

Economics of Sustainability

Syllabus, SUS C7400, Spring 2015 (cross listed as ECO B9526)
Tuesday 5-7:40pm in NAC 4-220c

Course Description

How does the science of economics help to understand and moderate human effects on the environment? Economics examines how people make choices when their unlimited wants meet scarce resources. As human technology has developed far enough to bump up against the limits of the finite globe, we as policymakers and concerned citizens need to understand how to ensure that the finite resources of the globe can be sustained for the future.

Textbook

Required

- *Environmental Economics and Natural Resource Management*, David A. Anderson, Routledge, 4th ed. Available for purchase online if you don't want to kill extra trees
- *How to Change the World: Social Entrepreneurs and the Power of New Ideas*, David Bornstein – a classic in what was (in 2007) an emerging field

Suggested:

- *Economics: A Very Short Introduction*, Partha Dasgupta – "very short" is also cheap, under \$10
- *Oil 101*, Morgan Downey – a terrific read; all the vital basics for understanding oil

Professor

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Course Requirements

This course requires students to complete regular homework assignments and write an exam. It also requires that students, working in a small team, complete a final project. This final project is a substantial analysis of an environmental issue facing policymakers with a detailed exploration of the economics of proposed remedies. During class times after the exam we will have presentations from each group (graded as homework).

Educational Outcomes

Students will integrate theory with public policy in areas of pollution regulation, emissions cap-and-trade, and tradable permits. Students will evaluate particular theories about the effectiveness of such strategies against empirical findings documented in studies from a variety of disciplines not limited to economics. Students will write a final project which exhibits their ability to compose excellent oral and written communications for diverse audiences.

Grading

Course grades are determined by three factors: your grade on the final project, your score on the exam, and your scores on the homework assignments. The final project gets 60% weight while the exam has a 20% weight and homework also gets 20%. There is no BS factor of effort or any other unobservable will-o-wisps – the weightings sum to 100. Your grade is determined entirely on observed performance.

Course Material

Homework and basic course documents will be on the class page, publicly accessible from my web page (<http://kfoster.ccny.cuny.edu>). Readings and some other material will be available on the Blackboard course page (login required). Some class material will be online videos. I will periodically send emails to the class via Blackboard so you must keep your CCNY email updated.

Weekly Topics

Economics of Sustainability SUS C7400

Spring 2014, Kevin R Foster, CCNY

Week	Date	Topics	Chapter(s) in text
1	Feb 3	Supply and Demand, Discounting	online
2	Feb 10	Markets, Externalities	1, 2, 3
3	Feb 17	Coase Theorem	4, 5
4	Feb 24	Sustainability	6, 7
5	March 3	Production and Pollution; Jevons Paradox	8, 10
6	March 10	Fees and Tradable Permits	online
7	March 17	Oil and basics of Global Climate Change	11
8	March 24	Global Climate Change	online
9	March 31	Global Climate Change and Social Cost of Carbon	tba
	<i>April 7</i>	<i>No class</i>	
10	April 14	Financial Markets for Commodities	tba
11	April 21	Social Entrepreneurship	tba
12	April 28	Fracking , Urban Flooding	tba
13	May 5	<i>Exam</i>	<i>comprehensive</i>
14	May 12/19	Presentations on Final Project	
	May 25	<i>deadline for final project</i>	

Chapters refer to *Environmental Economics and Natural Resource Management*, David A. Anderson, Routledge.

There will be lecture notes online - these are correlated with (but not exactly matching) the textbook. They are a good hint about what things I consider to be important, some of which are not covered by the textbook.

Other Readings:

Every student in the Sustainability program, as well as anyone else interested in Global Climate Change, ought to have read the IPCC report – if not every page then still all of the "Summary for Policymakers" portions as well as big chunks of the rest.

IPCC AR5 Synthesis Report "Summary for Policymakers," from <http://www.ipcc.ch/report/ar5/>

Nordhaus Climate webcast from 2015 AEA meetings, <http://www.aeaweb.org/webcasts/2015/index.php>

Discounting, Climate webcasts from 2014 AEA meetings, <http://www.aeaweb.org/webcasts/2014/index.php>

American Economic Review (2014), Climate Change Policy after Kyoto

C E McLure, Jr, Selected International Aspects of Carbon Taxation

D Burtraw, J Linn, K Palmer and A Paul, The Costs and Consequences of Clean Air Act Regulation of CO₂ from Power Plants

D B Marron and E J Toder, Tax Policy Issues in Designing a Carbon Tax

B C Murray, M L Cropper, F C de la Chesnaye and J M Reilly, How Effective Are US Renewable Energy Subsidies in Cutting Greenhouse Gases?

