



ECON 207

Environmental Economics

Semester 1, 2011

Department of Economics

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Lectures: Mon, Thurs 4.00 – 4.50 CO203
Wed 9.00 – 9.50 CO203

Tutorials: Tuesday 4.00 – 4.50 CO204
Wednesday 11.00 – 11.50 CO219
Thursday 3.00 – 3.50 CO203

Course Guide

Course Objectives

One or more of the ministries or departments in central and local governments in most market-oriented countries have as their main focus the protection or improvement of the quality of the natural environment. The objective of this paper is to apply the principles of microeconomic analysis to gain an understanding of the motivation for and to evaluate the nature of this governmental activity in economies that are primarily market driven. So, a general objective is to improve your ability to apply the tools of microeconomic analysis introduced in BSNS104 and ECON112. More specific objectives include improving your: (1) understanding of why markets fail to allocate efficiently some of the natural resources that make up our natural environment, (2) ability to evaluate the methods governments use to improve allocative efficiency, and (3) ability to identify and evaluate the range of policy interventions available.

Prerequisites

The prerequisites for the paper are BSNS104/ECON111 and ECON112 (i.e., Principles of Economics I and II), or the old ECON101 (Principles of Microeconomics). You should be acquainted with the concepts and models developed in your Principles papers: supply-demand, marginal benefit/marginal cost, elasticities, comparative statics, and so on. We'll employ some simple maths, but much of the analysis will be done with the aid of graphs.

Readings

Readings and announcements will be posted on Blackboard.

Text. There is no single textbook for this paper. Instead, we will pick and choose material from the large number of textbooks in Environmental Economics. Some authors treat some topics more effectively than others. Importantly, we can without violating copyright laws, scan up to one chapter or 10% of any textbook (whichever is larger), and post the scan on Blackboard (<http://blackboard.otago.ac.nz>). You can access the readings from any computer with internet access, and you can download the scan to disk or print it as you see fit. We will not make paper copies available, though a variety of textbooks are on close reserve in the library.

Study Guides. We will post weekly study guides as well as lecture slides under “course documents” on Blackboard. The study guides are intended to help organise your study and help you prepare for quizzes, tutes, and the final exam. We will also post announcements regularly on Blackboard.

Supplementary Readings. We will occasionally post on blackboard (or ask you to photocopy if necessary) supplementary readings from a variety of sources, including material that written by us to supplement lectures, articles from professional journals or the popular press, e.g., *The Economist* magazine. Do not neglect to familiarise yourself with the content of these postings.

Workload

This is an 18-point paper. The University rule of thumb is that you should plan to devote an average of 12 hours work per week to this paper for the duration of the semester.

Assessment

Assessment consists of short fortnightly quizzes, fortnightly tutorial questions, and a comprehensive final exam.

Final Exam. The three-hour final exam will consist of both multiple choice and short-answer questions. The weekly quizzes give you experience with multiple choice questions, and tutorials provide experience with short-answer questions.

Quizzes. Every other Thursday, *beginning in week 3 (18 March)*, class will end with a short multiple-choice quiz over the material covered since the previous quiz. The main aims of these quizzes are to encourage you to keep up with the reading and lecture material, and to provide you feedback on the success of your study efforts. To give you flexibility, *only your top 5 (of 6) scores will count toward your final mark.* Each quiz is worth 4 marks.

Tutorials. Tutorials meet every other week (on Tuesday, Wednesday or Thursday), *beginning the second week of lectures.* Tutorials provide an opportunity for smaller-group interactive discussion of the material introduced in lectures. You will answer a short 5 mark question in the last 10 – 15 minutes of each tutorial. You must attend the tute to get credit for the tutorial question. Again, to give you flexibility, *only your top 4 (of 6) tute scores toward the final mark.*

Plussage applies! At the end of the semester, your final mark will be calculated in four ways: final exam only, final exam (80%) + quizzes (20%), final exam (80%) + tutes (20%), and final exam (60%) + quizzes (20%) + tutes (20%). You will get the grade corresponding to the *highest* of these four totals. This means that your final mark cannot be lower than your mark on the final, and it gives you the opportunity to choose the approach that's best for you. Beware, however, that choosing to skip the internal assessment means that your entire grade rests on your performance on the final, and that there will be no basis on which to grant special consideration (see next point).

