

Economics 527
 Environmental Economics
 Spring 2003
 Economics 527
 Waters 328
 2:30 MWF

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Office hours: 9:30-10:00, 1:50-2:20, 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: Clafin Books and Copies (CBC), Environmental Economics, Spring 2003 Readings are required and are assumed in examination questions, but the lecture-discussion outline will not always parallel the reading. The book is at Clafin Books and Copies (CBC) (1814 Clafin Road, diagonal to Ackert Hall; phone – 776-3771).

Outside Speakers: We will have lectures/discussions by chemistry Professor Kenneth Klabunde on "The Greenhouse Effect and the Ozone Problem," Friday, April 4; and Professor Dustin Becker, a biologist, on "Saving a Tropical Cloud Forest: The Role of Total Economic Value (TEV)" Monday, April 14; and Professor David Norman, an economist, on "Biotechnology in Agriculture in Developing Countries," Monday, April 21.

Grades:

I plan four one-hour examinations, each worth 100 points (total 400 points); three 36-point multiple-choice exams (108 points total); an occasional internet exercise (each worth 10 points); and an occasional minute paper (5 points each). I have indicated tentatively the coverage of each exam (the readings and corresponding lectures 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/env00tes.doc> for the exams in 2000, the last time I taught the class).

I plan a few 10-point out-of-class internet exercises where I will ask you to write a response to an aspect of world population data of interest to you at www.prb.org, click 2002 Population Data Sheet or www.census.gov/ipc/www/worldhtm/, click World Pop Profile, World Pop 1950 to 2050, World Pop Clock, World Vital Events per time Unit 2002, 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/>, or some other material on the World Summit on Sustainable Development, August 26 to September 4, 2002.

Minute papers ask the student, in 23 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, Third, or Fourth Exams: For any or all of the second, third, and fourth 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), provided the student notifies the instructor in writing (e.g., on a 3" by 5" card) what topic he or she is presenting by the second class after the previous exam; notifies the instructor in writing of any changes in the topic; attends class regularly; and (if a talk) arranges 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.

A student may instead present a 20-minute or so talk, as long as the student notifies the instructor as indicated in the previous paragraph. In addition, the student must arrange with the instructor in advance to present the talk near the time the subject is discussed in class.

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 the first exam, or for the last exam, Monday, May 12, in Waters 328, 4:10-6 p.m. 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, "Conventional Economics vs. Ecological Economics," in Investing in Natural Capital.
 2. Sustainable Development
 - Postel, "Carrying Capacity: Earth's Bottom Line," *CBC*, pp. 5-13.
 - Solow, "Sustainability: An Economist's Perspective," 14-21.
 - Solow, "The Economics of Resources or the Resources of Economics," 15-31.
 - Rees, "Life in the Lap of Luxury as Ecosystems Collapse," 32.
 - Summers, "Summers on Sustainable Growth," 33.
 - Video, "Conversation for a Sustainable Society," A. & H. Lovins, De. Meadows, & Orr.
 3. The Environment and Development
 - Serageldin, "Making Development Sustainable," 34-38.
 - Video, "Sustainability," in Costa Rica Counts the Future: Elkins, Do. Meadows, & Figueres.
 4. Population and Food
 - L. Brown, "The Future of Growth," 39-57.
 - D. & M. Pimentel, "Adverse Environmental Consequences of the Green Revolution," 58-61.
 - J. Simon, "The Case for More People," 62-66.
 - Nafziger, "Population and Development," 67-88.
 - Video, "Extending The Green Revolution in Indonesia" (The Power to Change #1).
 5. Power, Inequality, and Environmental Degradation
 - Boyce & Segura Bonilla, "Investing in Natural and Human Capital," 89-100.
 - Boyce, "Inequality as a Cause of Environmental Degradation," 101-114.
 - Video, "Voices of the Poor."
 6. The Tragedy of the Commons
 - Hardin, "The Tragedy of the Commons," 115-133.
 - Video, "Poverty & Environmental Stress among Rural & Indigenous Peoples in Costa Rica."
- ONE-HOUR EXAMINATION
7. Green Markets
 - A. Market Imperfections and Policy Failures
 - T. Panayotou, "Environmental Degradation: Magnitude of the Problem," 134-164.
 - Video, "External Economies," in "Costa Rica Counts the Future," with Juan Martinez-Alier.
 - Panayotou, "Market Failures and Environmental Degradation," 165-188.
 - Panayotou, "Policy Failures and Environmental Degradation," 187-234.
 - Panayotou, "Achieving Sustainable Development through Policy Reform," 235-262.
 - Panayotou, "The Role of Development Assistance," 263-270.
 - Panayotou, "Sustainable Development and Economic Growth," 271-278.
 - Randall, "The Problem of Market Failure," 279-296.
 - B. Green Taxes
 - Feldstein, "The Case for a World Carbon Tax," 297.
 - Economist, "Greenery and Poverty," 298.
 - The Margin, "Economists Propose Taxes to Avert Global Warning," 299-300.
 - L. Brown, Flavin, and Postel, "Saving the Planet: Green Taxes," 301-309.
 8. The Environment and Property Rights Issues
 - Schmid, "The Environment and Property Rights Issues," 310-325.
 - Video, "Trade, Automobiles, & Property Rights," with Rees, Harris, Costanza, Maler, Minos.
- ONE-HOUR EXAMINATION
9. Pollution
 - Ruff, "The Economic Common Sense of Pollution," 326-342.
 10. Groundwater
 - Postel, "When the World's Wells Run Dry," 343-351.
 11. Benefit Cost Analysis
 - R. Dorfman, "An Introduction to Benefit-Cost Analysis," 356-381.
 - Landefeld and Seskin, "The Economic Value of Life: Linking Theory to Practice," 382-392.
 12. The Economics of Global Warming
 - Lecture by Prof. Kenneth Klabunde, "The Greenhouse Effect and the Ozone Problem."

