

Syllabus  
Economics 8535-001  
Environmental Economics Graduate Seminar I  
Fall 2009

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Economics 210  
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Location: Economics 5  
Meeting Times: Tuesday/Thursday 11 a.m. – 12:15 p.m.  
Office Hours: Thursday 1:30 – 3 p.m. and by appointment

Course Objectives:

This course introduces students to the concepts and methods commonly used in applying economics to analyze environmental and natural resource problems. As the first of a two course sequence, this course provides a broad overview of many topics, emphasizing both theory and application.

Course Components:

- (1) Classroom Activities: Class will include lectures, discussion, and in-class problem solving, both in teams and individually. Readings will be assigned prior to class and students will have read the material by class time.
- (2) Problem Sets: There will be regular problem sets throughout the semester.
- (3) In-class Examinations: There will be two examinations, one mid-term and another administered during finals.
- (4) Research Project: Students are required to write a research paper on a topic of their choosing. The goal of the research paper is to develop and propose an original research project.

Special Accommodations Policy:

If you have special physical, psychiatric, or learning disabilities and require accommodations, please let me know at the beginning of the semester so that your learning needs may be appropriately met. You will need to provide documentation of your disability to the Disabilities Services Office in Willard 322 (phone 303-492-9671). Furthermore, if you require time off for special religious or cultural holidays, this should be arranged in advance with me.

Evaluative Criteria:

Problem Sets: 10%

Class Participation and Performance: 5%

Midterm Exam: 25%

Research Paper: 35%

Final Exam: 25%

Odds & Ends:

Students should be prepared for class which includes reading papers and turning in assignments on time. Attendance is mandatory for all scheduled classes.

Important Class Dates:

August 25 – First Day of Class

September 17-18 – CU Environmental and Natural Resource Economics Workshop (Vail)

November 21-29 – Thanksgiving Break

December 10 – Last Day of Class

December 12 – Final Examination, 7:30 – 10 p.m., Economics 5

## **Course Readings**

(Subject to Change During the Semester)

### **Reading Set 1: Select Environmental Problems**

- U.S. Environmental Protection Agency. 2008. "EPA's Report on the Environment, Highlights of National Trends," US. EPA.
- American Rivers. 2008. America's Ten Most Endangered Rivers, 2008 Edition.
- Stern Review: The Economics of Climate Change, Executive Summary, 2007.
- Portney, Paul. 2007. "What are the biggest challenges facing the United States?," Weekly Policy Commentary, Resources for the Future, September 10, 2007.
- Hardin, Garrett. 1968. "Tragedy of the Commons," *Science*.
- Emmitt, Ross. 2006. "Malthus Reconsidered: Population, Resources, and Markets," Ross Emmitt, PERC Policy Series, PS-38, 2006.

### **Reading Set 2: Theory of Welfare Economics and Public Goods**

- Hicks, J. R. 1939. "The Foundations of Welfare Economics" *The Economic Journal*, 49(196): 696-712.
- Kaldor, Nicholas. 1939. "Welfare Propositions of Economics and Interpersonal Comparisons of Utility" *The Economic Journal*, 49(195): 549-552.
- Scitovszky, T. D. 1941. "A Note on Welfare Propositions in Economics" *The Review of Economic Studies*, 9(1): 77-88.
- Samuleson, Paul. 1954. "The Pure Theory of Public Expenditure," *Review of Economics and Statistics*, 1954.
- Groves, Theodore and John Ledyard. 1977. "Optimal Allocation of Public Goods: A Solution to the "Free Rider" Problem" *Econometrica*, 45(4): 783-809.

### **Reading Set 3: Environmental Classics**

- Coase, R. H. 2007 [1960]. "The Problem of Social Cost." In *Environmental Law and Economics. Volume 1*, ed. David Campbell and Robert Lee eds, 3-46. International Library of Environmental Law and Policy series. Aldershot, U.K. and Burlington, Vt.: Ashgate.
- Krutilla, John V. 1967. "Conservation Reconsidered" *The American Economic Review*, 57(4): 777-786.

