

Economics 527
◆ Environmental Economics
Spring 2004
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 (advance notification when 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 2004; 532-6898

Outside Speakers: We plan to have lectures by chemistry Professor Kenneth Klabunde on "Nanotechnology: and its Environmental Effect" and "The Greenhouse Effect and the Ozone Problem"; Professor Dustin Becker, a biologist, on "Saving a Tropical Cloud Forest: The Role of Total Economic Value (TEV)"; and Professor David Norman, an economist, on "Biotechnology in Agriculture in Developing Countries."

Grades: I plan three one-hour examinations, each worth 100 points (total 300 points); three 36-point 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 { HYPERLINK <http://www.ksu.edu/economics/nafwayne/class.htm> } for all class exams or <http://www.ksu.edu/economics/nafwayne/syl03cl.doc> for exams in 2003.

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, click 2003 Population Data Sheet or www.census.gov/ipc/www/worldhtml/, click World Pop Profile, World Pop 1950 to 2050, World Pop Clock, World Vital Events per time Unit 2003, Historical Estimates of World Population; your reaction to a report or working group by the Intergovernmental Panel on Climate Change (IPCC) at { HYPERLINK "<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 { HYPERLINK "<http://www.islandpress.org/wilsoncd/mainm.html>" }; World Bank material on sustainable development at { HYPERLINK "<http://www-esd.worldbank.org/>" }; or Worldwatch material { HYPERLINK "<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 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 s/he 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), s/he 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 { HYPERLINK <http://www.ksu.edu/economics/nafwayne/envweb.htm> }. You may consult this, but you need to examine the sites critically, being careful to use sources with scholarly merit for papers or talks.

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

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 { HYPERLINK <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

Mon., Jan. 26 No class if Landon lecture by Senate Minority Leader Tom Daschle, McCain Auditorium.

2. Sustainable Development

Postel, "Carrying Capacity: Earth's Bottom Line," in Eisen, pp. 5-9 (Read for Mon., Jan. 26).

. Solow, "The Economics of Resources or the Resources of Economics," in Eisen, pp. 14-22 (Read for Mon., Jan. 26).

- . Solow, "Sustainability: An Economist's Perspective," in Eisen, pp. 9-13 (Read for Wed., Jan. 28).
 - . Rees, "Life in the Lap of Luxury as Ecosystems Collapse," in Eisen, p. 23 (Read for Wed., Jan. 28).
 - . Summers, "Summers on Sustainable Growth," in Eisen, p. 24 (Read for Wed., Jan. 28).
 - . Possible videos, "Conventional Economics vs. Ecological Economics," & "Conversation for a Sustainable Society," with Amory and Hunter Lovins, Dennis Meadows, and David Orr.
 - 3. The Environment and Development
 - Serageldin, "Making Development Sustainable," in Eisen, pp. 25-29.
 - . Possible videos, "Sustainability," in "Costa Rica Counts the Future," with Elkins, Donella Meadows & Figueres and "Poverty and Illiteracy: Poor Campesinas in Bolivia."
 - 4. Population and Food
 - Lester Brown, "The Future of Growth," in Eisen, pp. 30-47.
 - Renner et al., "Vital Signs 2003," in Eisen, pp. 48-49.
 - D. & M.Pimentel, "Adverse Environmental Consequences of the Green Revolution," Eisen, 50-53.
 - Simon, "The Case for More People," Eisen, pp. 54-57.
 - Nafziger, "Population and Development," in Eisen, pp. 58-99.
 - . Possible videos, "Extending The Green Revolution in Indonesia" & "Population and Sustainable Development," in "Investing in Natural Capital," with AnnMari Jansson and Stephen Viederman.
 - 5. Power, Inequality, and Environmental Degradation
 - Boyce & Bonilla, "Investing in Natural and Human Capital," in Eisen, pp. 100-106.
 - Boyce, "Inequality as a Cause of Environmental Degradation," in Eisen, pp. 106-112.
 - . Possible videos, World Bank, "Voices of the Poor."
 - 6. The Tragedy of the Commons
 - Hardin, "The Tragedy of the Commons," in Eisen, pp. 113-127.
 - . Possible videos, "Poverty and Environmental Stress among Rural and Indigenous Peoples in Costa Rica," with Carlos Hernandez, and "Environmental Conflict in Northern India: The Tragedy of the Commons."
- ONE-HOUR EXAMINATION
- 7. Green Markets: Market Imperfections, Policy Failures, and Sustainable Development
 - Panayotou, "Environmental Degradation: Magnitude of the Problem, Market Failures and Environmental Degradation, Policy Failures and Environmental Degradation, Achieving Sustainable Development through Policy Reform, The Role of Development Assistance, Sustainable Development and Economic Growth," in Eisen, pp. 128-205.
 - Randall, "The Problem of Market Failure," in Eisen, pp. 206-223.
 - . Possible video, "External Economies," in "Costa Rica Counts the Future," with Juan Martinez-Alier.
 - . Excerpts about Wes Jackson, Newsweek, In Context, Audubon, KC Star, High Country News, Eisen, pp. 224-235.
 - . W. Jackson, "Becoming Native to this Place," Eisen, pp. 236-299.
- ONE-HOUR EXAMINATION
- B. Green Taxes
 - Feldstein, "The Case for a World Carbon Tax," in Eisen, p. 300.
 - Economist, "Greenery and Poverty," in Eisen, p. 301.
 - The Margin, "Economists Propose Taxes to Avert Global Warning," in Eisen, pp. 302-303.
 - L. Brown, Flavin, and Postel, "Saving the Planet: Green Taxes," in Eisen, pp. 304-308.
 - 8. The Environment and Property Rights Issues (Wed., Mar. 17)
 - Schmid, "The Environment and Property Rights Issues," in Eisen, pp. 309-324.
 - . Possible video, "Trade, Automobiles, and Property Rights," with Rees, J. Harris, Costanza, Maler, & Minos.

