

Environmental Economics and Policy (ECON/ENVI 231-01)
Macalester College

Professor: Sarah West
Office: Carnegie 310-F
Office Hours: T 3:00-4:00 PM; W 1:30-2:30 PM; Th 9:30-10:30 AM, and by appointment
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Course Description and Objectives:

This course studies the economics of public policy toward the environment. We begin by examining the problem of market failure in the presence of externalities and public goods. Then, we consider public policy responses to these market failures, including command-and-control regulations, tax and subsidy incentives, marketable pollution permits, voluntary programs, and information as regulation. We consider these policies in the contexts of local pollution, climate change, threats to biodiversity, environmental justice, international trade, and development. In addition, we learn how to measure the costs and benefits of pollution control. By the end of the semester, you will learn how economists think about environmental problems, understand the advantages and disadvantages of a range of environmental policies, be able to conduct a cost-benefit analysis, and have a complete economic analysis of an environmental problem.

Text (required):

Environmental Economics and Management: Theory, Policy, and Applications, sixth edition, by Scott J. Callan and Janet M. Thomas (South-Western Cengage Learning, 2013). ISBN: 9781111826673. Additional readings will be posted on Moodle or sent via email.

Course Policies and Tips for Success:

The class itinerary is included in this syllabus. Please note exam dates and assignment due dates now. You may **reschedule an exam only** if you have a conflicting religious holiday. You must make arrangements to reschedule at least one week before the scheduled exam time. The only excuses for a **missed exam** are verifiable medical emergencies or absences for those students who represent the College in college-sponsored activities as specified in Macalester's [Class Attendance and Absences Policy](#). In the event of an excused missed exam, the average of the other exam grade and the final paper grade will serve as the grade of the missed exam. All assignments are due at the beginning of the class period.

A substantial amount of exam content will be presented only in class. I urge you to work together on your homework, but each of you must write up your own assignment. Read actively and write down questions. Visit me often to make sure that you are clear on ideas presented in class. Check your email and Moodle regularly. Except for select in-class assignments, laptop use is prohibited. Turn off your cell or put it to sleep (not just vibrate) before coming to class.

Prerequisite: Principles of Economics.

Accommodations for Students with Disabilities:

I am committed to ensuring access to course content for students. Reasonable accommodations are available for students with documented disabilities. Contact the [Disability Services Office](#), 651-696-6874 to schedule an appointment and discuss your individual circumstances. It is important to meet as early in the semester as possible.

Concern for Student's Overall Well-Being:

I care first and foremost about your overall well-being. If you are struggling in this class or in life, please let me know. I can help you strategize about the course and I can refer you to great people who can help you. [This](#) is a list of resources on campus.

Academic Honesty:

Cheating on exams, copying another's homework solutions (including any solutions found online), or failure to acknowledge the contributions of others' work to your own are serious offenses. Cheating or failure to properly reference sources **will result in a grade of F for the exam or assignment and may result in a failing grade for the course. All cheating and plagiarism will be reported to the Director of Academic Programs.** For additional information on academic honesty, please consult the [Student Handbook](#) and this [Academic Programs site](#). If you remain in doubt about what constitutes cheating or plagiarism, you must consult with me.

Grading:

Homework (6 total)	20%
Questions of the day	10%
Research Paper	27%
Exam 1	20%
Exam 2	23%

Homework:

There will be six homework assignments that consist of problem solving and short essays, and will count for 20% of the final grade.

Questions of the Day:

On days on which there is an asterisk below, you will respond to "questions of the day" (QOTD) on Moodle before class that day. Questions will draw on material from that day's reading. Responses will be graded on a pass/fail basis. There are 11 such assignments; you may skip one and still get the full 10%.