### **Reading Set 4: Putting a Price Tag on Nature (Revealed Preference)**

- Flores, Nicholas E. 2003. "Conceptual Framework for Nonmarket Valuation." Chapter 2 in *A Primer on Nonmarket Valuation*, ed. Patricia Champ, Kevin Boyle, and Thomas Brown, 27-58, Norwell, MA: Kluwer Academic Publishers.

#### *Travel Cost Method*

- Parsons, George R. 2003. "The Travel Cost Model." Chapter 9 in *A Primer on Nonmarket Valuation*, ed. Patricia Champ, Kevin Boyle, and Thomas Brown, 269-329, Norwell, MA: Kluwer Academic Publishers.
- McFadden, Daniel and Kenneth Train. 2000. "Mixed MNL Models for Discrete Response" *Journal of Applied Econometrics*, 15(5): 447-470.

- Morey, Edward R. 1981. "The Demand for Site-Specific Recreational Activities: A Characteristics Approach" *Journal of Environmental Economics and Management*, 8(4): 345-371.
- Timmins, Christopher and Jennifer Murdock. 2007. "A Revealed Preference Approach to the Measurement of Congestion in Travel Cost Models" *Journal of Environmental Economics and Management*, 53(2): 230-249.

#### *Hedonic Price Method*

- Taylor, Laura O. 2003. "The Hedonic Method." Chapter 10 in *A Primer on Nonmarket Valuation*, ed. Patricia Champ, Kevin Boyle, and Thomas Brown, 331-393, Norwell, MA: Kluwer Academic Publishers.
- Chay, Kenneth Y. and Michael Greenstone. 2005. "Does Air Quality Matter? Evidence from the Housing Market" *Journal of Political Economy*, 113(2): 376-424.
- Bayer, Patrick, Nathaniel Keohane, and Christopher Timmins. 2009. "Migration and Hedonic Valuation: The Case of Air Quality" *Journal of Environmental Economics and Management*, 58(1): 1-14.
- Kniesner, Thomas J. and W. K. Viscusi. 2005. "Value of a Statistical Life: Relative Position Vs. Relative Age" *The American Economic Review*, 95(2, Papers and Proceedings of the One Hundred Seventeenth Annual Meeting of the American Economic Association, Philadelphia, PA, January 7-9, 2005): 142-146.

### **Reading Set 5: Putting a Price Tag on Nature (Stated Preference)**

#### *Contingent Valuation*

- Carson, Richard T., Robert C. Mitchell, Michael Hanemann, Raymond J. Kopp, Stanley Presser, and Paul A. Ruud. 2003. "Contingent Valuation and Lost Passive use: Damages from the Exxon Valdez Oil Spill" *Environmental and Resource Economics*, 25(3): 257-286.
- Portney, Paul R. 1994. "The Contingent Valuation Debate: Why Economists should Care" *The Journal of Economic Perspectives*, 8(4): 3-17.
- Hanemann, W. M. 1994. "Valuing the Environment through Contingent Valuation" *The Journal of Economic Perspectives*, 8(4): 19-43.
- Diamond, Peter A. and Jerry A. Hausman. 1994. "Contingent Valuation: Is some Number Better than no Number?" *The Journal of Economic Perspectives*, 8(4): 45-64.

#### *Multi-Attribute (Conjoint) Valuation*

- Hanley, Nick, Robert E. Wright, and Vic Adamowicz. 1998. "Using Choice Experiments to Value the Environment: Design Issues, Current Experience and Future Prospects" *Environmental and Resource Economics*, 11(3-4): 413-428.
- Alberini, Anna, Stefania Tonin, Margherita Turvani, and Aline Chiabai. 2007. "Paying for Permanence: Public Preferences for Contaminated Site Cleanup" *Journal of Risk and Uncertainty*, 34(2): 155-178.

### **Reading Set 6: Willingness to Pay and Willingness to Accept**

- Horowitz, John K. and Kenneth E. McConnell. 2002. "A Review of WTA/WTP Studies" *Journal of Environmental Economics and Management*, 44(3): 426-447.
- Hanemann, W. M. 1991. "Willingness to Pay and Willingness to Accept: How Much can they Differ?" *American Economic Review*, 81(3): 635-647.
- Kahneman, Daniel, Jack L. Knetsch, and Richard H. Thaler. 1990. "Experimental Tests of the Endowment Effect and the Coase Theorem" *Journal of Political Economy*, 98(6): 1325-1348.
- Plott, Charles R. and Kathryn Zeiler. 2005. "The Willingness to Pay-Willingness to Accept Gap, the "Endowment Effect," Subject Misconceptions, and Experimental Procedures for Eliciting Valuations" *American Economic Review*, 95(3): 530-545.

