

Econ 8545: Environmental Economics II

Department of Economics
University of Colorado Boulder
Prof. Stephanie Weber

Fall 2026

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Office Hours: By appointment
Office: ECON 112

Class website: Canvas
Class Hours: T/Th 5-6:15 pm
Class location: ECON 5

Course overview

This is a doctoral-level course in environmental and energy economics. Topics to be covered include the effects of environmental regulation, measurement of damages from pollution, energy markets, natural resource economics, and climate change economics. The goal is to provide students interested in these topics the tools necessary to begin conducting their own research. This is the second course in a two-course sequence, with a focus on empirical methods.

Course materials

There is no required textbook for this course. The reading list, drawn primarily from published papers in academic journals and a select number of unpublished working papers, will be provided in a separate document on Canvas. Readings should be available electronically, but please contact me if you have difficulty downloading the required readings. Students are expected to have read all materials prior to class and should be prepared to discuss and answer questions about the readings.

Grading

Course grades will be based on the following breakdown:

25% Paper summaries + in-class discussions
25% Assignments
15% Referee report
40% Research proposal + presentation

Paper summaries

Please come to class each day ready to discuss the assigned reading. Prepare a brief summary of each paper and submit it on Canvas by 12 pm before each class. In your summaries, discuss the empirical approach, including the data and the identification strategy for the parameter(s) of interest, the paper's contributions, and any major assumptions or limitations of the study. You may also note any questions you have about the paper.

Assignments

There will be 4 open-note assignments on **September 1, 2026, September 24, 2026, October 27, 2026, and November 17, 2026**. You will have one week to complete each assignment (except the November 17 assignment, which will be due the week after Thanksgiving). While you may work with other students, each student's writeup (and code, where relevant) should be done individually. If assignments are too similar between students or I suspect excessive AI usage, I will request a meeting with you to discuss your work. If you cannot sufficiently explain what you did, you will receive a zero on the assignment.

Referee report

Each student is required to submit one original referee report on an unpublished empirical paper in environmental economics. I will select several possible papers from the NBER EEE or similar working paper series. The report should not exceed 4 pages. Your report should (briefly) summarize the main contribution of the paper, strengths and weaknesses and areas for improvement. Your goal is to critically evaluate the manuscript and provide feedback the author(s) could use to improve their work. The referee report is due **October 27, 2026**.

Research proposal

One goal of this course is to prepare you to do original research. Thus, one of the major outputs of this class will be a detailed research proposal, for which you will submit both a written proposal at the end of the semester and do a brief presentation during the final week. Research is done in stages, so there will be a number of intermediate deadlines, after which you will receive feedback from me and/or your peers. A preliminary list of 3-5 potential research questions, including a discussion of data sources for empirical projects, is due on Canvas by **September 10, 2026**. We will schedule one-on-one meetings the following week to discuss these ideas. A more detailed discussion of the literature, with an emphasis on your contribution relative to existing work, and a more fleshed out data section for those working on empirical papers is due on Canvas by **September 24, 2026**. A model/estimation section is due on Canvas by **October 20, 2026**. Students will exchange proposals and provide peer feedback by **November 13, 2026**. Finally, students will give brief presentations during the final week of class and submit a final research proposal on Canvas by **December 7, 2026**.

The deadlines for each component are listed below:

Preliminary research questions	September 10, 2026
Lit review/data	September 24, 2026
Model/estimation	October 20, 2026

Peer feedback	November 13, 2026
Presentations	December 1/3, 2026
Final proposal	December 7, 2026

AI Policy

Students are responsible for producing original work for this class. That means you should not present AI generated writing or code as your own, but you may use AI to assist you. For instance, you are responsible for reading and summarizing papers in your own words, but if you are struggling to understand something in the readings, it is appropriate to ask your preferred AI clarifying questions. From my perspective, it would be appropriate to use AI to generate a starting point to find potential references for your research project, but this would not be sufficient: you are responsible for reading the papers and confirming their appropriateness and using those papers as a launching point to find additional relevant citations. In terms of generating code, it is appropriate to use AI to learn how to structure a specific command but not to have it produce entire blocks of code for you. While these lines are not always clear cut, if I suspect excessive AI usage, I will follow the policy described in the assignment section: ultimately, you are responsible for understanding your own work, and I reserve the right to give you a zero on any output that you cannot explain.

