

Economics of Environmental Policy



Humphrey School of Public Affairs

University of Minnesota

All course material will be available online asynchronously.

Students will be allowed to take the course fully online or attend an in-person discussion session on Monday afternoons.

Discussion sessions will be held in person or online:

In-Person Outside on the West Bank Campus

Mon 4:30 - 5:15 pm (class will be divided into smaller groups to accommodate social distancing, students will meet for shorter periods)

Online: Wed 4:30-5:15 pm (students will meet in small groups for shorter periods)

*From 4:00-4:30 on Mondays and Wednesdays students are invited to an optional "listening party" in a virtual classroom. Link [HERE](#). Use this space and time to watch the pre-recorded videos, chat about questions, or informally gather with your classmates.

Instructor: [Dr. Bonnie Keeler](#)

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Office: Room 158 HHH

Zoom room: umn.zoom.us/my/bkeeler

Make an appointment [LINK](#)

Description: This course will explore how tools from economics are applied to environmental policies, including the management of clean air, clean water, climate change mitigation, land use, and the protection of biodiversity. All of these environmental challenges come with complex tradeoffs and require decisions about how to allocate scarce resources among competing objectives. The discipline of economics has powerful tools to help decision makers weigh benefits and costs, anticipate unintended consequences, and design policies and plans that maximize efficiency. However, the toolkit of economics also has limitations - both practical and ethical - that should also be considered, especially when applying market-based instruments to environmental and public goods problems.

The course will cover fundamental topics in economics as they apply to environmental issues.

These include:

- Economic valuation of environmental goods and services

- Cost benefit analysis
- Market failures and externalities
- Evaluating tradeoffs under uncertainty
- Measuring sustainable development
- Equity and distributional considerations
- Role of the market, state, and civil society in addressing environmental issues
- Introduction to ecological economics, behavioral economics, and feminist economics

Optional (free) online texts:

[Markets and the Environment, Second Edition](#), by Nathaniel Keohane and Sheila Olmstead.

Available for free via the UMN libraries (M&E on syllabus)

[Core The Economy](#): Free online economics text

The two online (free) texts are designed to supplement your learning and provide a background for students who need a refresher on core concepts in economics. Additional required readings and resources will be provided on Canvas. All readings and course plans subject to modification and substitutions (with advance notice).

Course Schedule: *Subject to change* When you note discrepancies between Canvas and this syllabus, use the Canvas version.

Date	Lecture/Discussion Topic	Readings/Resources
Week 1 Wed. Sept 9	TOPIC: Why economics is foundational to an understanding of science, technology, and environmental policy Concepts: opportunity costs, marginal change Class agenda	M&E: 1-10 Listen: Planet Money Episode 963 . 13,000 Economists. 1 Question.
Week 2 Mon. Sept 14 Wed. Sept 16	TOPICS: Economics and Race and A brief history of economics Watch: History of Capitalism Watch: The Nature of economics Discussion: Economics and race & history of capitalism	Chang (2014) Economics: A user's guide: Chapter 3 Newsweek: Economists and Racism Listen: The Indicator podcast - A race reckoning in economics INET: America's economy runs on racism Is now a teachable moment? An open letter to economists
Week 3 Mon. Sept 21 Wed. Sept 23	TOPIC: An economic theory of welfare	Chapter 12: Welfare theory and valuation Bockstael & Freeman pg. 519-522

