
Learning Objectives

1. Assess and describe the economic aspects of natural resource and environmental issues.
2. Apply analytical tools (rhetorical, graphical, and mathematical) to describe the extent to which these issues constitute economic “problems”.
3. Identify, evaluate in depth, and propose and advocate for solutions to one such problem.

Course Format and Assignments

- **Readings and Discussion:** This will be the primary means of exploring the details of the topics assigned in the course. Each class meeting will include exploration environmental issues based on the readings, and all students are expected to participate in the discussion in class. Each student will also be expected to initiate and lead a brief discussion of one topic from current events related to the issues, concepts, tools or solutions examined in the course.

Readings at the beginning of the course will focus more on our primary text, with supplemental readings playing a relatively larger role toward the end of the course.

- **PowerPoint-based lectures will be minimal.**
- **Quizzes (3):** Quizzes will be non-cumulative, dates TBD. The quizzes will be some multiple-choice, short answer, true/false, matching type questions to help me be sure I’ve covered and explained concepts, terms, etc.
- **Problem sets (3):** Dates TBD. Problem sets will focus on the application of concepts to hypothetical and real-world natural resource and environmental economics issues. Students are be required to work in groups of 2 (or three if we don’t have an even number of students).
- **Final Exam:** Think of this more as hybrid of a fourth problem set and a fourth quiz, as it will include conceptual, computational, and critical thinking. The Final will be slightly cumulative, but will focus primarily on those topics not covered in the earlier quizzes and problem sets.
- **Paper:** Due on the last day of class, the short paper will be an applied piece of research on an environmental or natural resource challenge of interest to you. You will have a structured outline (see below), and we will take some time mid-course for each of you to tell the class about your topic / issue so the rest of us can give you some feedback and ideas to help you along. [We may modify that last bit or move the exercise to a discussion section if the number of students makes it unwieldy for the lecture meeting time.]

Details on the Paper:

The paper must be submitted at or before the start of last class.

Your task is to pick an environmental or natural resource topic of interest and to analyze the issue from an environmental / natural resource economics perspective. Your paper should cover the following:

- The underlying biophysical relationships involved. (For example, burning fossil fuels releases CO₂ and leads to climate change, or aesthetic quality and recreational opportunity attracts visitors and residents to high amenity areas.) This should include quantitative as well as qualitative information and reasoning.
- The political and economic aspects of the situation. What/who are the interests/players (industry, tribes/first nations people, vulnerable populations, developers, residents, etc.) and how does the issue affect their interests?
- Whether, how, and to what extent the situation is "bad" from an economic perspective. Is it inefficient, unsustainable, or inequitable? Why or why not? (Be clear about your "accounting stance"—that is, from what stakeholder's perspective you are making these judgements?)

NOTE: it is under this heading and the next that you will use graphical and/or mathematical methods to analyze the situation and illustrate potential solutions.

- A proposed policy and/or market solution that uses or leverages economic relationships and behavior to, potentially, solve or at least mitigate "bad" outcomes.

My expectation is that you will use information and methods covered in the course, but that you will also bring in material you discover on your own. Your analysis must be supported by graphical and/or mathematical depictions/descriptions of the issue, important economic features (benefits, costs, deadweight loss, optimal solutions, etc.), and the economic advantages of your recommended action. Ideally, you would also like to see some real-world numbers pertaining to the issue. How much pollution, how many BTUs, how many people affected, etc. You don't need to do econometric analysis, but you should demonstrate quantitative knowledge of the magnitude and scope of the issue.

Some Details:

- Probably needless to say, but all written assignments shall properly acknowledge and cite the intellectual contribution of others to the analysis, opinion and recommendations presented in the assignment, and otherwise conform to the spirit and letter of the Honor Code.
- Your job is not to convince me to agree with you or for me to support the same policy, market or other solutions to the issue you choose to address. Rather, your job is to make the argument well.
- On a related note, while I do not intend to take specific point deductions for spelling, grammatical or other errors, I do expect that your writing will be good enough that it does not distract from your ideas. You will, in other words, get higher marks for ideas well-articulated.
- For length, the paper should be approximately 2,500 words, not counting your bibliography. (For reference, this syllabus is about 1,500 words in length.)
- I prefer that you use author-date citation style and include a "References" or "Works Cited" section at the end of your paper, but I will accept papers using footnotes for references if that is what you typically use.
- Please use normal margins (1") and fonts that won't strain my middle-aged eyes.
- Please include the following on your first page: a title for your paper; your name; the name of this course; the date; and the word count.
- Please include the following sections: Introduction (or Background); Analysis; Conclusions (and/or Recommendations); and References (aka Sources, Works Cited, or Bibliography).
- References may include a mix of academic and non-academic sources, but you should not rely exclusively on material from the popular press, Wikipedia, etc.
- All equations must be typed. Graphs should ideally be created using the drawing utilities in Google docs, MS Word, PowerPoint or other programs. You may, however, photograph or scan a neatly hand-drawn graph and insert it into your document as an image. (Be sure to crop the graph image and compress it in your document to keep file sizes manageable.)
- Please save/download your file as .PDF or print to .PDF using a Primo PDF or a similar utility. This ensures that your formatting will not be lost when I open the file for reading and grading.
- Finally, please name your paper in a way that allows me to know it is yours after I have downloaded them for grading. Something like "Phillips_Econ4430_Paper.pdf" will work fine.

Required Readings

Our principal text is *Environmental Economics for Tree Huggers and Other Skeptics* by William K. Jaeger (2007, Island Press). We will also read some key articles from the "canon" of environmental and natural resource economics as well as more contemporary articles from the academic and grey literature and

the popular press. TED talks and other multimedia resources will also be assigned. All supplemental reading will be posted to Collab and/or linked to the weekly course content.

Please refer to the Units (labeled Unit 1, Unit 2, etc.) in Collab for the specific reading/viewing for each week.

Grading

Course Elements	Percent
Discussion and participation	10%
Quizzes (3 @10% each)	30%
Problem Sets (3 @ 10% each)	30%
Paper	15%
Final Exam	15%
TOTAL	100%

Special Needs

It is the policy of the University of Virginia to accommodate students with disabilities in accordance with federal and state laws. Any student with a disability who needs accommodation (e.g., in arrangements for seating, extended time for examinations, or note-taking, etc.), should contact the Student Disability Access Center (SDAC) and provide them with appropriate medical or psychological documentation of his/her condition. Once accommodations are approved, it is the student's responsibility to follow up with the instructor about logistics and implementation of accommodations.

If students have difficulty accessing any part of the course materials or activities for this class, they should contact the instructor immediately. Accommodations for test-taking should be arranged at least 2 business days in advance of the date of the test(s).

Students with disabilities are encouraged to contact the SDAC: 434-243-5180, <http://www.virginia.edu/studenthealth/sdac/sdac.html> .