MULTIPLE-CHOICE EXAMINATION

9. Pollution

Ruff, "The Economic Common Sense of Pollution," in Eisen, pp. 334-342.

10. Groundwater

Postel, "When the World's Wells Run Dry," in Eisen, pp. 325-333.

11. Benefit Cost Analysis

Dorfman, "An Introduction to Benefit-Cost Analysis," in Eisen, pp. 343-356.

Landefeld and Seskin, "The Economic Value of Life: Linking Theory to Practice," Eisen, 357-367.

12. The Economics of Global Warming

Lecture by Prof. Kenneth Klabunde, "Nanotechnology & its Environmental Effects" and "The Greenhouse Effect and the Ozone Problem.

Dunn and Flavin, "Moving the Climate Change Agenda Forward," in Eisen, pp. 368-381.

Nordhaus, "Reflections on the Economics of Climate Change," in Eisen, pp. 382-396.

Flavin, "Last Tango in Buenos Aires," in Eisen, pp. 397-405.

Schelling, "The Cost of Combating Global Warming: Facing the Tradeoffs," in Eisen, pp. 406-409.

Possible video, "Costa Rica Counts the Future: Global Climate Change" with Alvaro Umana.

MULTIPLE-CHOICE EXAMINATION

13. Tropical Forest and Externalities

D.Becker, "The Role of Institutions and Ecosystem Valuation in Ecuador Forests," Eisen, 410-415.

Lecture--Prof. Becker, "Saving a Tropical Cloud Forest: The Role of Total Economic Value."

14. The Economics of Biodiversity

Abramovitz, "Putting a Value on Nature's 'Free' Services," in Eisen, pp. 416-425.

Tuxill, "Appreciating the Benefits of Plant Diversity," in Eisen, pp. 426-444.

Nafziger, "Global Public Goods: Climate and Biodiversity," in Eisen, pp. 445-459.

Norman, "The Reality of Biotechnology: An Imperative for Low-income Countries," Eisen, 483-89

Lecture by Professor David Norman on biotechnology.

Possible video, "Preserving Costa Rica's Mega-diversity," with Rodrigo Gamez.

15. Natural Asset Deterioration and the Measurement of National Income

L. Brown, Flavin, and Postel, "Better Indicators of Human Welfare," in Eisen, pp. 460-465.

Possible videos, "Natural Capital," with Gaylord Nelson and Herman Daly; "GNP and the Index for Sustainable Economic Welfare," with John Cobb, Jr., Herman Daly, and Martin Evans.

16. Will Natural Resources Shortages Limit Future Economic Growth?

Possible video, "The Limits to Growth," with Herman Daly.

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

H. Daly, "The Steady-State Economy: Toward a Political Economy of Biophysical Equilibrium and Moral Growth," in Eisen, pp. 490-502.

Breslow, "Gluttons for Energy: The U.S.'s Insatiable Appetite Threatens the Environment," 503-6.

Possible video, "Greenbucks: The Challenge of Sustainable Development."

MULTIPLE CHOICE EXAMINATION, WEDNESDAY, MAY 5

18. Environmental Resources, War, and State Violence

Renner, "Breaking the Link between Resources and Repression," in Eisen, pp. 466-482.

Gasana, "Remember Rwanda?" in Eisen, pp. 507-516.

Nafziger, "Introduction: Preventing Humanitarian Emergencies," in Eisen, 517-521.

Kibreab, "Protecting Environmental Resources and Preventing Land Degradation," Eisen, 522-530.

ONE-HOUR (100-POINT) EXAMINATION (DURING THE FINAL EXAMINATION PERIOD),
FRIDAY, MAY 21, 11:50-1:40, IN DERBY FOOD CENTER 134