

ENV 390D/PUBPOL 290D: ENVIRONMENTAL ECONOMICS & INTERNATIONAL DEVELOPMENT POLICY

Spring 2021

Instructor:	Seth Morgan		
Time:	Thursday 10:15-11:30	Zoom Link:	TBD
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Course Summary

Can economic growth continue without changing the climate? Can we feed 10 billion people while still protecting forests? Why is clean water cheap and abundant in some countries but expensive and unreliable in others? Can we have booming mega-cities without toxic air pollution? What can low-income countries do to eradicate poverty without degrading their natural resources?

These are the questions of environmental economics on the world stage. And their answers will determine the direction of international development policy in the 21st Century. Since the UN adopted the Sustainable Development Goals in 2015, the twin goals of promoting shared economic prosperity while also ensuring that human — and non-human — life can continue to flourish on our planet have been at the center of the global development agenda. In this course we will explore the major questions generated by this tension, using the tools of economics and the scientific method. We will use an inquiry-based approach, pursuing the major topics in the field, with an emphasis on policy-relevant questions, including the questions students themselves bring to the course.

Students in this course will practice reading and drawing policy-relevant inferences from the literature, with a focus on understanding the causal claims in research papers. They will also apply concepts from introductory economics coursework to problems in environmental and development policy. The course will be online and partially asynchronous, with recorded videos to introduce concepts and a weekly discussion section on Thursdays.

Objectives:

- Gain an appreciation for the breadth of policy questions in the environment and development conversation
- Analyze causal evidence in empirical research and assess its value for guiding policy decisions
- Practice applying economic theory to practical problems related to environmental protection, poverty, global development and environmental justice
- Form and articulate a position on a chosen policy question using both economic theory and empirical evidence

Prerequisites: Economics 101, ENV 155, Public Policy 155 or similar coursework providing a basic introduction to economic theory and analysis.

Course Requirements

All students will be expected to watch the weekly videos, complete class readings, and participate actively in discussion during synchronous Zoom sessions.

Evaluation in the course will be based on weekly reading responses, a weekly in-class activity, an in-class midterm assignment involving analyzing a research paper, and a final group project where students will

choose an environmental policy problem and work together to write a policy memo arguing for a solution based on a critical reading of the environmental economics literature.

All reading and in-class assignments will be graded complete/incomplete. The case study-based midterm will be graded from 1-100. The policy memo question, and literature review will be graded complete/incomplete. The first draft of the paper will be graded with feedback and assigned revisions. The final grade will take into account satisfactory completion of assigned revisions.

Important Dates:

Midterm Case Study	February 25
Policy Memo Question Due	March 4
Policy Memo Literature Review Due	March 25
Policy Memo First Draft Due	April 8
Class Presentations	April 15
Policy Memo Revisions Due	(Final Exam Date)

Readings:

The primary readings for this class will be papers and media reports discussing the environmental policy dilemmas we will examine. Readings are listed in the course outline below and are available in Sakai. Required readings are marked with an asterisk. Non-required readings are included as background and for your reference for writing assignments.

Tentative Course Outline:

I Introduction: the Global Economy & the Environment

- Introduction to Environmental Economics
- Trends in global environmental issues
- Readings: Jha and Whalley, [2015*](#), [US EPA Environmental Justice](#), Fullerton and Stavins, [1998](#),

II Health

- Policy question: Improving health by improving the environment? Environmental health interventions in developing countries
- Theoretical tool: the health production function
- Empirical tool: Causal inference in Randomized Control Trials
- Readings: Cohen and Dupas, [2010*](#), Pattanayak and Pfaff, [2009](#),

III Forests

- Policy question: Preserving forests while promoting growth? PES, REDD+, and Protected Areas
- Theoretical tool: Discrete-choice modeling for land use decisions
- Empirical tool: Causal inference using panel data and matching
- Andam et al., [2008*](#), Jayachandran et al., [2017](#)

IV Food

- Policy question: Feeding 10 billion while leaving space for nature? Sustainable agriculture and the environment
- Theoretical tool: Production functions
- Empirical tool: Causal inference using instrumental variables
- Readings: Abman and Carney, [2020*](#)

V Water

- Policy question: Meeting water demand without depleting resources
- Theoretical tools: Demand functions and cost-benefit analysis
- Empirical tool: Examining welfare using price data and willingness to pay
- Readings: Greenstone and Jack, [2015*](#), Van Houtven et al., [2017](#)

VI Energy

- Policy question: Expanding energy access without accelerating climate change?
- Theoretical tool: Household utility functions
- Empirical tool: Measuring household welfare using consumption data
- Readings: Wolfram, Shelef, and Gertler, [2012](#), Fetter and Usmani, [2019](#)

VII Growth

- Policy Question: Raising incomes without raising emissions? Development policy and the environment
- Theoretical tool: modeling GDP growth and emissions
- Empirical tool: interpreting country-level data
- Readings: [Planet Money Ep. 508*](#), Keohane and Olmstead, [2016](#)

VIII Climate Damages

- Policy question: who is harmed by climate change, and how much?
- Theoretical tool: integrated assessment models
- Empirical tool: damage functions
- Readings: [CGDEV Blog 2015*](#), Tsigaris and Wood, [2016*](#), Auffhammer, [2018](#)

IX Cities

- Policy question: Harnessing urban growth without suffering from urban congestion?
- Theoretical tool: Utility functions across space
- Empirical tool: Spatial data analysis and visualization
- Readings: Zheng and Matthew E Kahn, [2013*](#), Matthew E. Kahn, [2009](#), Glaeser and Matthew E. Kahn, [2010](#)

X Trade

- Policy question: Importing goods without exporting harm? Pollution havens, trade restrictions and environmental certification
- Theoretical tool: Comparative advantage and increasing returns
- Empirical tool: Interpreting trade data
- Wagner and Timmins, [2009](#)

Ability:

This class is committed to providing an open and accessible environment for all students. If you have learning differences which may need accommodation to ensure your full participation in the course, please let me know, and contact Duke's [Student Disabilities Access Office](#).

Equity:

Duke is committed to creating an intellectual environment characterized by equity and inclusion. This course will strive to be a space place where every student is an active participant, and their histories and identities are not excluded. To that end every participant has the responsibility to treat others with respect and welcome all voices into the discussion. Students are encouraged to bring their whole selves to the discussions held in this class, drawing on the diverse identities and perspectives represented in the Duke community.

Academic Honesty:

Adherence to the [Duke Community Standard](#) is expected.

Additional Resources:

Effective scholars and leaders rarely succeed alone. Duke offers resources for academic and mental health support which are intended to help you excel in this course and the rest of your university experience.

- For academic support: [The Academic Resource Center](#)
- For mental health support: [Counseling & Psychological Services \(CAPS\)](#)
- For mental health tele-health services: [Blue Devils Care](#)

References

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