honors student athlete, was murdered on October 22, 2018, by a man she briefly dated on the University of Utah Campus. We must all take actions to ensure this never happens again. Any form of sexual harassment or violence will not be excused or tolerated at the University of Florida.

If you are experiencing sexual assault, relationship violence, or stalking, you can take the following actions:

- If you are in immediate danger, call 911.
- Report it to me, and I will connect you to resources.
- Seek confidential sources of support and help:
- UFPD Office of Victim Services: 51 Museum Road, 352-392-5648
- Sexual Assault Recovery Services (SARS): Infirmary Building, 352-392-1161
- Alachua County Rape Crisis Center (confidential): 352-264-6760

Tentative Class Schedule

Week	Module	Perusall Reading	Assignments	Synchronous Discussion
21-Aug	Syllabus	Perusall Starter	Syllabus Quiz	
28-Aug	Module 1: Why environmental economics	Reading #1	Sea Level Rise Essay	
4-Sep	Module 2: The Efficiency Standard	Reading #2	Econ Primer	Discussion: Sustainable development (Monday 9/11, 3:30-5 pm)
11-Sep	Module 3: When do markets fail	Reading #3	Externality problem	Discussion: the Goldfish game (Friday 9/15, 10:30 am-noon)
18-Sep	Module 4: Property Rights and Environmental Implications	Reading #4	X	Review 1 (Friday 9/22, 10:30am-noon)
25-Sep	Module 4: Property Rights and Environmental Implications		Public good: behavioral game	Dani v. Jon Debate (Friday 9/29, 10:30 am-noon)
2-Oct	Module 5: Correcting Market Failures	Reading #5	Fishery problem	
9-Oct	Midterm week		X	Review 2 (Monday 10/9, 3:30-5 pm)
16-Oct	Module 6: Command-and-Control vs. market-based policy	Reading #6	Gasoline Tax Essay	
23-Oct	Module 7: Measuring benefits	Reading #7	Cost-benefit Analysis	Discussion: the Value of Statistical Life (Monday 10/23, 3:30 - 5pm)
30-Oct	Module 8: Measuring costs	Reading #8	Climate Country Profile Essay	Review 3 (Friday 11/3, 10:30am - noon)

Week	Module	Perusall Reading	Assignments	Synchronous Discussion
6-Nov	Module 9: Benefit-cost analysis and dynamic efficiency	Reading #9	Discounting	
13-Nov	Module 10: Non-renewable resources	Reading #10	Resource Extraction	Discussion: Should we divest from fossil fuel? (Monday 11/13, 3:00-5pm)
20-Nov	Thanksgiving Week		X	
27-Nov	Midterm 2 week		X	Review 4 (Monday 11/27, 3:30-5 pm)
4-Dec	Video Project Due		X	