Research Paper:

Each student will complete a research paper on an economic issue that is relevant to environmental economics. This project is to be done in eight stages. The stages and percentages of final grade allocated to each stage (for a total of 27%) are:

	% of Grade
1. Paper idea uploaded to Moodle	1%
2. Project Proposal (1-2 pages)	1%
3. Revised Proposal (1-2 pages)	1%
4. Annotated Bibliography (5-6 pages)	1%
5. Theory (3-5 pages)	2%
6. Final Paper Draft to Classmates (12-15 pages)	4%
7. "Eggtimer" Presentation	2%
8. Final Paper (12-15 pages)	15%

Research Paper:

I. General Guidelines

All written submissions should be double-spaced and of 12-point Times New Roman font, have one-inch margins, and include references. References may be single-spaced. All sources must be properly cited using in-text citations of the format (Author, year) and references in MLA or Chicago-style format. Please include page numbers. Please print papers double-sided, preferably on recycled paper, or single sided on used paper. The page maximum is not negotiable; the limit INCLUDING references, tables, graphs and figures, is 15 pages. Papers that do not conform to these specifications will receive zero points. For the final paper, each spelling error after the fifth error will result in one drop of a grade (from B to B-, for example). A simple way to find typos and errors is to read your paper aloud.

To find a topic on which to focus, you might brainstorm by browsing the topics in your textbook, in the [Review of Environmental Economics and Policy](#), or at [Resources for the Future \(RFF\)](#). To find articles related to your topic, you might search [Google Scholar](#), [JSTOR](#), [EconLit](#), the [National Bureau of Economic Research \(NBER\)](#), the [Environmental Protection Agency](#), the World Bank Environment Page, or again, [Resources for the Future](#). Once you have found a central paper, use Google Scholar to search for related papers that cite it. Search early and ask me for suggestions.

II. Paper Stages

A. Project Proposal (1-2 pages): In paragraph form:

- (1) Use descriptive statistics to motivate your study and to make the case for the relevance and importance of your research.
- (2) Explain the policy that you would like to analyze, state the question that you would like to answer, or the exposit hypothesis that you would like to test.
- (3) Detail (in paragraph form) your research strategy.
- (4) Include a bibliography. This bibliography should consist primarily of research papers published in peer-reviewed economics journals or published as working papers by such outlets as the NBER or RFF.

B. Revised Project Proposal (1-2 pages)

Revise your proposal based on Professor West's comments and your assessment of the feasibility of your initial ideas.

C. Annotated Bibliography (5-6 pages):

- (1) Carefully classify the papers you review into sensible categories (e.g. theoretical vs. empirical papers; papers on market-based incentives vs. papers on regulations; or papers that estimate benefits vs. papers that estimate costs).
- (2) Within category, in list form, summarize the papers that relate directly to your research, and explain exactly how each paper relates to your hypothesis or question.

D. Theory (3-5 pages)

- (1) Explain your hypothesis or problem in terms of an optimization problem. For example, if your paper considers the effect of policy on behavior, what is the goal of the policymaker, the firm, and/or the consumer? If you are testing a hypothesis using data, explain the underlying economic behavior that serves as the basis for your hypothesis.
- (2) Use graphical analysis to explain the current equilibrium and/or optimal equilibrium, or to explain the relationship between the underlying economic behavior and empirical data.

E. Final Paper Draft to Classmates (12-15 pages including references, all graphs, tables, and figures)

Your final paper should include the following sections. While the Introduction and References need not be titled or numbered, all other sections should have their own headings and be numbered with roman numerals. The headings should be specific to your topic.

Introduction (1-2 pages)

- (1) Your first paragraph should motivate your topic and draw in the reader. It should end with a brief statement of your question or hypothesis.
- (2) Your second paragraph should provide further clarification of your question if necessary.
- (3) Your third paragraph should briefly explain the method that you use to answer your question and the results of your analysis. Be very brief here.
- (4) The last paragraph of the introduction should tell the reader what each of the subsequent sections of the paper contains (i.e provide a “road map” for the rest of the paper).

