

Environmental Economics  
Economics 527  
Derby Food Center 134  
10:30 MWF  
E. W. Nafziger (nafwayne@ksu.edu)

Office hours: 11:30-12:15 MWF, or by appointment--Waters 312 (I will notify you in advance about any day when there will be no office hours).

Econ 527. Environmental Economics. (3) II. Economics of environmental market failure and the efficient use of exhaustible and renewable resources. Topics include the application of markets and government policies to greenhouse warming, air and water pollution, and recycling. The course emphasizes a global perspective on environmental and natural resource economics. Pr.: Econ 120. The course is a university general education course and counts for the natural resources and environmental sciences secondary major.

#### Objectives:

The primary objectives of the course are to analyze international environmental problems, with special focus on the relationship between the environment, natural resources, and economic development in developing countries. The major concentrations are on ecological versus economic approaches to the environment, sustainable development, population and development, poverty and environmental stress, grassroots environmental action by poor people, pollution and development, the economics of biodiversity and global warming, correcting measures of GNP for natural asset deterioration, intergenerational allocation of resources, green markets, and the impact of market imperfections and policy failures on environmental degradation.

#### Required text and reading assignments:

Eisenhower 11 (**Eisen**) packet for Nafziger, Environmental Economics, Spring 2005, I & II.

#### Outside Speakers:

We may have lectures/discussions by chemistry Professor Kenneth Klabunde on "Nanotechnology and its Environmental Effects" and "The Greenhouse Effect and the Ozone Problem"; Professor David Norman, an economist, on "Biotechnology in Agriculture in Developing Countries," and architecture professor Gary Coates on "The United States and Environmental Sustainability."

#### Grades:

I plan three one-hour examinations, each worth 100 points (total 300 points); one to three shorter multiple-choice exams; some internet exercises (each worth 10 points); and an occasional minute paper (5 points each). Exams encompass readings, lecture/discussion, talks, videos, and e-mails. I have indicated tentatively the coverage of each exam (the readings and class material just before the listing of the examination). Each one-hour exam is roughly half multiple choice and half essay/problem. See <http://www.ksu.edu/economics/nafwayne/>, clicking class exams (KSU computing ID and password required).

I plan a few 10-point out-of-class internet exercises where, for example, I will ask you to write a response to an aspect of world population data of interest to you at [www.prb.org](http://www.prb.org), click 2004 Population Data Sheet or [www.census.gov/ipc/www/worldhtm/](http://www.census.gov/ipc/www/worldhtm/), click World Pop Profile, World Pop 1950 to 2050, World Pop Clock, World Vital Events per time Unit 2004, Historical Estimates of

World Population; your reaction to a report or working group by the Intergovernmental Panel on Climate Change (IPCC) at <http://www.ipcc.ch/>; material on biodiversity such as <http://www.ksu.edu/konza/keep/> on KSU's Konza Prairie or material on Edmond Wilson's view of biodiversity at <http://www.islandpress.org/wilsoncd/mainm.html>; World Bank material on sustainable development at <http://www-esd.worldbank.org/>; or Worldwatch material <http://www.worldwatch.org/worldsummit/>.

Minute papers ask the student, in 2-3 minutes, to respond to questions such as: "What was the most important thing you learned during this class?" and "What important question remains unanswered for you?"

Alternative to the Second or Third One-hour Exams:

For either or both of the second and third (during finals) exams, the student may write a paper or give a talk instead of taking the exam (the paper must be a topic related to the readings and material to be covered on the exam). The student must notify the instructor in writing (by e-mail or, e.g., on a 3" by 5" card) what topic he or she is presenting by the second class after the previous exam; notify the instructor in writing of any changes in the topic; and *attend class regularly*. If the student gives a talk (prepare for an average length of about 20 minutes), he or she must arrange with the instructor for the presentation to be near the time when the subject is discussed in class. (In the past, one student both took the exam and gave the talk, enabling that student to get the better of the two grades!). The average length of the paper is about 7-12 pages. You are expected to use standard bibliographical and citation procedures (if in doubt, use the procedures of a recent *American Economic Review*. For material on the web, the bibliographical citation must be complete, for example, Partha Dasgupta, "The Economics of the Environment," *Proceedings of the British Academy*, Volume 90, pp. 165-221, Copyright © The British Academy, 1996, available at <http://britac3.britac.ac.uk/pubs/keynes95/06sec5.html>. Feel free to hand in an earlier draft so that I can give you comments that will allow you to improve your paper (but give me a few days to respond), or ask questions about your progress at earlier stages of work on your paper. Students giving a talk should be prepared to discuss sources used for the talk.

One paper of interest, in lieu of the second one-hour exam, might be to compare the views of Wes Jackson, Wendell Berry, or Barry Commoner to that of Theodore Panayotou, Robert Solow, Alan Randall, or Ronald Coase on the environment.

