

ECN/EVS 330
NATURAL RESOURCE ECONOMICS
UNCW Summer I 2009

INSTRUCTOR: Dr. Pete Schuhmann

TEXT: Barry C. Field, Natural Resource Economics 1st or 2nd edition, Irwin/McGraw-Hill

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Course Blog: <http://naturalresourceecon.blogspot.com/>

PREREQUISITES:

ECN 125 (Survey of Economics) or ECN 221 (Principles of Economics - Micro) or consent of instructor. An understanding of algebra and basic calculus is assumed.

COURSE DESCRIPTION:

Economic principles are developed and applied to evaluate public and private decisions involving the use and allocation of natural resources. The theoretical foundations for economic efficiency and optimal use are developed and applied to the management of natural resources. Attention is given to specific resource management areas such as forests and fisheries. The feasibility and desirability of alternatives for resource management and policy are evaluated.

COURSE POLICIES:

GRADING:

Your grade in this course will be based on performance on two exams, a few homework assignments and online discussions. The 10 point scale applies: 90-100 = A, 80-89 = B, 70-79 = C, 60-69 = D, <60 = F. The plus/minus system will be implemented on final grades where appropriate. The weights assigned to each component of your grade are as follows:

2 exams = 60% of final grade (30% each)

Homework = 20% of final grade

Online discussion & blog participation = 20% of final grade

EXAMS:

The exams will be composed of essays, short answer questions, multiple choice and true/false questions. Each of the two exams will test your knowledge of material covered since the previous exam, so these exams are not explicitly comprehensive. However, as much of what we will learn in this class builds on previously attained knowledge, all of the material is in effect cumulative.

HOMEWORKS:

You will be responsible for 4 or 5 homework assignments during the semester. Some of these assignments come from the book at the end of each chapter in the section titled "Questions for Further Discussion". Due dates will be announced a few days in advance. Late work will not be accepted. All work must be submitted via email to schuhmannp@uncw.edu. Please use an 11 or 12 point font with double line spacing. Using materials or sources other than the textbook is strongly encouraged and in some cases will be necessary in order to properly answer the questions. All sources must be properly cited. Copying and pasting someone else's work without proper citation will result in an automatic F for the course and further disciplinary action at the university level. Wikipedia use is strongly discouraged.

MAKE-UP POLICY:

Make-ups will only be given in the event of a valid and approved University emergency. The exam dates are set. Please schedule your semester accordingly.

POLICY ON ACADEMIC HONESTY: The UNCW Academic Honesty Policy, as documented in the *Undergraduate Catalogue* and in the *Student Handbook*, will be strictly followed in this course.

SCHEDULE

Date	Topic	Lecture Reading	Text Reading	Assignment
Thursday 5/14	Introduction, syllabus & econ review	Lecture 1	Chapters 3 & 4	Discussion question
Monday 5/18	The environment and the economy	Lecture 2	Chapters 1 & 2	Discussion question
Tuesday 5/19	The environment and the economy	Lecture 2	Chapters 1 & 2	
Wednesday 5/20	Market failure - externalities & Pigou	Lecture 3.1	Chapter 6	Discussion question & homework 1
Thursday 5/21	Market failure – Public goods & Coase	Lecture 3.2	Chapter 6	Discussion question
Monday 5/25	<i>Memorial Day</i>			
Tuesday 5/26	Standards vs. incentives for pollution	Lecture 3.3	Chapter 7	Discussion question
Wednesday 5/27	Standards vs. incentives for pollution	Lecture 3.3	Chapter 7	
Thursday 5/28	Exam 1			TAKE EXAM
Monday 6/1	Non-market valuation	Lecture 4	Chapter 9	Discussion question
Tuesday 6/2	Non-market valuation	Lecture 4	Chapter 9	
Wednesday 6/3	Non-renewable resources: Land	Lecture 5.1	Chapter 14	Discussion question & homework 2
Thursday 6/4	Non-renewable resources: Minerals	Lecture 5.2	Chapter 10	
Monday 6/8	Non-renewable resources: Minerals	Lecture 5.2	Chapter 10	homework 3
Tuesday 6/9	Solid waste & recycling	Lecture 5.3	Chapter 10	Discussion question
Wednesday 6/10	Forestry and Timber Harvest	Lecture 6.1	Chapter 12	Discussion question
Thursday 6/11	Tropical deforestation	Lecture 6.2	Chapter 12	Discussion question & homework 4
Monday 6/15	Fisheries Economics	Lecture 7	Chapter 13	Discussion question
Tuesday 6/16	Exam 2			TAKE EXAM

ECN 330 Supplemental Reading List by Topic (additional sources are listed on the course webpage and at the end of each lecture)

