

Fall 2008
MW 1-2:30pm, 201 AH

Dr. Kohlhase
University of Houston

**ECON 3363, Section 32343
ENVIRONMENTAL ECONOMICS**

OFFICE: 201B McElhinney, 713-743-3799; email: jkohlhase@uh.edu
hours: MW 4-5:30pm, and by appointment
web page: <http://www.uh.edu/~kohlhase/> and <http://www.uh.edu/webct> (use VISTA)

TA: to be announced

CLASS: The course is designed to teach students how to think about environmental issues using the framework of economics, especially microeconomics tools. We start with an analysis of market failures and externalities. Second, we study methods to measure benefits and costs of environmental improvements. Next we discuss potential policy approaches to environmental problems such as regulations, taxes, subsidies and marketable permits. In the last part of the course, we apply these concepts to several applications including regional air pollution, global warming, water pollution and land contamination.

TEXTS:

(FF) Barry C. Field and Martha K. Field, *Environmental Economics: an Introduction*, 4th edition, McGraw-Hill Irwin, 2006, ISBN-10: 0073137510 (**required**).

(WO) Wallace E. Oates, editor, *The RFF Reader in Environmental and Resource Policy*, 2nd edition, Resources for the Future, 2006, ISBN-10 (paperback): 1933115173 (**recommended**).

PREREQUISITES: The basic requirement is that you have taken an introductory microeconomics course at the college level or that you get permission from me. A course in intermediate microeconomics is highly recommended, but not absolutely necessary.

COURSE EVALUATION: 35% Midterm (Wednesday October 15, 2008 in class)
45% Final Exam (Wednesday December 17, 2008, 2-5pm)
20% homework sets and experiments

Exams consist of short problems with discussion. The homework sets ask you to solve problems relating to the economics of environmental issues. You may do homeworks in groups of one to three. Turn in one homework set for each group; all members of the group will receive the same grade. We will do at least one in-class experiment, and attendance is required for the experimental sessions. Honors students and Law students are also required to write an additional 10-page paper about an environmental issue, to be approved in advance by me.

COURSE POLICY: All assignments must be completed and handed in on time. Original hardcopies of homeworks are required; I do NOT accept electronic submissions of homeworks. Participation in experiments is required. **NO MAKEUP EXAMS!** Any absence from an exam or quiz for medical reasons must be documented by your physician. Any other absence from an exam must be approved by me *in advance* in writing. Unapproved absence from any exam counts as a zero. **All exams are covered by the Honesty code of UH** (see Student Handbook available at <http://www.uh.edu/dos/publications/handbook.php>).

<u>TOPIC</u>	<u>READINGS</u>
I. <i>Introduction: What is Environmental Economics?</i>	FF chs. 1 & 2 WO pp. xv-xx & ch. 50
II. <i>Modeling Environmental Problems</i>	
A. Review of Market Models	FF ch. 3
B. Market Failures	FF ch.4
C. Socially Efficient Level of Pollution	FF chs 5 & 9
III. <i>Analytic Tools for Environmental Planning</i>	
A. Overview of Frameworks for Analysis	FF ch. 6
B. Assessing Benefits Houston issues	FF ch. 7, Portney (1994)* Kohlhase handout
C. Assessing Costs	FF ch. 8, WO ch. 7
D. Discounting the Future	WO ch. 5
IV. <i>Modeling Solutions to Environmental Problems</i>	
A. Conventional Solutions: Command and Control Strategies	FF ch.11
B. Economic Solutions: the Market Approach	FF chs. 12 & 13 Schmalensee (1998)* WO chs. 9, 10, 11 & 38
V. <i>Air Quality</i>	
A. Defining Air Quality Standards in the USA	FF ch. 15
B. Houston issues	HGAC (2002)* Forswall&Higgins (2005)*
VI. <i>Global Issues</i>	
A. Overview of Climate Change and Ozone Depletion	FF ch. 20, WO ch. 36 IPCC (2007)*,
B. Stern Review about Climate Change and Reactions	parts of Stern (2006)*, WO ch. 37
C. International Environmental Agreements	FF ch. 21
VII. <i>Water Quality</i>	FF ch. 14, WO ch.12
VIII. <i>Land Quality</i>	FF ch. 16, WO ch. 1

Econ 3363, contd.

***OTHER READINGS** listed below (note: additional articles may be added during the course)

CBO (Congressional Budget Office), "The Economics of Climate Change: A Primer," April 2003, available to download at

<http://www.cbo.gov/showdoc.cfm?index=4171&sequence=0&from=0#anchor>

Clayton D. Forswall and Kathryn E. Higgins, "Clean Air Act Implementation in Houston: An Historical Perspective 1970-2005," working paper, Shell Center for Sustainability, Environmental and Energy Systems Institute, Feb. 2005. Available to download at:

http://cohesion.rice.edu/CentersandInst/ShellCenter/emplibrary/SIP_2.pdf

HGAC (Houston-Galveston Area Council), 2002 Air Quality Reference Guide for the Houston-Galveston Area, 6th edition, 2002. Download from www.cleanairaction.org/ or

<http://www.greenhoustontx.gov/reports/2002airquality.pdf> .

IPCC (Intergovernmental Panel on Climate Change), "Climate Change 2007: Synthesis Report Summary for Policy Makers," 2007, available to download from http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf .

Paul R. Portney, "The Contingent Valuation Debate: Why Economists Should Care," Journal of Economic Perspectives, Vol. 8, Fall 1994, pp. 3-17. Can download from JSTOR.

Richard Schmalensee et. al., "An Interim Evaluation of Sulfur Dioxide Emissions Trading," Journal of Economic Perspectives, vol. 8, Summer 1998, pp. 53-68. Can download from JSTOR.

Nicholas Stern, "Stern Review on the Economics of Climate Change," published for the Treasury of the United Kingdom, 2006, available to download from http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm

Econ 3363, contd.

SELECTED INTERNET SITES -- ENVIRONMENTAL ISSUES

Government Agency Sites

<http://www.epa.gov/>

Operated by the U.S. Environmental Agency. Extensive data on all aspects of U.S. environmental issues. If you append "region6" to the address you will reach the EPA's Region 6, which includes Texas.

<http://www.tceq.state.tx.us>

Operated by the Texas Commission on Environmental Quality (before 9/02 known as Texas Natural Resource Conservation Commission, TNRCC). Both names work for accessing the website. Data on Texas pollution problems. Contains Houston's Clean Air Plans (also called Houston's State Implementation Plans).

http://www.tceq.state.tx.us/implementation/air/airmod/texaqs-files/TexAQS_II.html

website for 2005-6 study of Texas Air quality sponsored by the State of Texas

<http://www.greenhoustontx.gov/reports.html>

"Green Houston" site operated by the City of Houston. Contains several reports on local environmental issues.

<http://www.cleanairaction.org/>

Operated by Houston-Galveston Area Council. Information on local area air quality.

Environmental Activist Sites that contain some useful data

<http://www.rtknet.org>

Operated by the OMB-Watch Right-to-Know network (established in 1989 under the Community Right to Know Act). Has various data bases, including the Toxics Release Inventory (TRI), and provides links to other environmental web sites. Can request a community toxics release report by entering city and state.

<http://www.scorecard.org>

Operated by the Environmental Defense Fund. Has U.S. data by county; covers water, air, land pollution. Can request community reports by simply entering a zip code.

<http://www.cechouston.org>

Operated by the Citizen's Environmental Coalition of Houston. Covers local environmental issues.

<http://www.ghasp.org/>

Operated by Galveston-Houston Assoc. for Smog Prevention. Excellent coverage of local air issues.