

AREC 550 – Environmental Economics
3 Credits

Spring 2008

Instructor: Dr. Christian Langpap, Department of Agricultural and Resource Economics

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Office Hours: Tuesday, Thursday 4:00 – 5:00 or by appointment.

Class time: Monday, Wednesday, Friday 1:00 – 1:50, Ballard 118.

Prerequisite: AREC/ECON 512

Course Description:

This course presents concepts, theories, and methods used in the economic analysis of environmental issues. The emphasis is on the economics of environmental management policies and the measurement of environmental values for public policy discussions.

Text and Readings:

Hanley, N., J.F. Shogren, and B. White. 2007. *Environmental Economics in Theory and Practice*. 2nd Ed. New York: Palgrave Macmillan. Required

Freeman, A.M. III. 2003. *The Measurement of Environmental and Resource Values*. 2nd Ed. Washington, DC: RFF Press. Recommended but optional.

Other potentially useful books:

Baumol, W.J. and W.E. Oates. 1988. *The Theory of Environmental Policy*. 2nd Ed. New York: Cambridge U. Press.

Pearce, D.W. and R.K. Turner. 1990. *Economics of Natural Resources and the Environment*. Baltimore: Johns Hopkins U. Press.

Stavins, R.N., Ed. 2005. *Economics of the Environment. Selected Readings*. 5th Ed. New York: WW Norton.

Grafton, R.Q., W. Adamowicz, D. Dupont, H. Nelson, R.H. Hill, and S. Renzetti. 2004. *The Economics of the Environment and Natural Resources*. Malden, MA: Blackwell Publishing.

Kolstad, C.D. 2000. *Environmental Economics*. New York: Oxford University Press.

The Hanley, Shogren, & White (HSW) and Freeman books are available at the OSU bookstore. The Freeman, Baumol & Oates, and Pearce & Turner books are on reserve at Valley Library. All other required or recommended readings will be on reserve at the Castle Reading Room in Ballard Hall. References in **bold type** are required, others are recommended.

Course Outline and Readings (tentative)

I. Introduction

HSW, Ch. 1

Pearce & Turner, Ch. 2

Cropper & Oates. 1992. "Environmental Economics: A Survey." *Journal of Economic Literature* 30(2): 675-740.

Stavins, R. 2007. "Environmental Economics." Working Paper 13574.

<http://www.nber.org/papers/w13574>. NATIONAL BUREAU OF ECONOMIC RESEARCH

II. Regulating Pollution

1. Basic Concepts: Efficiency and Market Failures.

HSW, Ch. 3

Baumol & Oates, Ch. 3

Kolstad, Ch. 5

2. Economics of Pollution Control

HSW, Ch. 3, 4

Pearce & Turner, Ch. 4

3. Environmental Policy Analysis

3.1 Decentralized Approaches

a. Property Rights

b. Liability

HSW, Ch. 3

Coase, R. The Problem of Social Cost, Ch. 3 in Stavins.

Pearce & Turner, Ch. 5

Kolstad, Ch. 6

3.2 "Centralized" Approaches

a. Command and Control

Kolstad, Ch. 8

Pearce & Turner, Ch. 7

b. Pollution Charges (Taxes)

HSW, Ch. 4, 5

Baumol & Oates, Ch. 11, 14

Pearce & Turner, Ch. 6, 7.

Kolstad, Ch. 7, 9.

c. Tradable Pollution Permits

HSW, Ch. 5

Stavins, R. 2005. "Lessons Learned from SO₂ Allowance Trading." *Choices*

20(1): 53-57.

Pearce & Turner Ch. 8

Kolstad, Ch. 9

d. Prices vs. Quantities: Policy Choice Under Uncertainty

HSW, Ch. 4

Baumol & Oates, Ch. 5

Kolstad, Ch. 10

e. Enforcement

Kolstad, Ch. 11

Heyes, A. 1998. "Making Things Stick: Enforcement and Compliance." *Oxford Review of Economic Policy* 14(4): 50-63.

III. Valuation of Environmental Goods and Services

1. Basic Concepts: Measuring Changes in Welfare

HSW, Ch. 11

Freeman, Ch. 3

Kolstad, Ch. 15

2. Revealed Preference Valuation Methods

a. Environmental Quality as a Factor Input

b. Defensive (Averting) Expenditures

HSW, Ch. 11

Freeman, Ch. 4

Kolstad, Ch. 17

c. Travel Cost Method

HSW, Ch. 11

Freeman, Ch. 13

Kolstad, Ch. 17

Bockstael, N.E. 1995. "Travel Cost Models." In D.W. Bromley, Ed. *The Handbook of Environmental Economics*. Oxford: Blackwell.

d. Hedonic Property Value Models

HSW, Ch. 11

Freeman, Ch. 4, 11

Kolstad, Ch. 16

Grafton et al, Ch. 10.

3. Stated Preference Approaches: Contingent Valuation

HSW, Ch. 11

Freeman, Ch. 6

Kolstad, Ch. 18

Portney, P.R. 1994. "The Contingent Valuation Debate: Why Economists Should Care." *Journal of Economic Perspectives* 8(4): 3-17. Ch. 7 in Stavins, 2005.

Hanemann, W.M. 1994. "Valuing the Environment Through Contingent Valuation." *Journal of Economic Perspectives* 8(4): 19-43. Ch. 8 in Stavins, 2005.

Diamond, P.A. and J.A. Hausman. "Contingent Valuation: Is Some Number Better than No Number?" *Journal of Economic Perspectives* 8(4): 45-64. Ch. 9 in Stavins, 2005.

IV. Climate Change

McKibbin, W.J. and P.J. Wilcoxon. 2002. "The Role of Economics in Climate Change Policy." *Journal of Economic Perspectives* 16(2): 107-129.

Pizer, W.A. 2001. "Choosing Price or Quantity Controls for Greenhouse Gases." In Toman, M.A., Ed., *Climate Change Economics and Policy – An RFF Anthology*. Washington DC: Resources for the Future.

Nordhaus, W.D. 2007. "To Tax or Not to Tax: Alternative Approaches to Slowing Global Warming." *Review of Environmental Economics and Policy* 1(1): 26-44.

Stern, N. 2007. "Stern Review: The Economics of Climate Change." – Executive Summary, [http://www.hm-](http://www.hm-treasury.gov.uk/media/9/9/CLOSED_SHORT_executive_summary.pdf)

treasury.gov.uk/media/9/9/CLOSED_SHORT_executive_summary.pdf

Mendelsohn, R. 2008. "Is the Stern Review an Economic Analysis?" *Review of Environmental Economics and Policy* 2(1): 45-60.

Nordhaus, W.D. 1993. "Reflections on the Economics of Climate Change." *Journal of Economic Perspectives* 7(4): 11-25.

Dietz, S. and N. Stern. 2008. "Why Economic Analysis Supports Strong Action on Climate Change: A Response to the Stern Review's Critics." *Review of Environmental Economics and Policy* 2(1): 94-113.

If time permits:

V. Risk and Uncertainty Readings TBA

Grading:

Midterm Exam: 45% - Wednesday, April 30th.

Final Exam: 55% - Wednesday, June 11th, 9:30 AM.

There are no exceptions to these dates. Please make travel plans accordingly. There are no makeup exams or extra credit assignments. Any unexcused absence from an exam will receive a grade of zero. An absence will be excused only with appropriate documentation.

I will also hand out practice problem sets. These are not graded, and are intended to help you study for the exams. The answer keys will be handed out with the problem sets, but I strongly encourage you to do each problem set on your own before consulting the answer key.