

Economics 131: Economics of the Environment

University of California, San Diego

Spring 2005

Lecture: Monday, Wednesday, and Friday 10:00-10:50 A.M. (Solis 107)
Section: Monday 5:00-5:50pm (Warren 2001)
Class web-page: Log into <http://webct.ucsd.edu>

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Office Hours: Wednesday 3:00-4:30

Teaching Assistants (Office Number, Email). For weekly office hours check webct

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COURSE DESCRIPTION:

Economics 131 will introduce you to an economist's point of view of environmental systems and problems. The first part of the course will briefly review some of the economic fundamentals that form the basis of any policy analysis. The second part then continues to apply that theory to environmental issues. We will discuss under what circumstances there might be a role for a government to intervene into the market system and how to optimally do so. Public policies concerning the environment will be evaluated as to their ability to meet certain economic criteria. Finally, the third part will focus on several environmental regulations in more detail and demonstrate how / whether economists can add to the debate. Topics include water pollution, air pollution, climate change, and toxic substances.

PREREQUISITE:

Principles of Microeconomics

REQUIRED TEXTBOOKS:

Tietenberg, Tom. Environmental and Natural Resource Economics (6th Ed.). Addison Wesley, 2003.

Stavins, Robert N. Economics of the Environment: Selected Readings (4th Ed.). New York: W.W. Norton and Co., Inc., 2000.

GRADING:

Your grade will be the average of three graded problem sets (5% each), two group projects (7.5% each), 1 midterm (25%), and a cumulative final (45%). In addition there will be 1-6 quizzes (see below).

Problem sets: There will be three practice problem sets and three graded problem sets. Try to do all of them. In general each graded problem set will be preceded by a practice problem set. Problem sets will always be put online on Monday and the graded ones are due at the *beginning* of the discussion section the following Monday. Turn them in on time! Late problem sets will not be accepted.

Problem set	Available online	Due date
Problem set 1	April 4, 2005	
Problem set 2	April 11, 2005	April 18, 2005
Problem set 3	April 18, 2005	
Problem set 4	April 25, 2005	May 2, 2005
Problem set 5	May 9, 2005	
Problem set 6	May 16, 2005	May 23, 2005

Group projects: The two group projects involve more work than a simple problem set and you can hence form groups of up to 5 people and hand in one joint solution. They will require data analysis using R, a free statistical software package available for download for various operating systems at www.r-project.org. The idea behind these projects is to make you conduct a small statistical analysis of a real-world problem.

Group project	Available online	Due date
Group project 1	May 2, 2005	May 13, 2005
Group project 2	May 23, 2005	June 1, 2005

Midterm: There will be one in-class midterm on May 6th, 2005

Final: The final on June 7th, 2005 will be cumulative, i.e., cover the entire class. Some students are good at extracting information about what will be on the exam, so out of fairness to others, I won't answer any questions after the review session in the last class.

Quizzes: There will be several random quizzes during normal lecture times. These quizzes act as insurance for people who regularly attend class, i.e., they *only* count if the average grade from the quizzes is higher than the combined average from the problem sets, group projects, and exams. In such a case, I will place a 25% weight on the quizzes and a 75% weight on the average score from all other graded assignments/grades.

Grade distribution:

Score	[95,100)	[90,95)	[85,90)	[80,85)	[75,80)	[70,75)	[65,70)	[60,65)	[55,60)	[40,55)	[0,40)
Grade	A+	A	A-	B+	B	B-	C+	C	C-	D	F

Missing an Exam: All exams are mandatory. If you have a medical emergency, please bring a note from your doctor. If you participate on a University sports team, please bring a note from your coach. In case you miss the midterm, I will weigh the final 70%. In case you miss the final, I will give you an incomplete and you have to take a make-up exam at a later point.