Aldy, J.E., A.J. Krupnick, R.G. Newell, I.W.H. Parry, W.A. Pizer (2010). "Designing Climate Mitigation Policy," *Journal of Economic Literature*, 48(4).

Anderegg, W.R.L., J.W. Prall, J. Harold, S.H. Schneider (2010). "Expert Credibility in Climate Change," *PNAS*.

Council of Economic Advisors (2014). "The Costs of Delaying Action to Stem Climate Change."

EPA (2014). "Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for Existing Power Plants and Emission Standards for Modified and Reconstructed Power Plants"

EPA (2013). "The Social Cost of Carbon."
<http://www.epa.gov/climatechange/EPAactivities/economics/scc.html>

Gollier, C (2013). "A theory of rational short-termism with uncertain betas," working paper.

Gollier, C (2009). "Ecological Discounting," working paper.

Nordhaus, W (2011). "The Economics of Tail Events with an Application to Climate Change," *Review of Environmental Economics and Policy*.

Nordhaus, W (2007). "Critical Assumptions in the Stern Review on Climate Change," *Science*, 317.

Stavin, R N (2007) "A US Cap-and-Trade System to Address Global Climate Change," Hamilton Project Discussion Paper, Brookings Institution.

Stern, N and C Taylor (2007). "Climate Change: Risk, Ethics, and the Stern Review," *Science*, 317.

Stern Review

Tol, R S J "The Economic Effects of Climate Change," *Journal of Economic Perspectives*, 23(2).

Weitzman, M L (2014). "Can Negotiating a Uniform Carbon Price Help to Internalize the Global Warming Externality?" working paper.

Weitzman, M L (2013). "Tail-Hedge Discounting and the Social Cost of Carbon," *Journal of Economic Literature*.

Weitzman, M L (2012). "Rare Disasters, Tail-Hedged Investments, and Risk-Adjusted Discount Rates," working paper.

Weitzman, M L (2009). "Some Basic Economics of Extreme Climate Change," working paper.

White House (2013). "Technical Support Document: - Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis - Under Executive Order 12866,"
http://www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf

Yale Symposium on Stern Review (2007).

Deviations from the schedule will be announced in class.

The exam dates and project due dates are given above. You must take the exams at, and hand in the work by, the scheduled times. No excuses.

Academic Integrity

The CCNY Faculty Senate has recommended that every course syllabus include this notice:

CUNY Policy on Academic Integrity

As stated in the CUNY Policy on Academic Integrity: 'Plagiarism is the act of presenting another person's ideas, research or writings as your own. The following are some examples of plagiarism:

- 'Copying another person's actual words without the use of quotation marks and footnotes attributing the words to their source;
- 'Presenting another person's ideas or theories in your own words without acknowledging the source;
- 'Using information that is not common knowledge without acknowledging the source;
- 'Failing to acknowledge collaborators on homework and laboratory assignments.
- 'Internet plagiarism includes submitting downloaded term papers or parts of term papers, paraphrasing or copying information from the internet without citing the source, and "cutting & pasting" from various sources without proper attribution.'
- A student who plagiarizes may incur academic and disciplinary penalties, including failing grades, suspensions, and expulsion.
- A complete copy of the CUNY Policy on Academic Integrity may be downloaded from the College's home page.

Accommodations for Students with Disabilities

The Office of Student Disability Services (SDS) is dedicated to providing students with disabilities equal access to the College curriculum. The Office ensures that, upon request, qualified students with disabilities are provided reasonable and effective accommodations, as mandated by law, as well as appropriate support services.

Students who contact SDS and indicate that they have a disability or believe that they might qualify for services will be asked to make an appointment for an intake interview with SDS staff. To qualify for services, students must register with SDS by providing appropriate documentation from a qualified professional describing the nature of their disability and functional limitations. Although academic adjustments are mandated by law, the College is not required to alter demonstrably essential academic requirements of a course of study nor is the College mandated to lower or effect substantial modifications of reasonable academic standards.

Early planning is essential for many of the resources, adjustments and accommodations; students are asked to contact SDS at the earliest possible date (NA 1/218; 212-650-5913 or 212-650-6910 for TTY/TTD).