

Economics 33530: Environmental Economics

Fall 2007

Professor Jensen

Office: 435 Flanner

Office Hours: 1:00-2:00 p.m. Monday, Tuesday, and Wednesday, or by appointment.

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Classes: 11:45 a.m. – 1:00 p.m. Monday and Wednesday, 327 DeBartolo

Required Text: *The Economic Approach to Environmental and Natural Resources*
James R. Kahn (3rd edition, Dryden Press)

Course Objectives

An important question, and key debate, faced by society is: how can we alter our behavior to protect the environment and still provide a high standard of living? Economics plays an important role in this discussion, not only because environmental legislation mandates economic impact studies, but also because economics provides a logical framework for determining both the significance of environmental problems and the set of feasible solutions to them.

This course provides an introduction to economic aspects of the use of environmental and natural resources, an overview of the environmental problems that are currently most urgent, an understanding of why markets “fail” in these cases, and an understanding of how to analyze the various governmental policies that have been (or should have been) employed in attempting to rectify these problems. By the end of the course you should have an understanding of:

- (1) The current problems associated with society’s use of environmental and natural resources, and the relative magnitudes of these problems.
- (2) How to apply economics to the analysis of these problems and the policies designed to correct them; specifically:
 - (a) Determine the socially optimal use (i.e., consumption and production) of environmental and natural resources;
 - (b) Determine how the market outcome diverges from social optimality;
 - (c) Determine policies that can be used to correct this divergence;
 - (d) Evaluate the efficacy of these policies; and
 - (e) Estimate non-pecuniary values of environmental and natural resources for use in making policy decisions.

Course Requirements and Evaluation

This course satisfies the writing-intensive requirement for economics majors. The writing component of the course consists of both essay questions on the exams and a longer essay, traditionally known as a term paper.

Term Paper

This essay should be an original composition on a topic relevant to this course. A typical approach is to document an environmental problem, then summarize and critique current policy designed to address that problem. Your critique can, and probably should, include suggestions for alternative or additional policy measures that could be used to address the problem. You should check your topic with me first. You may take a different approach to the one noted above, but you should check that with me first also. You are expected to consult academic references as well as those in the popular press, and to document all references in a bibliography.

The essay should be at least 20 pages in length, but cannot exceed 30 pages. The page count does not include the title page, bibliography, and any diagrams, figures, or tables you decide to include. It should be typed in 12 point font with margins no wider than one inch. Please put any diagrams, figures, or tables on separate pages.

A first draft of this paper will be due before fall break. It will be graded and returned with suggestions for improvement. The final version will be due before the thanksgiving break.

Homework Assignments

Problems will be assigned on a regular basis to facilitate your understanding of the analysis of environmental market failures and corrective policies. The mathematics required to solve these corresponds to the mathematics requirements of the College of Arts & Letters.

Exams

There will be two mid-term exams and a comprehensive final exam. Each will be a combination of short-answer essay questions, whose answers may require the use of diagrams, and problems (the homework will provide examples of these).

Grading

Each homework assignment and exam will be given a specific numerical score intended to correspond to a percentage. The grades on the homework assignments will be averaged (using equal weights) to obtain a single numerical homework average.

The first draft and final draft of the term paper will be assigned a letter grade. For the purposes of computing your final grade, that letter grade will be converted to a numerical score (percentage equivalent) as follows.

A+ = 100	B+ = 88	C+ = 78	D+ = 68	
A = 95	B = 85	C = 75	D = 65	F = 50
A- = 92	B- = 82	C- = 72	D- = 62	

The final course average is computed by applying the following weights to the scores from the homework, the exams, and the two drafts of the term paper.

Homework = 20%

Each Exam = 15%

First Draft of Term Paper = 15%

Final Draft of Term Paper = 20%

The course letter grade is the one corresponding to the final average, using the scale below.