Re-grade Policy: We try to put great care into grading the exams / problem sets, but in case you feel something has been overlooked or graded incorrectly, please hand in a written explanation why you think you deserve a better grade *within 2 weeks* after the exam/problem sets are available for pick-up. (Hence, if you don't pick up your exam / problem set within two weeks when they are available, you forfeit your right for a re-grade). We reserve the write to re-grade the entire exam / problem set in case somebody requests a re-grade.

LECTURE NOTES:

I infrequently will make lecture notes available for download on the internet. They include graphs that you can fill in and a little bit of text / explanations. Check the class webpage frequently.

PRELIMINARY COURSE OUTLINE

Below is a preliminary outline of the class. It is subject to change. Please check the class webpage for updates. In the following T denotes the textbook by Tietenberg, and S the one edited by Stavins. Links to all other readings that are not in the textbook are available under the section "readings" on the class webpage.

Week 1		Introduction to class
	M	Introduction (T Ch. 1, S Ch. 1)
	W	Background / brief review of utility theory (T Ch. 2)
	F	Market Failures and Solutions without Government Intervention Property rights and economic efficiency (T Ch. 4, p. 61-66) Read Section II of Deacon, "Deforestation and Ownership: Evidence from Historical Accounts and Contemporary Data," <i>Land Economics</i> , 75(3), 1999, p. 341-359.
Week 2	M	Definition of Externalities (T Ch. 4, p. 67-72)
	W	Public Goods (T Ch. 4, p. 72-77)
Week 3	M	Market Solutions: Coase (S Ch. 2)
		Possible government intervention. For a great overview see Fullerton: http://www.eco.utexas.edu/faculty/Fullerton/papers/f-sej02.pdf
	M	Command and Control (T Ch. 19)
	W	Taxes (S Ch. 5, p. 50-58, and S Ch.17, p. 396-412)
	F	Permits (S Ch. 20)
Week 4	M	Information Provision. Example: Hamilton, "Pollution as News," <i>Journal of Environmental Economics and Management</i> , 28, 1995, p. 98-113. Basis for Economic Analysis: Measuring Benefits and Cost
	W	Benefit-cost analysis: Introduction (S Ch. 13)
	F	Benefit-cost analysis: is it ethical? (S Ch. 16)

Week 5	M	Benefits / Cost: The role of discounting (T Ch. 3, p. 50-51)
	W	Indirect: Hedonic studies (T Ch. 3, p. 34-47, and S Ch. 5, p. 87-91)
	F	Example: Boyle and Kiel, "A Survey of House Price Hedonic Studies of the Impact of Environmental Externalities," <i>Journal of Real Estate Literature</i> , 9, 2001, p. 117-144.
Week 6	M	Example: Brown and Mendelsohn, "The hedonic travel cost method," <i>Review of Economics and Statistics</i> , 66, 1984, p. 427-433.
	W	Non-market valuation (S. Ch. 9+12)
	F	Example: Carson et al., "Contingent Valuation and Revealed Preference Methodologies: Comparing the Estimates for Quasi-Public Goods," <i>Land Economics</i> , 72, 1996, p.80-99.
Week 7	M	Natural Experiments: An "almost" controlled experiment
	W	Example: Chay and Greenstone, "The impact of air quality of infant mortality," <i>Quarterly Journal of Economics</i> , 118, 2003, p 1121-1167.
	F	Case 1: Regulation of Water Resources Water as a Replenishable Resource (T Ch. 10)
Week 8	M	History of U.S. regulation (T Ch. 19)
	W	Enforcement problem and self-reported data.
	F	Case 2: Clean Air Regulation Stationary Source Pollutants (T Ch. 16, 17) Air Emissions Trends: http://www.epa.gov/airtrends/econ-emissions.html
Week 9	M	Mobile Source Pollutants (T Ch. 17)
	W	Case 3: Climate Change The cost of climate change (S Ch. 22) Krugman article: http://web.mit.edu/krugman/www/green.html
	F	Tradeoff between actions and the road ahead (S Ch. 23+24)
Week 10		Case 4: Toxic Substances
	W	(T. Ch. 20)
	F	Review Session