Economic Theory in Environmental and Resource Issues

- Solow, Robert M. (1996): "Sustainability: An Economist's Perspective," Chapter 5 in *Economics of the Environment: Selected Readings*, Robert N. Stavins, ed. (W.W. Norton).
- J.V. Krutilla. "[Conservation Reconsidered](#)," *American Economic Review*, No. 47 (1967), pp. 777-786.
- Ruff, Larry E. "The Economic Common Sense of Pollution", *The Public Interest*, No. 19 (Spring 1970).
- "Making Polluters Pay", Chapter 4 of "Costing the Earth: The Challenge for Governments, The Opportunities for Business". Frances Cairncross, Harvard Business School Press, 1992.
- Hahn, R.W. "Economic Prescriptions for Environmental Problems: How the Patient Followed the Doctor's Orders." *Journal of Economic Perspectives*, 3:95-114 (1989).
- Hardin, Garrett, "The Tragedy of the Commons", *Science*, 162:1243-1248, Dec. 13, 1968.
- Arrow, Kenneth, et al. "Is there a Role for Benefit-Cost Analysis in Environmental Health, and Safety Regulation?" *Science*, April 12, 1996. (Chapter 13 in EESR)
- Farrow, Scott, and Michael Toman. "Using Benefit-Cost Analysis to Improve Environmental Regulation." *Environment*, March 1999, 12-15 and 33-37.
- "Taxes for a Greener Environment." *Economist*, June 28, 1997.
- Bhagwati, Jagdish, and Herman Daly. "Debate: Does Free Trade Harm the Environment?" *Scientific American*, (November 1993): 41-57.
- "An Invaluable Environment." *Economist*, April 18, 1998.
- Hecht, Joy. "Environmental Accounting: Where we are now, Where we are heading." *Resources* 135 (Spring 1999): 14-17. (published by Resource for the Future)
- "Treasuring the Environment." *Economist*, March 3, 1990.
- "A Price on the Priceless?" *Economist*, August 17, 1991.

Non-market Valuation

- Rosenthal, D.H., and Nelson, R.H. "Why Existence Value Should Not Be Used in Cost-Benefit Analysis." *Journal of Policy Analysis and Management*, 11:116-122 (1992).
- Kopp, R. J. "Why Existence Value Should Be Used in Cost-Benefit Analysis." *Journal of Policy Analysis and Management*, 11:123-130 (1992).
- "The Contingent Valuation Debate: Why Economists Should Care." Paul R. Portney, *The Journal of Economic Perspectives*, Fall 1994, pp. 3-17.
- "Valuing the Environment through Contingent Valuation." W. Michael Hanemann, *The Journal of Economic Perspectives*, Fall 1994, pp. 19-43.
- "Contingent Valuation: Is Some Number Better than No number?" Peter A. Diamond & Jerry A. Hausman, *The Journal of Economic Perspectives*, Fall 1994, pp. 45-64.
- Carson, R.T., 2000. *Contingent Valuation: A User's Guide*. *Environmental Science and Technology*, 34(8): 1413-1418
- Whitehead, J.C., 2000. *A Practitioner's Primer on Contingent Valuation*. Unpublished manuscript, Department of Economics, East Carolina University, USA.
<http://personal.ecu.edu/whiteheadj/cvprimer/cvprimer.pdf>
- "Applications of the contingent valuation method in developing countries: A survey" *FAO ECONOMIC AND SOCIAL DEVELOPMENT PAPER* 146. Food and Agriculture Organization of the United Nations, 2000. http://www.fao.org/documents/show_cdr.asp?url_file=/DOCREP/003/X8955E/X8955E00.HTM

Exhaustible Resources

- Nordhaus, W.D. "Reflections on the Economics of Global Climate Change" *Journal of Economic Perspectives*, 7:11-25, (1993).
- MacCracken, M. and Karl, T. "Is the Climate Changing? Indeed it is." *Almanac and Guide for the Weatherwise*, WRC-TV Washington DC, 1997. Internet copy:
<http://www.usgcrp.gov/usgcrp/mmbalmanac.html>
- O'Keefe, W.F., "Global Climate Change and Transportation Industries". Presented to the Society of Automotive Engineers/Industry, April 1, 1996, Washington DC. Internet copy:
<http://www.api.org/news/wfoksae.htm>

- McKibbin, Warwick J., and Peter J. Wilcoxon (2002): “The Role of Economics in Climate Change Policy”, *Journal of Economic Perspectives*, V.16, No.2, pp.107-129. (JSTOR)
- K. Arrow *et al.* "[Are We Consuming Too Much?](#)" *Journal of Economic Perspectives*, Vol. 18, No. 3 (Summer, 2004), pp. 147-172.
- The Stern Report & Follow-ups

Renewable Resources

- “The Tragedy of the Oceans”, *The Economist*, March 19, 1994.
- Baden, John A. “The Common Pathologies of Overfishing”, <http://www.freeeco.org/free/ST95/Fishery.ST1995.html> December, 1995.
- Anonymous, “Rights Based Fishing: Transition to a New Industry” <http://www.rff.org/resources/124/fishing.htm> , Resources, Issue #124.
- Nielson, L.A. “Biodiversity: Its Meaning and its Value”, *Forum for Applied Research and Public Policy*, 10:76-83 (Spring, 1995).
- Swaney, J.A. and Olson, P.I. “The Economics of Biodiversity: Lives and Lifestyles”, *Journal of Economic Issues*, 26:1-25 (March, 1992).
- Hagen, D.A., Vincent, J.W., and Welle, P.G. “Benefits of Preserving Old Growth Forests and the Spotted Owl”, *Contemporary Policy Issues*, 10:13-26, April, 1992