	<p>Watch: MRU Econ Refresher Videos</p> <p>Discussion: Pollution and the poor</p> <p>Activity: Consumer surplus</p> <p>Concepts: value, utility, preferences, substitutes, prices, supply, demand, consumer surplus, indifference curves</p>	<p>The Economist 1992 Let Them Eat Pollution</p> <p>The Economist 1992 Pollution and the Poor</p> <p>Optional: M&E Chapter 2, pgs 11-34</p> <p>Class Agenda</p>
Week 4 Mon. Sept 28 Wed. Sept 30	<p>TOPIC: Benefit cost analysis: Theory and practice</p> <p>Discussion: Application of benefit cost analysis</p> <p>Concepts: Markets and market failure, public goods and externalities, non-market valuation</p>	<p>Sunstein: The Cost Benefit Revolution</p> <p>OECD 2006 Cost Benefit Analysis and the Environment</p> <p>Giang Economic Benefits of Mercury Control PNAS</p> <p>RFF: Economists on the MATS rollback</p> <p>Optional: Atkinson 2008 Environmental Cost Benefit Analysis</p> <p>Optional: Unit 20: Economics of the Environment</p> <p>Optional: Core 20.3 Cost Benefit Analysis</p>
Concept quiz #1: welfare, consumer surplus, utility, supply and demand, opportunity costs		
Week 5 Mon. Oct 5 Wed. Oct 7	<p>TOPIC: Valuing externalities</p> <p>Watch: Public vs. Private goods,</p> <p>Watch: Types of values</p> <p>Watch: Introduction to externalities</p> <p>Discussion: Clean water case</p> <p>Concepts: public vs private goods, externalities, use and non-use values</p>	<p>Dumas et al. 2005 Measuring Environmental Benefits for Non-Economists</p> <p>Here's how economists do the numbers</p> <p>Case: Valuation of clean water</p> <p>Keiser and Shapiro 2019 US Water Pollution Regulation: Burning waters to crystal springs?</p> <p>Boyle et al. 2017 Science Dueling analysis of clean water regulations</p> <p>Optional: Core: Markets efficiency and public policy</p>
Cost benefit review due by Monday, October 12th		
Week 6 Mon. Oct 12 Wed. Oct 14	<p>Lecture: Valuing externalities cont.</p> <p>Watch: Market-based valuation methods</p> <p>Watch: Contingent valuation</p> <p>Watch: Choice experiments</p> <p>Watch: Travel cost</p> <p>Watch: Hedonic pricing</p> <p>Watch: Discounting</p> <p>Watch: Benefits transfer</p> <p>Discussion: Clean air case</p> <p>Concepts: Revealed and Stated</p>	<p>Roberts 2012 Grist on Discounting</p> <p>Listen: RadioLab How much would you pay for a year of life?</p> <p>EPA FAQ on Mortality Risk Valuation</p> <p>Optional: Monetizing Bowser: Statistical value of a dog's life</p> <p>Case: Valuation of clean air What do economists have to say about the clean air act?</p>

	Preference approaches, Benefits transfer, value of statistical life, discounting, net present value	
Week 7 Mon. Oct 19 Wed. Oct 21	<p>Lecture: Ecosystem services, values, policies, payments</p> <p>Watch: Gretchen Daily: Valuing Nature in Real World Decisions</p> <p>Watch: Peter Kareiva on New Conservation</p> <p>Discussion: To value or not to value?</p> <p>Activity: Tradeoffs game, PEWI</p> <p>Concepts: Ecosystem services pros and cons</p>	<p>Adams 2014 The Value of Valuing Nature Krolwich 2013 NPR- How important is a bee?</p> <p>Optional: Polasky & Segerson (2009) Integrating Ecology and Economics in the Study of Ecosystem Services</p> <p>Nelson et al. FEE 2009</p>
Concept Quiz #2: Public vs. private goods, use and non-use values, externalities, non-market valuation, discounting, net present value, value of statistical life, benefits transfer.		
Week 8 Mon. Oct 26 Wed. Oct 28	<p>Lecture: Efficiency vs. equity</p> <p>Discussion: Economics of carbon</p> <p>Concepts: equity, social costs, integrated assessment models</p>	<p>Dietz 2010 Equity and Efficiency in EV Policy Srinivasan 2008 Wealth of Nations and Distribution of ecological impacts</p> <p>Case: Carbon economics The Problem with Putting a Price on the End of the World - NYT Mag Politics of carbon pricing Listen: The Cost of Climate Change - Planet Money RFF: The Social Cost of Carbon 101</p>
Week 9 Mon. Nov 2 Wed. Nov 4	<p>Lecture: Market vs state solutions</p> <p>Watch: MRU The Great Economic Problem</p> <p>Watch: Ha-Joon Chang on Can economics help us save the planet?</p> <p>Watch: Ha-Joon Chang video Can economics solve environmental problems. Part II.</p> <p>Discussion: Market vs state</p>	<p>Salzman 2013 The 5 P's</p> <p>Free Market Environmentalism</p> <p>Optional: Kinzig et al. 2011 Science Optional: Luby - cheaper when drier</p>
Week 10 Mon. Nov 9 Wed. Nov 11	<p>Lecture: Sustainable development and green accounting, inclusive wealth</p>	<p>Bateman and Mace 2020 The natural capital framework for sustainably efficient and equitable decision-making</p> <p>World Bank Report: Changes in the Wealth of Nations Polasky et al. 2015 Inclusive Wealth and</p>