- Dunn and Flavin, "Moving the Climate Change Agenda Forward," 393-419.
 Nordhaus, "Reflections on the Economics of Climate Change," 420-434.
 Flavin, "Last Tango in Buenos Aires," 435-442.
 Schelling, "The Cost of Combating Global Warming: Facing the Tradeoffs," 443-448.
 Video, "Global Climate Change," in "Costa Rica Counts the Future," with Alvaro Umana.

13. Tropical Forest and Externalities

Dustin Becker, "The Role of Institutions and Ecosystem Valuation," 449-454.

Lecture by Professor Dustin Becker, "Saving a Tropical Cloud Forest: The Role of Total Economic Value (TEV)."

14. The Economics of Biodiversity

Abramovitz, "Putting a Value on Nature's 'Free' Services," 455-464.

Tuxill, "Appreciating the Benefits of Plant Diversity," 465-483.

Nafziger, "Global Public Goods: Climate and Biodiversity," 484-498.

Lecture by Professor David Norman on biotechnology.

Video, "Preserving Costa Rica's Mega-diversity," in "Costa Rica Counts the Future."

15. Natural Asset Deterioration and the Measurement of National Income

L. Brown, Flavin, and Postel, "Better Indicators of Human Welfare," 499-508.

Video, "Natural Capital," with Gaylord Nelson and Herman Daly

Video, "GNP and the Index for Sustainable Economic Welfare," with Cobb, Daly, and Evans.

16. Environmental Resources, War, and State Violence

Renner, "Breaking the Link between Resources and Repression," 509-538.

Gasana, "Remember Rwanda?" 539-548.

Nafziger, "Introduction: Preventing Humanitarian Emergencies," 539-547.

Kibreab, "Protecting Environmental Resources and Preventing Land Degradation," 548-563.

ONE-HOUR EXAMINATION

16. Will Natural Resources Shortages Limit Future Economic Growth?

Video, Herman Daly, "The Limits to Growth," in "Introduction to Ecological Economics."

17. Daly's Impossibility Theorem: Economics as the Dismal Science Again (Mon., May 5)

Daly, "The Steady-State Economy: Toward a Political Economy of Biophysical Equilibrium and Moral Growth," 564-589.

Breslow, "Gluttons for Energy: U.S.'s Insatiable Appetite Threatens the Environment," 590-3.

ONE-HOUR (100-POINT) EXAMINATION (ALTHOUGH OFFERED DURING THE FINAL EXAMINATION PERIOD), MONDAY, MAY 12, IN WATERS 328, 4:10-6 p.m.