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## **ECN 240: RESOURCE & ENVIRONMENTAL ECONOMICS: Spring 2006**

**OBJECTIVES OF THE COURSE:** This course examines how markets allocate natural resources, and the appropriate role of government when markets allocate them “badly.” For our purposes a “natural resource” may be a giant redwood, a barrel of oil, or the air above Los Angeles County. This is actually two courses — Natural Resource Economics and Environmental Economics— compressed into one. Natural Resource Economics considers whether markets are efficient in allocating natural resources: e.g. Are we too dependent on fossil fuels; are we destroying too much natural forest? Environmental Economics examines how the natural environment is affected by the production and consumption of goods: e.g. How should emissions of sulfur dioxide from power plants be controlled; what is the “optimal” amount of pollution from cars?

This is an *economics* class. Its main purpose is to show how economists view environmental problems and look at the kinds of solutions they propose. For better or worse, mainstream economists are increasingly influential in formulating environmental policy. There is a good reason why this class has ECN 111 as a prerequisite— we make heavy use of theoretical tools developed in that class. And we will learn some new theory along the way. The emphasis in this class, however, will be on the *application* of economic theory to issues of environmental policy. In all cases the primary focus will be the implications of economic analysis for the development of environmental *policy*.

**REQUIRED READING:** There are two books for this course. The main text is *Environmental and Natural Resource Economics* (7th edition) by Tom Tietenberg (I’ll call it “TT”). There is also a supplementary text, *Free Market Environmentalism* (revised edition) by Terry L. Anderson and Donald R. Leal (I’ll call it “A&L”). Other readings will be handed out in class or put on reserve. Like most textbooks, these two are expensive. The reading assignments are not so onerous that you couldn’t share the texts with a classmate. Also, I will put copies of of the main text on reserve. I doubt that there would be much disadvantage to using the earlier edition (though the chapter numbers might differ slightly).

**GRADING:** Student performance will be evaluated on the basis of 2 midterm exams (25% each), a comprehensive final exam (30%), and a writing assignment (20%). The instructor reserves the right to add one or two other small assignments. Also, class participation will influence your grade in ways that are informal and mysterious, but nevertheless significant.

**WRITING ASSIGNMENT:** You will write an editorial on some environmental issue of your own choosing and submit the editorial for publication to a newspaper or magazine. The final product will be short — 500 to 1000 words, maybe less — but will require numerous drafts to reach submission quality. The focus of the assignment will be to write something sufficiently *interesting* that the general public might actually want to read it. You will need to meet with me several times during this production of this piece.

**COURSE OUTLINE**  
(All dates are *approximate*.)

- Jan. 24, Jan 26      **SLIGHT DISAGREEMENTS.** Environmentalists warn us that our unsustainable lifestyle is trashing the planet. Could any thinking person really doubt this?
- Reading**      The Economists' View
- Chapter 1, "Visions of the Future," in TT
  - Chapter 1, "Visions of the Environment," in A&L
- The Anti-Economists' View
- Chapter 2, "'Wise-Use' and Environmental Anti-Science," in Paul and Anne Ehrlich, *Betrayal of Science and Reason*. (On Reserve). A famous ecologist inveighs against the "brownlash" of "anti-environmentalism."
  - Recommended (not required): Chapter 1, "Spaceship Earth," in Robert L. Nadeau, *The Wealth of Nature: How Mainstream Economics Has Failed the Environment* (On Reserve). Not only does Environmental Economics not help the environment, it is a main cause of the problem, says Nadeau.
- Jan 31, Feb 2      **A STROLL DOWN MEMORY LANE.** A review of basic concepts from Introductory Microeconomics, and the theoretical framework of how economists view environmental problems.
- Reading**
- Ch. 2 in TT
  - Ch 2 in A&L
  - Robert Solow, "Sustainability, an Economist's Perspective," (Handout) An interesting and witty presentation of the economists' view from a Nobel Prize winner.
  - Recommended for a specifically anti-A&L view: Frank Ackerman and Lisa Heinzerling, Ch 2. "Myths and Markets" in *Priceless: On Knowing the Price of Everything and the Value of Nothing* (Handout) Ouch!
- Feb 7, Feb 9      **PROPERTY RIGHTS, EXTERNALITIES AND ECONOMIC EFFICIENCY.** Some say the problem is that we treat the environment as if we own it; economists say the problem is that we *don't* treat the environment as if we own it. This section is a bit technical, but the theory is important.
- Reading**
- Chs. 4 & 5 in TT
  - Chs. 2 & 3 in A&L
  - Ronald Coase, "The Problem of Social Cost," (handout– not easy reading, but a classic article)
- Feb 14      **BY THIS DATE YOU MUST HAVE MET WITH ME ABOUT**

## YOUR OP-ED IDEA

Feb 14, Feb 16

**POPULATION GROWTH AND ECONOMIC GROWTH.** Is the explosion of the human population the main source of environmental degradation, as some people maintain?

