

# EC/EA 541: ENVIRONMENTAL ECONOMICS

## Spring 2007

Professor: Bob Kling, Office C 323 Clark, 491-5598, *Robert.Kling@ColoState.edu*  
Office Hours: 2:00 - 3:00 MWF, and at other times by appointment

Readings: Baumol & Oates, *The Theory of Environmental Policy*, 2nd (Cambridge University Press, 1988)  
. . . available at the Student Center Bookstore  
Bromley, ed., *The Handbook of Environmental Economics* (Blackwell, 1995)  
. . . not available at the Student Center Bookstore; order yourself, or use chapters on reserve  
Champ, et alia (eds.) *A Primer on Nonmarket Valuation* (Kluwer, 2003) . . . ditto  
Selected additional readings  
. . . on reserve in Morgan Library  
. . . JEEM articles available at Morgan or on line.

### COURSE OBJECTIVES

This is a Master's level course in environmental economics. The University's catalog gives the following description: "Economics of environmental policy; partial equilibrium and general equilibrium model; pollution, natural environments; population and economic growth." By the end of this course, you should:

- ▶ understand the major theoretical models of how human economic activity affects and is affected by environmental factors;
- ▶ apply economic performance criteria to the evaluation of a menu of environmental policy options;
- ▶ be familiar with methods and issues of economic valuation of environmental quality that may be of use in assessing specific policy choices;
- ▶ develop skills in identifying interesting problems in environmental econ, and formulating valid proposals for research.

### COURSE METHODS

To achieve the objectives outlined above, the course will rely on:

- ▶ extensive reading from a basic text, a book of readings, and selected other supplementary sources;
- ▶ lecture-style presentation of theoretical material;
- ▶ in-class discussion of readings; all students are expected to participate;
- ▶ two examinations with take-home and in-class parts, to encourage and assess cumulative integration of course material;
- ▶ one major research project.

Expectations for in-class discussion:

1. All students are expected to come to class prepared to discuss the assigned reading, that is, they are to have read and considered the material.
2. The instructor is expected to come to class prepared to lead a valuable discussion.
3. The instructor may call on students as required to prompt appropriate participation.

Expectations for examinations:

1. Examination questions will call for brief analytical responses in essay or model format.
2. Study questions will be distributed ahead of the exam.
3. Each exam will count for 1/3 of the course grade.
4. Tentative mid-term exam date: Wed 7 Mar. Final exam: Wed 9 May, 11:20-1:20

Expectations for the research project:

1. The final product will be a paper submitted by Friday 4 May. Revision and resubmission may be required for papers not meeting minimum standards.
2. The nature of the paper is to be a well-developed research "proposal" which sets out a clear line of inquiry into an interesting problem in environmental economics, without the ultimate analysis and conclusions necessarily presented. The stages of development, with submission due dates, are as follows:

Statement of the problem to be examined	9 February
+ Brief summary of the relevant literature	2 March
+ Thorough conceptual framework for the study	6 April
+ Statement of the data and analysis to be used	4 May

3. Submissions of the first three stages will be critiqued and returned within one week of submission.
4. The research project will count for 1/3 of the course grade.

## TENTATIVE COURSE OUTLINE AND READINGS

TEP = Baumol and Oates, Theory of Environmental Policy  
JEEM = Journal of Environmental Economics and Management

PNV = A Primer on Nonmarket Valuation  
HEE = Handbook of Environmental Economics

### INTRODUCTION

Panayotou: The economics of environmental degradation: problems, causes, and responses. From Environmental Economics: A Reader (Markandya & Richardson, eds., St. Martin's, 1992)

### PART I: THEORY OF ENVIRONMENTAL POLICY

- A. Basic theory of externalities, etc.  
TEP, chapters 1 to 3
- B. Externalities: a formal model  
TEP, chapters 4 and 5
- C. Complicating factors  
TEP, chapters 6 to 8  
Parry, Williams & Goulder: When can carbon abatement policies increase welfare? The fundamental role of distorted factor markets. JEEM, January 1999  
McKittrick: A derivation of the marginal abatement cost curve, JEEM, May 1999
- D. More on policy options  
TEP, chapters 10 to 14  
Fischer, Parry & Pizer: Instrument choice for environmental protection when technological innovation is endogenous. JEEM, May 2003

### PART II: THE VALUATION PROBLEM

- E. The basic analytics of valuation  
McConnell: Does altruism undermine existence value? JEEM, 1997
- F. Travel cost models  
Parsons: Travel cost models, PNV Chapter 9  
Font: Mass tourism and the demand for protected natural areas . . . JEEM, January 2000
- G. Contingent valuation  
Boyle: Contingent valuation in practice, PNV Chapter 5  
Smith & Osborne: Do contingent valuation estimates pass a "scope" test? A meta-analysis. JEEM, 1996  
Nunes & Schokkaert: Identifying the warm glow effect in contingent valuation. JEEM, March 2003
- H. Hedonic pricing methods  
Taylor: The hedonic method, PNV Chapter 10  
Tyrväinen & Miettinen: Property prices and urban forest amenities. JEEM, March 2000  
McCluskey & Rausser: Hazardous waste sites and housing appreciation rates. JEEM, March 2003

### PART III: SAMPLE OF CURRENT ISSUES

- I. Distributional issues  
TEP, chapter 15  
Brooks & Sethi: Distribution of pollution: community characteristics and exposure to air toxics. JEEM, 1997  
Jorgenson, et al.: Carbon taxes and economic welfare. Brookings Papers on Economic Activity: Microeconomics, 1992.
- J. Environment, economic growth, and sustainability  
Toman, Pezzey, Krautkraemer: Neoclassical Economic Growth Theory and "Sustainability," HEE, chapter 7  
Pearce and Atkinson: Measuring Sustainable Development, HEE, chapter 8  
Hilton & Levinson: Factoring the environmental Kuznets curve: evidence. JEEM, 1998  
López & Mitra: Corruption, pollution, and the Kuznets environmental curve. JEEM, 2000  
Weitzman: Why the far-distant future should be discounted at its lowest possible rate. JEEM, 1998
- K. International trade and the environment  
Runge: Trade, Pollution, and Environmental Protection, HEE, chapter 16  
Reppel-Hill: Trade and environment: an empirical analysis of the technology effect in the steel industry. JEEM, November 1999  
List & Co: Effects of Environmental Regulations on Foreign Direct Investment. JEEM, 2000