I have compiled an annotated bibliography of 263 environmental economic internet sites, classified by topic, at <http://www.ksu.edu/economics/nafwayne/envweb.htm>. You may consult this, but you need to examine the sites critically, being careful not to over-rely on non-scholarly sources for papers or talks.

No alternative is possible for the first exam. All students are required to take these exams.

Plagiarism: University policy is: "Plagiarism and cheating are serious offenses and may be punished by failure on the exam, paper, or project; failure in the course; and/or expulsion from the university." For more information refer to "Academic Dishonesty," <http://www.ksu.edu/uau/fhbook/fhxf.html>.

Honor system: The university has an honor system based on personal integrity, which is presumed to be sufficient assurance that in academic matters one's work is performed honestly and without unauthorized assistance. Undergraduate students, by registration,

acknowledge the jurisdiction of the Undergraduate Honor System. The policies and procedures of the Undergraduate Honor System apply to all full and part-time students enrolled in undergraduate courses on-campus, off-campus, and via distance learning. A prominent part of the Honor System is the inclusion of the Honor Pledge, which applies to all assignments, examinations, or other course work undertaken by undergraduate students. The Honor Pledge is implied, whether or not it is stated: "On my honor, as a student, I have neither given nor received unauthorized aid on this academic work." This statement means that the student understands and has complied with the requirements of the assignment as set forth by the instructor. A grade of XF can result from a breach of academic honesty. An XF would be failure of the course with the X on the transcript indicating failure as a result of a breach of academic honesty. For more information, refer to <http://www.ksu.edu/honor>.

Academic Accommodations for Students with Disabilities: If you have any condition, such as a physical or learning disability, which will make it difficult for you to carry out the work as I have outlined it or which will require academic accommodations, please notify me in the first two weeks of the course.

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#### Tentative Outline of Course:

##### 1. Ecology and Economics

Video, "Investing in Natural Capital: Ecological Economics" Elkins & Daly.

##### 2. Sustainable Development

Postel, "Carrying Capacity: Earth's Bottom Line," *Challenge* 1994, I, pp. 4-12. (Fri., Jan. 14).

Solow, "The Economics of Resources or the Resources of Economics," Dorfman, 1993, I, pp. 162-178 (Jan. 14).

Solow, "Sustainability: An Economist's Perspective," Stavins, 2000, I, pp. 131-138.

Rees, "Life in the Lap of Luxury as Ecosystems Collapse," *Chronicle*, 1999, B4-B5.

Summers, "Summers on Sustainable Growth," *Economist*, 1992, I, p. 65.

Video, "Conversation for a Sustainable Society," Lovins, Meadows, & Orr.

Video, World Bank, "Hear Our Voices – The Poor on Poverty."

Lecture, Professor Gary Coates on "Resettling America: Energy, Ecology, and Community."

##### 3. The Environment and Development

Serageldin, "Making Development Sustainable," *Finance & Development*, 1993, I, pp. 6-10.

Video, "Sustainability," Elkins, Meadows & Figueres.

##### 4. Population and Food

L. Brown, "The Future of Growth," *Worldwatch*, 1998, I, pp. 10-27.

Pimentel & Pimentel, "Adverse Environmental Consequences of the Green Revolution," Dorfman, 1993, I, pp. 50-53.

Simon, "The Case for More People," *American Demographics*, 1979, I, pp. 26-30.

Nafziger, "Population and Development," 1997, I, pp. 181-212.

Video, "Extending The Green Revolution in Indonesia."

Video, "Population and Sustainable Development," Jansson & Viederman.

#### 5. Power, Inequality, and Environmental Degradation

Boyce & Segura Bonilla, "Political Economy of the Environment," 2002, I, pp. 21-32.

Boyce, "Inequality as a Cause of Environmental Degradation," 2002, I, 33-46.

Video, "Poverty and Illiteracy: Poor Campesinas in Bolivia."

### ONE-HOUR EXAMINATION

#### 6. The Tragedy of the Commons

Hardin, "The Tragedy of the Commons," Dorfman, 1993, I, pp. 1-3, 5-19.

Video, "Poverty and Environmental Stress among Indigenous Peoples in Costa Rica."

Video, "Environmental Conflict in Northern India: The Tragedy of the Commons."

#### 7. Green Markets

##### A. Market Imperfections and Policy Failures

Panayotou, "Environmental Degradation: Magnitude of the Problem," 1993, I, vii, 31.

Video, "External Economies: Costa Rica Counts the Future," Martinez-Alier.

Panayotou, "Market Failures and Environmental Degradation," 1993, I, 32-55.

Panayotou, "Policy Failures and Environmental Degradation," 1993, I, 56-103.

Panayotou, "Achieving Sustainable Development through Policy Reform," I, 105-32.

Panayotou, "The Role of Development Assistance," 1993, I, pp. 132-139.

Panayotou, "Sustainable Development and Economic Growth," 1993, I, pp. 141-147.

