



UC DAVIS

Graduate Program of Environmental Policy and Management

ENV 200B Syllabus

Spring quarter 2023

Dr. Michael Springborn

Course description

This course will take an economic approach to policy design and assessment. We will explore theory underlying key concepts in economics the environment, including (1) motivations for intervention in the free market to protect the environment, (2) foundations of cost-benefit analysis and (3) rationale for policy choice and design. The objective will be to evaluate environmental policy using an economic framework—with an awareness of both the power and limitations of the method—and to effectively read and critique the writings of economists and those using economic thinking. We will cover the relevant analytical tools of economics and explore applications to current policy problems such as climate change, water pollution, invasive species and biodiversity.

The Role of Cost-Benefit Analysis in Public Policy

We will examine controversies in the use of economics for decision-making in public policy, as evidenced by these contrasting viewpoints:

“Although formal benefit-cost analysis should not be viewed as either necessary or sufficient for designing sensible public policy, it can provide an exceptionally useful framework for consistently organizing disparate information, and in this way, it can greatly improve the process and, hence, the outcome of policy analysis.” -Arrow et al. (1996)

"In this approach [of assigning dollar values to human life, human health, and nature itself] formal cost-benefit analysis often hurts more than it helps: it muddies rather than clarifies fundamental clashes about values. ... economic theory gives us opaque and technical reasons to do the obviously wrong thing." -Ackerman and Heinzerling (2004)



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Climate Change

The social cost of carbon (SCC) has been called the most important number you've never heard of. We will unpack the SCC to better understand its power and limitations and why and how the value used by the U.S. government has fluctuated so widely over the last several years. On the carbon mitigation front, we'll look at California's nation-leading approach to reduce greenhouse gases and whether one of its cornerstones (cap and trade) has worsened environmental inequality for disadvantaged communities.

The Value of Human Life

In May of 2008 the EPA lowered the “value of a statistical life” (VSL) used in its valuation of risk-reducing environmental policy from \$7.8M to \$6.9M. Comedian Stephen Colbert quickly observed: “That’s right--under the Bush administration, human life has become a million dollars cheaper.” The VSL is commonly misconstrued as the intrinsic value of a single human life. What, then, is the VSL intended to represent? How is it motivated as a relevant measure and how is it estimated?

Rational Choice Theory

Rational choice theory posits that the actions of actors reflect a thoughtful weighing of the costs and benefits of their actions. It is a typical assumption underlying economic models used to evaluate environmental policy options. This conventional notion is challenged by behavioral economics which acknowledges that individuals often make choices and express values that are inconsistent with a rational model. How do these deviations from the standard model change our thinking about environmental policy? What are the implications if market-based environmental policies to correct for market failure are subject to such “behavioral failure”?

Course prerequisites

Microeconomics (e.g., Econ 100); statistics and regression techniques (e.g. STA 108 or ARE 106); policy analysis (e.g., ESP 168A); environmental or economics (e.g., ARE 176).

Required resources



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1. Textbook, referred to as "K&O": N. Keohane and S. Olmstead. Markets and the Environment, Island Press, Washington, D.C., 2nd Edition, 2016. The UCD library has an electronic version of the K&O textbook [here](#)
2. [Links to an external site.](#)
3. .
4. Kennedy School case study, which can be purchased on-line (see course schedule).
5. Excerpts from other texts and magazine and journal articles will be made available online linked to the course website.

Optional: [Three chapters from a basic textbook](#) (dry but detailed discussion of many of our basic models).

Assignments and grading

This course will involve a combination of lecture, discussion and student presentation.

Grading will be determined by:

20% class discussion and participation

45% written and quantitative assignments

17.5% midterm quiz

17.5% final quiz

Class Discussion, Participation and Presentations

Each class will be split between lecture and discussion. Class members are expected to be both prepared and to fully participate in the discussion. This means doing the readings for each class then actively contributing to the discussion. Good participation means not just stating an opinion or restating the points made in the readings but engaging with others and responding to the questions raised by the discussion leaders. Each class where we are discussing a reading (most classes) you:

1. are encouraged to sign up on the chalk board before class starts for the "**front row**", which means you're prepared to help kick off discussion of the reading with a comment and/or question, and
2. will be asked to discuss a question in a small group and record your **self assessment** on your prep/engagement (I'll drop the lowest 3 of these for the quarter, including absences)



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Participation grading: TLDR--Just be active and engaged and it will take care of itself.
To be a bit more concrete:

- A grade: Fully participate in all discussion boards; front row two or more times; commenting in class several times
- B grade: Participate in all discussion boards; front row once, commenting in class once or twice
- C grade: Miss a discussion board or weakly participate; no front row participation, commenting in class once or twice

Written and Quantitative Assignments

This will include a mix of policy memos on given policy problems, essays and Excel-based exercises.

Midterm and Final Quiz

These will be short, in-class time quizzes to assess your understanding of key ideas and concepts covered in the course.

Midterm quiz format:

- 30 minutes total in class time.
- See course schedule on both quiz days for possible topics.

Writing and References

Writing is a critical skill for work in policy and management. The [Environmental Policy and Management Program \(EPM\)](#) encourages similar writing and referencing expectations across all EPM core courses. Refer to the EPM Guides for [Writing](#) and [Referencing](#).

When submitting written assignments, you will use Canvas. Within the Canvas submission system we will use TurnItIn, a tool compares your work to online sources and a comprehensive database of other papers. TurnItIn creates an originality report identifying whether parts of your work match or are similar to any of their sources. The work submitted to TurnItIn will be retained as source documents in the TurnItIn reference database to be used solely for the purpose of checking future submitted work for originality.



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Mental health

- If you are feeling **especially stressed** or just need to talk to someone, you should take advantage of the [free counseling services](#) offered on campus.
- If you're having a **hard time studying efficiently** and adjusting to university academic expectations, you should visit the [Student Academic Success Center](#).
- University is expensive and it can be difficult to make ends meet. If you are living in Davis and having a **hard time finding a healthy meal** or getting basic necessities, please visit the [UC Davis Pantry](#).

Professionalism Expectation

EPM strives to build a positive and thriving professional culture where qualities of skill, dependability and professional conduct and capacity are preeminent. The nature of policy and management work often involves working in collaborative groups, organizing coalitions, and engaging in contentious conversations. Similarly, EPM courses require working collaboratively and respectfully engaging in discussions and debates about complex issues. Thus, all students and faculty are expected to follow [EPM Professional Code of Conduct](#). Instructors may reduce the class score of students whose behavior is inconsistent with the EPM Professional Code of Conduct.

Academic Integrity

As a University of California, Davis student, you have agreed to abide by the [University's Code of Academic Conduct](#). It is your responsibility to be familiar with the code. All academic work must meet these standards. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

Special Accommodation

Please let me know if you have a learning disability, chronic condition, sensory or physical disability or if English is not your first language and you need special assistance in lecture, reading or writing assignments contact. Students needing accommodations because of disability should register with UCD's [Student Disability Center \(SDC\)](#) and complete the appropriate SDC forms issued before accommodations



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can be provided. The SDC is located at 54 Cowell Building. They may be reached by phone at (530) 752-3184.

Use of course materials

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