

Course Syllabus for PA 5722, Fall 2020

Economics of Environmental Policy



Humphrey School of Public Affairs

University of Minnesota

All course material will be available online asynchronously.

Discussion sessions will be held in person:

Room: HHH 35, West Bank

Time: Mon/Wed 4:00 - 5:15 pm (class will be divided into smaller groups to accommodate social distancing, students will meet for shorter periods during one of these two day slots)

**An online discussion section will be available for students who prefer to take the course fully online.

Instructor: [Dr. Bonnie Keeler](#)

E-mail/Phone: keel0041@umn.edu, 612-625-8905

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 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*

Date	Lecture/Discussion Topic	Readings/Resources
Week 1 Wed. Sept 9	Lecture: Why economics is foundational to an understanding of science, technology, and environmental policy Concepts: opportunity costs, marginal change	M&E: 1-10 Listen: Planet Money Episode 963 . 13,000 Economists. 1 Question.
Week 2 Mon. Sept 14 Wed. Sept 16	Lecture: A brief history of economics Watch: History of Capitalism Watch: The Nature of economics Discussion: Economics and race Concepts: Utilitarianism, efficiency, tradeoffs	Chang (2014) Economics: A user's guide: Chapter 3 Optional: Core Econ: Unit 1 The Capitalist Revolution Newsweek: Economists and Racism 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	Lecture: An economic theory of welfare Watch: MRU Indifference curves Discussion: Pollution and the poor Activity: Consumer surplus Concepts: value, utility, preferences, substitutes, prices	Chapter 12: Welfare theory and valuation Bockstael & Freeman pg. 519-522 Optional: M&E: 11-30, 35-48 The Economist 1992 Let Them Eat Pollution The Economist 1992 Pollution and the Poor
Week 4 Mon. Sept 28	Lecture: Benefit cost analysis: Theory and practice	Sunstein: The Cost Benefit Revolution Atkinson 2008 Environmental Cost Benefit Analysis

<p>Wed. Sept 30</p>	<p>Watch: Public vs. Private goods, Watch: Types of values</p> <p>Discussion: Application of benefit cost analysis</p> <p>Activity: Value log</p> <p>Concepts: Markets and market failure, public goods and externalities, non-market valuation</p>	<p>Here's how economists do the numbers</p> <p>Optional: M&E: 11-22, 49-68, 80-97 Optional: Core: Markets efficiency and public policy and Unit 20: Economics of the Environment Optional: Core 20.3 Cost Benefit Analysis</p>
<p>Week 5 Mon. Oct 5 Wed. Oct 7</p>	<p>Lecture: Valuing externalities</p> <p>Watch: Market-based valuation methods Watch: Avoided cost method Watch: Replacement cost method</p> <p>Discussion: Clean water case</p> <p>Concepts: Revealed and stated preference approaches, methods of non-market valuation</p>	<p>Dumas et al. 2005 Measuring Environmental Benefits for Non-Economists</p> <p>Case: Valuation of clean water Keiser and Shapiro 2019 US Water Pollution Regulation: Burning waters to crystal springs? Boyle et al. 2017 Science Duelling analysis of clean water regulations</p>
<p>Week 6 Mon. Oct 12 Wed. Oct 14</p>	<p>Lecture: Valuing externalities cont.</p> <p>Watch: Contingent valuation Watch: Choice experiments Watch: Travel cost Watch: Hedonic pricing Watch: Discounting Watch: Benefits transfer</p> <p>Discussion: Clean air case</p> <p>Concepts: Benefits transfer, value of statistical life, uncertainty, discounting, net present value</p>	<p>Roberts 2012 Grist on Discounting Listen: RadioLab How much would you pay for a year of life? EPA FAQ on Mortality Risk Valuation Optional: Monetizing Bowser: Statistical value of a dogs life</p> <p>Case: Valuation of clean air Giang Economic Benefits of Mercury Control PNAS RFF: Economists on the MATS rollback</p>
<p>Week 7 Mon. Oct 19 Wed. Oct 21</p>	<p>Lecture: Ecosystem services and production functions Watch: Gretchen Daily: Valuing Nature in Real World Decisions</p> <p>Discussion: To value or not to value?</p> <p>Activity: Tradeoffs game, PEWI</p> <p>Concepts: Objective functions, production functions, tradeoffs</p>	<p>Polasky & Segerson (2009) Integrating Ecology and Economics in the Study of Ecosystem Services Keeler et al. 2012 PNAS Nelson et al. FEE 2009</p> <p>Adams 2014 The Value of Valuing Nature Krolwich 2013 NPR- How important is a bee?</p>

