

E&M 273: Environmental and Natural Resource Economics – Fall 2006

Monday 6:30 – 8:30 p.m., 404 Robinson  
Wednesday 6:30 – 8:30 p.m., 202 Robinson  
Dr. Jahn K. Hakes

**Office Hours:** 114 Robinson; 2:10 – 3:30 p.m. Tuesday and Thursday, or by appointment.  
e-mail (preferred): [jhakes@albion.edu](mailto:jhakes@albion.edu); phone: 517-629-0650.

The office hours listed above are “guaranteed” to be devoted to meeting with students, either helping with specific classes or giving general advice. Outside of those hours, it is often okay to drop in and chat any time you see my office door open, with the exception that I like to keep the hour right before I teach reserved for reviewing my course notes for class. My complete teaching schedule is posted beside the door and on my web page. But if you want to be really sure I’ll be around, come to scheduled office hours or e-mail me ahead of time.

**Course Description:** This course applies economic tools to environmental problems such as pollution of soil, air and water; conservation and use of natural resources; valuation of non-marketed natural resources and environmental amenities; and incorporation of environmental valuations into policy decisions.

The prerequisite for this course is E&M 101, Introduction to Economics.

**Textbooks:** The first three are required; Tietenberg is optional.

Stavins, Robert N. *Economics of the Environment*, 5<sup>th</sup> ed., (Norton Press, 2005)

Lomborg, Bjorn. *The Skeptical Environmentalist* (Cambridge Univ. Press, 2001)

de Soto, Hernando. *The Mystery of Capital* (Basic Books, 2000)

Tietenberg, Tom. *Environmental and Natural Resource Economics*. 7<sup>th</sup> edition.

(Addison-Wesley, 2006) contains several of the graphs and case studies I will discuss in class. The book isn’t required, but some students will find it helpful as they review their lecture notes.

Other readings from selected academic journal articles will be made available through library reserve or on Moodle.

**Course Requirements and Grading:** Final grades in this course will be determined by performance on the best two of three essays, the mid-term examination, the final examination, and the term paper project. Failure to complete the term paper or submission of plagiarized work will result in a zero grade for the course. Aside from that, the weights upon the components are as follows:

Class Participation	10%
Homeworks, Quizzes, etc.	20%
Essays (weeks 5, 8, 12)	2 @ 15% ea.
Term paper prospectus (due Oct. 25)	10%
Term paper draft (due Nov. 15)	10%
Term paper revision (due Dec. 5, 1:30 p.m.)	20%

### Approximate Course Schedule:

Weeks	Section: Topic
1-3	I. Coase and the Commons: Historical perspective and early applications of economic thought to environmental problems.
4-5	II. Pollution Control: Special applications to hazardous waste
6-7	III. Cost and Benefit Measurement: Revealed and Stated Preferences, Applications and Misapplications of CBA; Green accounting
7-9	IV. Global Warming: Data on climate change; policy options
10-12	V. Nonrenewable Resources and Energy: Beyond Petroleum?
12-13	VI. Renewable Resources: Species and Habitat preservation, studied with biological models of overfishing, deforestation, and sprawl.
13-15	VIII. Poverty and the Environment

**Disclaimer:** The instructor reserves the right to make any necessary changes to the course schedule and requirements to improve the quality of the educational experience the course will provide to his students.

**Reading List:** (SkE – Lomborg’s *The Skeptical Environmentalist*;  
EE – Stavins’ *Economics of the Environment*)  
Dates given are (very) approximate.

#### I. Coase and the Commons

##### A. The Commons: Abuse of Resources

August 23

Garrett Hardin, “The Tragedy of the Commons.” EE: 9-22.

Lomborg, “Part II: Human Welfare”, SkE: 45-68.

##### B. Pollution and Environmental Externalities

August 28

Ronald Coase, “The Problem of Social Cost.” EE: 23-49.

August 28, 30

Lomborg, “Part IV: Pollution,” SkE 163-211.

September 4 (Labor Day movie), 6

SW Lagakos, BJ Wessen, M Zelen, “An Analysis of Contaminated Well Water and Health Effects in Woburn, Massachusetts,” *Journal of the American Statistical Association*, vol. 86, no. 395 (Sept. 1986): 583-596.

Steven Zaillian (1998), *A Civil Action* [feature film], 112 min. For additional background, see Jonathan Harr (1995), *A Civil Action*, Vintage Books. 502 pp.

#### II. Pollution Control

##### A. How much pollution do we want?

September 11

Kenneth J. Arrow et al., “Is There a Role for Benefit-Cost Analysis in Environmental, Health, and Safety Regulation?” EE: 247-254.

W. Kip Viscusi, “The Value of Life in Legal Contexts: Survey and Critique.” EE: 223-246.

B. Can we design a Free Lunch?

September 13

Karen Palmer, Wallace E. Oates, and Paul R. Portney, "Tightening Environmental Standards: The Benefit-Cost or the No-Cost Paradigm." EE: 115-128.

Paul Hawken, Amory Lovins, & L. Hunter Lovins. (1999). Excerpts from *Natural Capitalism*. pp. 1-21 and 111-143.

C. One man's trash...

September 18

Terry Anderson and Donald Leal, (2001) "Marketing Garbage," Chapter 10 from *Free Market Environmentalism*. Palgrave. pp. 123-142.

Essay assignment on optimal amount of recycling: background information in Tom Tietenberg, "Recyclable Resources," Chapter 9 of *Environmental and Natural Resources Economics*, 7th edition, pp. 181-204.

C. How can we clean up efficiently?

September 20

Tom H. Tietenberg, "Economic Instruments for Environmental Regulation." EE: 277-301.