II. Theory (3-5 pages):

- (1) Rethink your theory now that you are writing the complete paper. Your theory should yield a hypothesis that you directly address in your empirical evidence section, or provide the framework for analysis that you implement in your empirical evidence section.
- (2) Take great care to respond to Prof. West’s comments on your theory draft—do not cut and paste your unrevised theory stage into this section.

III. Empirical Evidence (3-5 pages):

- (1) Describe the data that you use to test your hypothesis or answer your question.
- (2) Calculate summary statistics using available data. Supplement summary statistics with empirical evidence from secondary sources.

OR

- (1) Summarize the conclusions reached in other empirical studies of your question.
- (2) Propose a new empirical approach that (a) describes the existing data you would use or the new data you would gather, (b) explains the empirical method you would employ, and (c) assesses the strengths and weaknesses of your proposed approach relative to those previously employed.

IV. Conclusion (1-2 pages)

- (1) Briefly summarize the results of your analysis.
- (2) Explain how your research contributes to the literature on your topic.
- (3) List any caveats to your preliminary conclusions.
- (4) Describe directions for future research.

References (these may be single spaced)

E. Final Paper (12-15 pages including references, all graphs, tables and figures):

- (1) Incorporate comments and suggestions from classmates and Prof. West.
- (2) Rewrite paper, concentrating on clarity, continuity across sections, presentation of evidence, and overall structure.
- (3) Check that all sources are properly referenced in the paper and in the references.
- (4) Find and fix all typos, spelling errors, and grammatical errors. Trade papers with a classmate and edit.
- (5) Read paper out loud to catch remaining errors.
- (6) Hand paper in and do a celebration dance.

Tentative Course Schedule and Readings (See Moodle for Readings and Materials)

Date		Topic	Due
Jan.	24	Introduction	
	27	Public Goods	*
	29	Tragedy of the Commons; Externalities	
	31	Externalities	Upload paper idea to Moodle
Feb.	3	Sustainability: Intertemporal choice	*
	5	Sustainability: Intertemporal choice	
	7	Sustainability: Three definitions	Homework 1
	10	Command and control regulations	
	12	Incentives: Tradable permits	*
	14	Incentives: Taxes, subsidies, and multi-part instruments	Paper Proposal
	17	Incentives: Taxes, subsidies, and multi-part instruments	
	19	Information as Regulation: Nudges and behavior	Homework 2
	21	How do economists estimate the benefits of pollution reduction?	
	24	Benefits estimation	*
	26	Benefits estimation	
	28	Costs Estimation: The effect of regulation on jobs	Revised Proposal
March	2	Exam Review	Homework 3
	4	Exam 1	
	6	Cost-Benefit Analysis	*
	9	Examples of Cost-Benefit Analysis	
	11	CBA during the Trump Administration	*
	13	Theory workshop	
	16-20	Spring Break: No class	
	23	Distributional effects of environmental policy: costs	*
	25	Polluting plants' location decisions	Theory
	27	Empirical Evidence Workshop	
	30	Growth, trade, and the environment	*
April	1	Growth, trade, and the environment	Homework 4
	3	Growth, trade, and the environment	
	6	Climate Change: The nature of the problem	
	8	Climate Change: Integrated Assessment Models	Annotated Bibliography
	10	Taxes versus permits for the reduction of greenhouse gases	*
	13	Honors Day: No class, extra credit	
	15	Renewable energy options	Homework 5
	17	Renewable energy options	*
	20	Climate Change: Fat tails and the dismal theorem	Final paper Draft to Classmates
	22	Climate Change: How to think about catastrophe	
	24	The importance of timing in optimal climate policy	*
	27	Paper presentation workshop	Homework 6
	29	"Eggtimer" presentations	
May	1	"Eggtimer" presentations	
	4	Final paper due; Summative discussion	Final paper
	9	Exam 2: 10:30AM-12:30PM (this is a Saturday)	