### **Reading Set 7: Issues in Stated Preference Analysis**

- Carson, Richard T. and Theodore Groves. 2007. "Incentive and Informational Properties of Preference Questions" *Environmental and Resource Economics*, 37(1): 181-210.
- Carson, Richard T., Theodore Groves, John List, and Mark Machina. 2004. "Probabilistic Influence and Supplemental Benefits, A Field Test of the Two Key Assumptions Underlying Stated Preferences" working paper.
- Mitani, Yohei, and Nicholas E. Flores, "Public Goods Referenda without Perfectly Correlated Prices and Quantities," Working Paper, March 2009, University of Colorado Department of Economics.
- Taylor, Laura, Mark Morrison, and Kevin Boyle. 2009. "Exchange Rules and the Incentive Compatibility of Choice Experiments," forthcoming *Environmental and Resource Economics*.

### **Reading Set 8: Environmental Management 1**

- Hahn, Robert W. 1989. "Economic Prescriptions for Environmental Problems: How the Patient Followed the Doctor's Orders" *Journal of Economic Perspectives*, 3(2): 95-114.

#### *Voluntary Approaches to Management*

- Segerson, Kathleen and Thomas J. Miceli. 1998. "Voluntary Environmental Agreements: Good Or Bad News for Environmental Protection?" *Journal of Environmental Economics and Management*, 36(2): 109-130.
- Segerson, Kathleen and Junjie Wu. 2006. "Nonpoint Pollution Control: Inducing First-Best Outcomes through the use of Threats" *Journal of Environmental Economics and Management*, 51(2): 165-184.
- Kotchen, Matthew J. 2006. "Green Markets and Private Provision of Public Goods" *Journal of Political Economy*, 114(4): 816-834.

## **Reading Set 9: Environmental Management 2**

### *Market Instruments*

- Oates, Wallace E. and Diana L. Strassmann. 1984. "Effluent Fees and Market Structure" *Journal of Public Economics*, 24(1): 29-46.
- Keohane, Nathaniel O. 2009. "Symposium: Alternative U.S. Climate Policy Instruments: Cap and Trade, Rehabilitated: Using Tradable Permits to Control U.S. Greenhouse Gases" *Review of Environmental Economics and Policy*, 3(1): 42-62.
- Goulder, Lawrence H. 1995. "Environmental Taxation and the Double Dividend: A Reader's Guide" *International Tax and Public Finance*, 2(2): 157-183.

## **Reading Set 10: Uncertainty**

- Burton A. Weisbrod. 1964. "Collective-Consumption Services of Individual-Consumption Goods" *The Quarterly Journal of Economics*, 78(3): 471-477.
- Graham, Daniel A. 1981. "Cost-Benefit Analysis Under Uncertainty" *American Economic Review*, 71(4): 715-725.
- Arrow, Kenneth J. and Anthony C. Fisher. 1974. "Environmental Preservation, Uncertainty, and Irreversibility" *Quarterly Journal of Economics*, 88(2): 312-319.
- Weitzman, Martin L. 1974. "Prices Vs. Quantities" *Review of Economic Studies*, 41(4): 477-491.
- Shafran, Aric P. 2008. "Risk Externalities and the Problem of Wildfire Risk" *Journal of Urban Economics*, 64(2): 488-495.
- Shafran, Aric P. 2007. "Measuring Benefits with Supply Side Uncertainty," working paper.

## **Reading Set 11: Bridging Quasi Experimental and Structural Methods**

- Kuminoff, Nicolai V. 2007. "Recovering Preferences from a Dual Market Locational Equilibrium" Working Paper, Virginia Tech University and Arizona State University.
- Davis, Lucas W. 2004. "The Effect of Health Risk on Housing Values: Evidence from a Cancer Cluster" *American Economic Review*, 94(5): 1693-1704.
- Chetty, Raj. 2008. "Sufficient Statistics for Welfare Analysis" Working Paper, University of California Berkeley and NBER.