Randall, "The Problem of Market Failure," 1993, I, pp. 144-161.

Report on Wes Jackson, "Becoming Native to this Place."

### ONE-HOUR EXAMINATION

##### B. Green Taxes

Feldstein, "The Case for a World Carbon Tax," 1992, *Wall Street Journal*, I, A10.

Economist, "Greenery and Poverty," 1993, I, p. 80.

The Margin, "Economists Propose Taxes to Avert Global Warning," 1993, I, 32-33.

Brown, Flavin & Postel, "Saving the Planet: Green Taxes," 1991, I, pp. 141-149.

#### 8. The Environment and Property Rights Issues

Schmid, "The Environment and Property Rights Issues" *Handbook*, 1995, I, 45-60.

Larkin, "India Sets Pace on Cleaner Air," 2004, *Wall Street Journal*, I, A12.

Video, "Trade, Automobiles, and Property Rights," Rees, Harris, Costanza, Maler & Minos.

#### 9. Pollution

Ruff, "The Economic Common Sense of Pollution," Dorfman, 1993, II, pp. 20-36.

#### 10. Groundwater

Postel, "When the World's Wells Run Dry," *Worldwatch*, 1999, II, pp. 30-38.

#### 11. Benefit Cost Analysis

Dorfman, "An Introduction to Benefit-Cost Analysis," Dorfman, 1993, II, 297-322.

Landefeld & Seskin, "The Economic Value of Life: Linking Theory to Practice," Dorfman, 1993, I, pp. 377-87.

## 12. The Economics of Global Warming

- Lecture - Prof. Kenneth Klabunde, "The Greenhouse Effect & the Ozone Problem."  
 Nordhaus, "Reflections on the Economics of Climate Change," *JEP*, 1993, II, 11-25.  
 Flavin, "Last Tango in Buenos Aires," *Worldwatch*, 1998, II, pp. 11-18.  
 Schelling, "The Cost of Combating Global Warming: Facing the Tradeoffs," Stavins, 2000, II, pp. 510-515.  
 Carlton, "Urban Deaths and Ozone Levels," 2004, *Wall Street Journal*, II, p. D1.

## 13. Alternative Technologies: Carbon Sequestration and Wind Power

- Regalado and Ball, "As Planet Heats Up, Scientists Plot New Technologies," p. A1.  
 Dillon, "Kansas' Location Good for Zero-emissions Plant," *WSJ*, 2004, II, p. A1.  
 R. Smith, "Not Just Tilting Anymore," *Wall Street Journal*, 2004, II, p. B1.  
 Carlton, "Plans for Huge Wind Turbines Jolt Kansans," *Wall Street Journal*, II, p. B1.  
 Video, "Global Climate Change," in "Costa Rica Counts the Future." Alvaro Umana.

## 14. The Economics of Biodiversity

- Abramovitz, "Putting a Value on Nature's 'Free' Services," *Worldwatch*, II, 10-19.  
 Tuxill, "Appreciating the Benefits of Plant Diversity," 1999, II, pp. 96-114.  
 Nafziger, "Global Public Goods: Climate and Biodiversity," 1997, II, pp. 351-365.  
 Norman, "The Reality of Biotechnology: An Imperative for Low-income Countries."  
 Lecture by Professor David Norman on biotechnology.  
 Video, "Preserving Costa Rica's Mega-diversity," Rodrigo Gamez.

## 15. Natural Asset Deterioration and the Measurement of National Income

- Brown, Flavin, & Postel, "Better Indicators of Human Welfare," 1991, II, 121-138.  
 Video, "Natural Capital: An Introduction to Ecological Economics."  
 Video, "GNP and the Index for Sustainable Economic Welfare," Cobb, Daly, & Evans.

## 16. Will Natural Resources Shortages Limit Future Economic Growth?

- Video, "The Limits to Growth: An Introduction to Ecological Economics," with Daly.

## 17. Daly's Impossibility Theorem: Economics as the Dismal Science Again

- Daly, "The Steady-State Economy: Political Economy of Biophysical Equilibrium," 1973, II, 149-74.  
 . Breslow, "Gluttons for Energy: The U.S.'s Insatiable Appetite," 1993, II, pp. 6-9.

## MULTIPLE CHOICE EXAMINATION

## 18. Environmental Resources, War, and State Violence

- Renner, "Breaking the Link between Resources and Repression," II, pp. 149-170.  
 Gasana, "Remember Rwanda?" *Worldwatch*, 2002, II, pp. 24-33.  
 Nafziger, "Introduction: Preventing Humanitarian Emergencies," 2002, II, pp. iii-3.  
 Kibreab, "Protecting Environmental Resources & Preventing Land Degradation," 2002, Palgrave, II, pp. 115-130.

ONE-HOUR (100-POINT) EXAMINATION (DURING THE FINAL EXAMINATION PERIOD), WEDNESDAY, MAY 11, 11:50-1:40, IN DERBY FOOD CENTER 134