<p>Week 8 Mon. Oct 26 Wed. Oct 28</p>	<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 Optional: M&E: 69-79 The Problem with Putting a Price on the End of the World - NYT Mag Listen: The Cost of Climate Change - Planet Money Optional: The Social Cost of Carbon 101</p>
<p>Week 9 Mon. Nov 2 Wed. Nov 4</p>	<p>Lecture: Market vs state solutions 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>Free Market Environmentalism Salzman 2013 The 5 P's Optional: Kinzig et al. 2011 Science Optional: Luby - cheaper when drier M&E: 231-253 M&E: 139-167 M&E: 168-198, 199-230</p>
<p>Week 10 Mon. Nov 9 Wed. Nov 11</p>	<p>Lecture: Sustainable development and green accounting, inclusive wealth</p>	<p>Polasky et al. 2015 Inclusive Wealth and Sustainable Development World Bank Report: Changes in the Wealth of Nations</p>
<p>Week 11 Mon. Nov 16 Wed. Nov 18</p>	<p>Lecture: Managing the commons</p> <p>Concepts: Property values, Coase Theorem,</p>	<p>Sandel The Moral Limits of Markets INET: What Money Can't Buy - Supply Shock episode Ostrom Science 1999 Optional: Stavins 2011</p>
<p>Week 12 Mon. Nov 23 Wed. Nov 25</p>	<p>Lecture: Economics of biodiversity and cultural resources</p>	<p>Chan et al. 2016 PNAS Spash Bulldozing Biodiversity Fletcher The Food that Grows out of the water</p>
<p>Week 13 Mon. Nov 30 Wed. Dec 2</p>	<p>Lecture: Behavioral and institutional economics</p>	<p>OECD and EV Policy Design Rethinking Economics: Behavioral Econ Falk and Heckman 2009 "Lab experiments and the social sciences"</p>
<p>Week 14 Mon. Dec 7 Wed. Dec 9</p>	<p>Lecture: Ecological and feminist economics</p>	<p>Intro to Ecological Economics Daly Economics for a Full World</p> <p>Rethinking Economics: Feminist Econ Counting on Marilyn Waring Raworth Donut Economics</p>
<p>Week 15 Mon. Dec 14 Wed. Dec. 16</p>	<p>Lecture: Reflection and synthesis</p>	<p>Hahn 2000 The Impact of Economics on Environmental Policy The end of economics 2019</p>

(Last day of instruction)		Has economics failed us - hardly2019 Cropper 2000 Has economic research answered the needs of environmental policy? Optional: Esther Duflo Ted Talk
Reflection paper: Due December 20th		

Evaluation and Assignments:

- I. Homework/Reflections, 20% throughout
- II. Concept quizzes, 10% + 10% + 10%
- III. Cost benefit assignment, 30% Review Due Oct 5 (15%), Final Due Nov 2 (15%)
- IV. Paper discussion videos, 10% throughout
- V. 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](https://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.

Use of Personal Electronic Devices in the Classroom

Using personal electronic devices in the classroom setting can hinder instruction and learning, not only for the student using the device but also for other students in the class. My preference is for students to take notes in a notebook, instead of on a laptop to minimize the temptation to browse the internet during class. If you do use your laptop in class, please disable wifi during class unless instructed otherwise. It is quite apparent when students are using their laptop,

phone, or tablet to view non-course content as surrounding classmates can't help but register their interest. Silence personal cell phones and keep them stored in your backpack during class. Do not create distractions that negatively affect the learning experience of your peers.

Missing class and coursework extensions

Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include verified illness, 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.