Schedule

Each week, we will cover a different topic. The reading list, containing required and recommended papers, is posted on Canvas, and is subject to change (I will notify you of any changes with at least one week's notice). The broad topics covered each week are listed below:

1. Week 1 (Aug. 20): Introduction, reduced form vs. structural
2. Week 2 (Aug. 25, 27): Quantifying damages from air pollution
3. Week 3 (Sept. 1, 3) : Hedonics and housing markets
4. Week 4 (Sept. 8, 10): Market-based policy
5. Week 5 (Sept. 15, 17): Distributional impacts
6. Week 6 (Sept. 22, 24): Electricity markets
7. Week 7 (Sept. 29, Oct. 1): Innovation and technical change
8. Week 8 (Oct. 6, 13): Behavioral economics and energy efficiency
9. Week 9 (Oct. 15, 20): Vehicles and transportation policy
10. Week 10 (Oct. 22, 27): Subsidies
11. Week 11 (Oct. 29, Nov. 3): Natural disasters and insurance
12. Week 12 (Nov. 5, 10): Conservation

13. Week 13 (Nov. 12, 17): Climate change
14. Week 14 (Nov. 19): Welfare
15. Week 15 (Dec. 1, 3): Presentations

Campus Policies

Honor Code

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the [Honor Code](#). Violations of the Honor Code may include but are not limited to: plagiarism (including use of paper writing services or technology [such as essay bots]), cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. Understanding the course's syllabus is a vital part of adhering to the Honor Code.

All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution: StudentConduct@colorado.edu. Students found responsible for violating the [Honor Code](#) will be assigned resolution outcomes from Student Conduct & Conflict Resolution and will be subject to academic sanctions from the faculty member. Visit [Honor Code](#) for more information on the academic integrity policy.

Accommodation for Disabilities, Temporary Medical Conditions, and Medical Isolation

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the [Disability Services website](#). Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition, see [Temporary Medical Conditions](#) on the Disability Services website. If you have a temporary illness, injury or required medical isolation for which you require adjustment, a simple email to me will suffice.

Accommodation for Religious Obligations

Instructional faculty members must make every reasonable effort to accommodate all students who have conflicts with scheduled exams, assignment deadlines or required attendance due to a religious observance. Whenever possible, students must notify the instructional faculty member at least two weeks in advance of the expected exam, assignment deadline, or attendance conflict to request an accommodation for religious observance. If the start date of the course is less than two weeks before the date of requested accommodation, students must notify the instructional faculty member on the start date of the course. See the [Student Academic Accommodations for Religious Observances Policy](#) for more information.

Student Names and Pronouns

CU Boulder recognizes that students' legal information does not always align with how they identify. If you wish to have a name other than your legal name appear on your instructors' class rosters and in Canvas, or if you wish to choose pronouns to appear on your instructors' class rosters and in Canvas, visit the [Registrar's website](#) for instructions on how to change your personal information in university systems.

Classroom Behavior

Students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote, or online. Failure to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, marital status, political affiliation, or political philosophy.

Additional classroom behavior information

- [Student Classroom and Course-Related Behavior Policy](#).
- [Student Code of Conduct](#).
- [Office of Institutional Equity and Compliance](#).

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation

CU Boulder is committed to fostering a productive and welcoming learning, working, and living environment. University policy prohibits [protected-class](#) discrimination and harassment, sexual misconduct (harassment, exploitation, and assault), intimate partner abuse (dating or domestic violence), stalking, and related retaliation by or against members of our community on- or off-campus. Denial of an approved accommodation for disability, religious observance, or pregnancy or pregnancy related medical conditions may be discriminatory.

The [Office of Institutional Equity and Compliance \(OIEC\)](#) addresses these concerns, and individuals who have been subjected to misconduct can contact OIEC at 303-492-2127 or email OIEC@colorado.edu. Information about university policies, [OIEC reporting options](#), and [OIEC support resources](#) including confidential services can be found on the [OIEC website](#).

Faculty and graduate instructors are required to inform OIEC when someone discloses misconduct regardless of when or where it occurred. This is to ensure that those impacted receive outreach from OIEC about resolution options and support resources. To learn more about reporting and support options for a variety of concerns, visit the [Don't Ignore It page](#).

Mental Health and Wellness

The University of Colorado Boulder is committed to supporting students' mental health and overall wellbeing. If personal, academic, or emotional challenges are affecting your wellbeing

or success, **Counseling and Psychiatric Services (CAPS)** is here to help. CAPS offers counseling, referrals, psychiatric care, crisis support, and much more. Visit CAPS in the C4C, or call (303) 492-2277, 24/7.