94-100	A	87-89	B+	77-79	C+	67-69	D+	
90-93	A -	83-86	B	73-76	C	63-66	D	< 60 F
		80-82	B-	70-72	C-	60-62	D-	

Ground Rules

- (1) Attendance is not required, but is strongly recommended.
- (2) It is not be possible to cover everything in the assigned readings in class. Nevertheless, you are responsible for all the assigned readings. If you have questions about subjects in the text that are not covered in the lectures, I encourage you to use my office hours.
- (3) If you miss an exam, a make-up will be provided as soon as possible after the scheduled time as long as your absence is officially excused under University policy. I will need written verification (conforming to University policy) of an officially excused absence for my files. If you know in advance that you will be absent, please inform me in writing as soon as possible (in this case I would prefer to give the make-up exam before the regularly scheduled time). If you miss an exam without an official excuse, you will receive a grade of zero on it.
- (4) Homework must be turned in on time for full credit (unless you have an officially excused absence, in which case it should be turned in as soon as possible after the due date). If you do not submit a problem set on time, you will receive a grade of zero on it.
- (5) You may work with each other, and talk to anyone (including me), about the homework. Indeed, I encourage you to try to work out the problems separately, then meet in study groups to compare (and defend) your answers, and to combine forces in trying to solve more difficult problems. However, you are expected to do your own work, and to write up your answers separately after you have met and discussed them (i.e., after you write the homework assignment you intend to submit for grading, please do not share it with anyone else in the class). It is likely like questions similar to those in the homework will appear on the exams.
- (6) You may talk to anyone (including me) about your term paper, but you must write it by yourself. You must provide citations in a bibliography to all written sources you use and any individuals you draw upon for information. I strongly encourage you to read the section of the Academic Honor Code relating to plagiarism. If you have any questions, please do not hesitate to raise them either in class or with me in person.
- (7) Homework assignments and papers may be submitted either electronically at my email address or in hard copy at my office.
- (8) There is no option to do anything to earn extra credit.

Course Outline and Important Dates

W, Aug. 29: Introduction (Ch. 1) and Economic Efficiency (Ch. 2)

M, Sept. 3: Economic Efficiency (Ch. 2)

W, Sept. 5: Class cancelled (made up by having Exam 1 outside normal class hours)

M, Sept. 10: Class cancelled (made up by having Exam 2 outside normal class hours)

W, Sept. 12: Economic Efficiency (Ch. 2) and Government Intervention (Ch. 3)

M, Sept. 17: Government Intervention (Ch. 3)

W, Sept. 19: Measuring Value (Ch. 4)

F, Sept. 21: Assignment 1 due by noon

M, Sept. 24: Measuring Value (Ch. 4)

W, Sept. 26: Assessment (Ch. 5)

M, Oct. 1: Assessment (Ch. 5)

W, Oct. 3: Macroeconomic Issues (Ch. 6)

F, Oct. 5: Assignment 2 due by noon

M, Oct. 8: ND Forum

W, Oct. 10: Global Warming (Ch. 7)

Exam 1: on Ch. 1-5, at mutually agreeable time during week of Oct. 8 - 12

M, Oct. 15: Global Warming (Ch. 7)

W, Oct. 17: Energy Production (Ch. 8)

F, Oct. 19: Assignment 3 due by noon

F, Oct. 19: First draft of term paper due by noon

M, Oct. 29: Energy Use and Pollution (Ch. 9)

W, Oct. 31: Minerals, Materials, and Solid Waste (Ch. 10)

M, Nov. 5: Fisheries (Ch. 11)

W, Nov. 7: Fisheries (Ch. 11)

F, Nov. 9: Assignment 4 due by noon

M, Nov. 12: Temperate Forests (Ch. 12)

W, Nov. 14: Tropical Forests (Ch. 13)

Exam 2: on Ch. 6-11, at mutually agreeable time during week of Nov. 12 - 14

M, Nov. 19: Valuing Tropical Forests (Ch. 13)

W, Nov. 21: Biodiversity (Ch. 14)

W, Nov. 21: Final draft of term paper due by noon

M, Nov. 26: Water Resources (Ch. 15)

W, Nov. 28: Toxic Waste (Ch. 16)

F, Nov. 30: Assignment 5 due by noon

M, Dec. 3: Agriculture (Ch. 17)

W, Dec. 5: Growth and Development (Ch. 18);

F, Dec. 7: Assignment 6 due by noon

M, Dec. 10: Final Thoughts (Ch. 19)

F, Dec 14: Final Exam, on Ch. 12-19, 8:00 - 10:00