		Sustainable Development
Week 11 Mon. Nov 16 Wed. Nov 18	Lecture: Managing the commons Concepts: Property values, Coase Theorem,	Sandel The Moral Limits of Markets INET: What Money Can't Buy - Supply Shock episode Ostrom Science 1999 Optional: Stavins 2011
Concept Quiz #3: Theory to practice - economics as it applies to policy and property rights.		
Week 12 Mon. Nov 23 Wed. Nov 25	Lecture: Economics of biodiversity and cultural resources	Chan et al. 2016 PNAS Sanghaet al. Ecosystem Services 2018 Heal 2020 The Economic Case for Protecting Biodiversity Optional: Spash Bulldozing Biodiversity Optional: Fletcher The Food that Grows out of the water Optional: Frainer_2020_PNAS_Cultural and linguistic diversities are pillars of biodiversity value.pdf
Week 13 Mon. Nov 30 Wed. Dec 2	Lecture: Behavioral and institutional economics	Byerly 2018 FEE Ferraro Behavioral Insights Water Policy fOECD and EV Policy Design Rethinking Economics: Behavioral Econ
Week 14 Mon. Dec 7 Wed. Dec 9	Lecture: Ecological economics	Intro to Ecological Economics Daly Economics for a Full World
Week 15 Mon. Dec 14 Wed. Dec. 16 (Last day of instruction)	Lecture: Feminist economics	Rethinking Economics: Feminist Econ Counting on Marilyn Waring Raworth Donut Economics
Reflection memo: Due December 20th		

Evaluation and Assignments:

- I. Discussion posts, 25% throughout
- II. Concept quizzes, 10% + 10% + 10%
- III. Cost benefit assignment, 35% - Review Due Oct 12 (15%), Final Due Nov 13 (20%)
- IV. Reflection memo, 10%, Due December 20th

Canvas

All of our class readings, resources and assignments are available on the course Canvas site. Find the site at canvas.umn.edu, or go to “Key Links” on MyU.umn.edu and scroll down to Canvas. For help with Canvas, go to <https://z.umn.edu/CanvasHelpandSetup> or click the “Canvas Help” link on our course Canvas site.

Set Your Canvas Notification Preferences

This course depends upon your ability to receive communications from your instructor about the class. It's important that you set up your Canvas “notification preferences” to choose how and when you'd like to receive messages via text, email, or both. Find easy-to-follow instructions at “How do I set my Canvas notification preferences as a student?: <https://community.canvaslms.com/docs/DOC-10624-4212710344>. I **strongly recommend** that you opt to receive notification of Announcements, Conversation Messages, and Added to Conversation so that you don't risk missing important class communication.

Name and Pronoun Usage

I will happily honor your request at any point to address you by your correct name, gender pronoun, or any other manner you would like to be referred. If you like, I will also instruct class members to do the same. Please advise me of how you would like to be referred to in class.

Missing class and coursework extensions

Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include illness, childcare, family obligations, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances.

There are situations that may arise where you need to request an extension for a class assignment. If this occurs, email me with your request in advance of the due date and include a proposed timeline for completion of the assignment. I do my best to grant extensions to all reasonable requests.

Mental Health and Stress Management Services

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. There are advisors in the Humphrey Student Services office who are trained and experienced counselors. They are available at short notice to address any concerns you have and provide further resources within the University - Humphrey Student Services, HHH 280, (612) 624-8162. You can learn more about the broad range of confidential mental health services available on campus at: <http://www.mentalhealth.umn.edu>.

Disability Accommodations:

The University of Minnesota views disability as an important aspect of diversity, and is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you have, a disability in any area such as, mental health, attention, learning, chronic health, sensory, or physical, please contact the DRC office on your campus (UM Twin Cities - 612.626.1333) to arrange a confidential discussion regarding equitable access and reasonable accommodations.

Students with short-term disabilities, such as a broken arm, can often work with instructors to minimize classroom barriers. In situations where additional assistance is needed, students should contact the DRC as noted above. If you are registered with the DRC and have a disability accommodation letter dated for this semester or this year, please contact me early in the semester to review how the accommodations will be applied in the course.

Access to readings and materials after semester

Students may lose access to Canvas sites and course reserves at the end of the semester. If you'd like to download class material (depending on copyright) or your own work for personal use, please do so during the semester.

University and School policies

For links to University of Minnesota and Humphrey School policies, please click the "U of M Policies" link on our course Canvas site, or see <https://z.umn.edu/PolicyStatements>. Policies include information on student conduct, scholastic dishonesty, sexual harassment, equal opportunity, disability accommodations, and more.