### Reading

- Ch. 6 in TT.
- Julian Simon, "Population Growth is Not Bad for Humanity" and Norman Myers "The Population Factor," both in *Scarcity or Abundance? A Debate on the Environment* by Simon & Myers. (On Reserve)

Feb 21 (tentative)

## FIRST EXAM

Feb 23, Feb 28

**ARE WE RUNNING OUT OF RESOURCES?** Many people argue that our dependence on nonrenewable resources will soon result in worldwide catastrophe. Others consider this view nonsense.

### Reading

- Ch. 7 and Ch. 14 in TT
- "Betting the Planet," by John Tierney, *New York Times Magazine*, Sunday, Dec. 2, 1990. (Handout)
- "Recycling is Garbage," by John Tierney, *New York Times Magazine*, Sunday, 6/30/96. On Blackboard under Recycling
- John G. Meyers, et al, "Trends in the Availability of Non-Fuel Minerals," and H.E. Goeller, "Trends in Nonrenewable Resources," both in Julian Simon (ed.) *The State of Humanity* (On Reserve)

March 3rd

**FIRST DRAFT OF YOUR EDITORIAL IS DUE ON THIS DATE.**

Mar 7, Mar 9

**THE ENERGY PROBLEM (if there is one), with special emphasis on oil:**

### Reading

- Ch. 8 in TT
- Ch. 7 in A&L
- William J. Hausman, "Long Term Trends in Energy Prices," in *The State of Humanity* (On Reserve)
- Morris A. Adelman, "Trends in the Price and Supply of Oil," in *The State of Humanity* (On Reserve)
- Ch. 5, "America's First Oil Crisis," *The Doomsday Myth*. (Handout)
- Kenneth Deffeyes, *Hubbert's Peak*, A Princeton Geologist warns of the coming oil crisis. (Handout).

- Mar 14                    **RENEWABLE RESOURCES, PART 1: WATER.** Something like a billion people lack access to potable water. This is arguably the most serious environmental problem currently facing humanity.
- Reading**
- Ch. 10 in TT
  - Ch. 8 in A&L
  - Terry Anderson, “Water, Water, Everywhere But Not a Drop to Sell,” in *The State of Humanity* (On Reserve)
  - “Priceless,” in *The Economist*, 7/17/03, on Blackboard under Water
- March 16                    **THE USE OF RENEWABLE RESOURCES, PART 2: FOOD.** There is a lot of hunger. Is it because there isn't enough food?
- Reading**
- Ch. 11 in TT
  - Thomas T. Poleman, “Recent Trends in Food Availability and Nutritional Wellbeing,” *The State of Humanity* (On Reserve)
  - Dennis Avery, “The World’s Rising Food Productivity,” *The State of Humanity* (On Reserve)
- April 4, April 6            **RENEWABLE RESOURCES, PART 3: FORESTS.**
- Reading**
- Ch. 12 in TT
  - Ch. 5 & 6 in A&L
  - Roger A. Sedjo and Marion Clawson, “Global Forests Revisited,” in *The State of Humanity* (On Reserve)
  - Julian Simon and Aaron Wildavsky, “Species Loss Revisited,” in *The State of Humanity* (On Reserve)
  - “Not Out of the Woods,” *The Economist*, 3/13/03, on Blackboard under Tropical Forests
- April 11 (tentative)      **SECOND HOURLY EXAM**
- April 14                    **YOUR OP-ED MUST BE SUBMITTED FOR PUBLICATION.**
- April 13, April 18        **RENEWABLE RESOURCES, PART 4: FISH** A classic example of market failure from inefficient property rights structures.
- Reading**
- Ch. 13 in TT
  - Ch. 9 in A&L
  - “Ocean’s Eleventh Hour?” *The Economist*, 5/15/03, on Blackboard under Overfishing

- “The Promise of a Blue Revolution,” *The Economist* 5/15/03, on Blackboard under Fish Farming

April 20, April 27

**POLLUTION.** This is probably the area of environmental policy in which economists have been the most influential. Ideas like tradeable pollution permits, considered wacky 30 years ago, are now policy.

**Reading**

- Ch. 15 & 16 in TT
- Ch. 10 in A&L
- Larry Ruff, “The Economic Common Sense of Pollution,” (handout)
- “Economic Man, Cleaner Planet,” *The Economist*, 9/27/01, On Blackboard under Market Incentives

May 2, May 4

**GLOBAL WARMING.** In the summer of 2000 scientists discovered that, for possibly the first time in about 55 million years, the North Pole was *not* ice covered. What can we do about this? What *should* we do about this?

**Reading**

- Ch. 17 in TT
- Ch. 12 in A&L
- William D. Nordhaus, “Reflections on the Economics of Global Climate Change,” *Journal of Economic Perspectives*, Fall 1993 (handout)

May 9, May 11\*

**TOXIC SUBSTANCES.** An area in which there is an enormous amount of government regulation.

**Reading**

- Ch. 20 in TT
- Bruce N. Ames, “Pesticides, Cancers and Misconceptions,” in *State of Humanity* (On Reserve)
- Elizabeth M. Whelan, “The Carcinogen or Toxin of the Week Phenomenon: the Facts Behind the Scares,” in *State of Humanity* (On Reserve)

\* or as time allows, we may run out of time before we get here