Robert N Stavins, "What Can We Learn from the Grand Policy Experiment? Lessons from SO<sub>2</sub> Allowance Trading" EE: 334-354.

III. Cost-Benefit Measurement

September 25

Ted Gayer, "Market Reactions of Site Risks," in Viscusi, W. K. and Hamilton, J. T. Calculating Risks: The Spatial and Political Dimensions of Hazardous Waste Policy, (Cambridge, MA: MIT Press), 1999, pp 189-210. (PDF)

September 27

Paul R. Portney, "The Contingent Valuation Debate: Why Economists Should Care." EE: 129-145.

Costanza, Robert et al., "The Value of the World's Ecosystem Services and Natural Capital" *Nature*, vol. 387 (May 15, 1997): 253-260.

Bockstael, Nancy E. et al, "On Measuring Economic Values for Nature"

*Environmental Science and Technology*, vol. 34 (2000): 1384-1389.

October 2

Jonathan M. Harris, "National Income and Environmental Accounting," chapter 8 of *Environmental and Resource Economics: A Contemporary Approach*. (Houghton Mifflin, 2002)

IV. Global Warming

October 4, 11

William D. Nordhaus, "Reflections on the Economics of Climate Change." EE: 445-461.

Thomas C. Schelling, "The Cost of Combating Global Warming: Facing the Tradeoffs." EE: 462-468.

Warwick J. McKibbin and Peter J. Wilcoxon, "The Role of Economics in Climate Change Policy." EE: 479-502.

Essay assignment on global warming: background information in packet of articles posted on Moodle and Lomborg, SkE pp. 258-322

October 16, 18

*Global Warming: The Signs and the Science*

#### V. Nonrenewable Resources and Energy

October 23

Tom Tietenberg, "The Allocation of Depletable and Renewable Resources: An Overview," Chapter 7 of *Environmental and Natural Resources Economics*, 7th edition, pp. 128-149.

Robert M. Solow, "Sustainability: An Economist's Perspective." EE: 503-513.

October 25

Lomborg, SkE, ch. 12 "Non-energy resources," pp. 137-148.

Lomborg, SkE, ch. 13 "Water," pp. 149-157.

October 30, November 1, 6

Jonathan M. Harris, "Energy: The Great Transition," chapter 13 of *Environmental and Resource Economics: A Contemporary Approach*. (2002)

Lomborg, SkE, ch. 11 "Energy," pp. 118-135.

Essay assignment on energy/autos: background information in packet of articles posted on Moodle.

#### VI. Renewable Resources and Habitat

November 8

Tom Tietenberg, "Renewable Common-Pool Resources: Fisheries and Other Species," Chapter 13 of *Environmental and Natural Resources Economics*, 7th edition, pp. 286-313.

Terry Anderson and Donald Leal. (2001) "Calling on Communities," Chapter 11 of *Free Market Environmentalism*. Palgrave.

November 13

GM Brown Jr. and JF Shogren, "Economics of the Endangered Species Act." EE: 514-532.

Andrew Metrick and Martin L. Weitzman, "Conflicts and Choices in Biodiversity Preservation." EE: 533-546.

Moodle articles on Wolves in Yellowstone, private game parks, etc.

#### VII. Poverty and the Environment

November 15

Hernando de Soto (2000), *The Mystery of Capital*. Basic Books, 275 pp. Chapters 1, 2, 3.

November 20 (Happy Thanksgiving movie)

John Sayles (1987). *Matewan*

November 27

Hernando de Soto (2000), *The Mystery of Capital*. Basic Books, 275 pp. Chapters 5, 7.

November 29

Talking about term papers.

The following four paragraphs are copied (with permission) from an e-mail written by Scott Hendrix, Director of the Academic Skills Center:

THE ACADEMIC SKILLS CENTER, located in the Seeley Mudd Building of the Library, supports student success at Albion College through the Learning Support Center, the Quantitative Skills Center, and the Writing Center. The ASC also coordinates academic peer tutoring services and educational technologies for enhancing student learning. For information, visit the ASC website at <http://www.albion.edu/asc>.

THE LEARNING SUPPORT CENTER offers individualized assistance with college level study strategy and skill development. Students frequently utilize the center to improve grades, reading speed or comprehension. In addition, the Learning Support Center provides assistance and accommodations to students who have documented learning disabilities. For more information, contact Pam Schwartz, Learning Support Specialist, (x0825; [pschwartz@albion.edu](mailto:pschwartz@albion.edu)).

THE QUANTITATIVE SKILLS CENTER provides a wide range of support to students in many subject areas. Students are free to drop in for occasional help from trained student tutors or to make appointments for on-going tutorial sessions. QSC staff are available to assist you with the use of mathematics, statistics, spreadsheets, or graphing calculators in any course. The center also offers workshops on topics such as partial derivatives in chemistry and preparing for graduate school exams. For more information, contact the QSC Director, Karla McCavit, (x0824; [kmccavit@albion.edu](mailto:kmccavit@albion.edu)).

THE WRITING CENTER provides trained peer consultants prepared to work with writers at every stage of the writing process--from getting started brainstorming to writing drafts, and from organizing ideas to revising or final editing. Writing consultants support students by responding to writing in process, not by proofreading, editing, or writing students' papers. Both drop-in tutoring and scheduled appointments are available during the Writing Center's afternoon and evening hours. For more information, contact the Writing Center (x0828; [writing@albion.edu](mailto:writing@albion.edu)) or the Director, Scott Hendrix([shendrix@albion.edu](mailto:shendrix@albion.edu)).