Special consideration. If you consider your performance in the end-of-semester examination to be seriously impaired, or if you are too ill to sit an examination, you can apply for Special Consideration. Doing so requires completion of an application form available from the University Information Centre or Student Health. Applications for Special Consideration must be made within five calendar days from the date of the last examination for which the application applies and must be accompanied by supporting documentation, such as a medical certificate.

Key Dates

Friday, 4 March	Last day to add or change papers
Thursday, 31 March	Last day to withdraw with full fee refund
22 April – 1 May	Mid-semester break, no lectures or tutorials
Tuesday, 10 May	Last day to withdraw from a paper with <i>no</i> refund
Thursday, 2 June	Last lecture of the semester

DISHONEST PRACTICE AND PLAGIARISM

All submitted work should be your own.

Any student found responsible for dishonest practice (for example, copying another student's test or tutorial answers, the use of unauthorised material in tests, etc.) in relation to any piece of work submitted for assessment shall be subject to the University's dishonest practice regulations, which may result in various penalties, including forfeiture of marks for the piece of work submitted, a zero grade for the paper, or in extreme cases exclusion from the University.

Plagiarism is a form of dishonest practice. Plagiarism is defined as the copying or paraphrasing of another's work, whether intentionally or through failure to take proper care, and presenting it as one's own. (See University of Otago Calendar 2006 page 193.) In practice, plagiarism includes any attempt in any piece of submitted work to present as one's own work the work of another (whether of another student or of a published authority). Any student found responsible for plagiarism shall be subject to the university's dishonest practice regulations as outlined above.

CLASS REPRESENTATIVES

The class representative system provides students with a vehicle for communicating their views on matters associated with the teaching and delivery of their paper or course of study. It provides staff with the opportunity to communicate information to and gain constructive feedback from students. It contributes to the development of a sense of community within a Department/School/Faculty and it adds a further dimension to the range of support services that the University of Otago offers its students. The School of Business fully supports the class representative system.

Volunteers to act as class representatives for this paper will be called early in the semester. The OUSA then invites all class representatives to a training session, conducted by OUSA, about what it means to be a class representative and some of the possible procedures for dealing with issues that arise. They also provide information on the services that OUSA offers and the role OUSA can play in solving problems that may occur. The OUSA also provides ongoing support to class representatives during the semester. School of Business staff will also meet during the semester with the class representatives for this paper to discuss general issues or matters they wish to have considered

DISCLAIMER

While every effort has been made to ensure that the information contained in this document is accurate, the information is subject to change. It is my responsibility to notify you of changes in class and on Blackboard. It is *your responsibility* to be informed.

Broad Outline of ECON207 topics

1. Intro to the paper

Course requirements

What is environmental economics?

2. Quick review of efficient market allocation of resources

How does the market work?

Evaluation of the market allocation

Comparative statics

Conditions for the market to allocate efficiently

3. The “tragedy of the commons”

Characteristics of well-defined property rights

Case study: a “small” fishery

Other examples of open-access resources

The commons tragedy and externalities

4. Responses to the tragedy of the commons

Evaluation criteria

The marginal abatement cost/benefit framework

The 7 Ps

Procrastinate

Live with or ignore the commons tragedy

Preclude

Take steps to eliminate scarcity

Persuade

Efforts to encourage restraint

Prescribe

Gov’t sets rules for/manages use of the resources

Price

Pigouvian tax/subsidy on output

Emissions tax/subsidy

Tradable permits (aka cap-and-trade)

Privatise

Define and distribute enforceable private rights to the resource

Private versus common property

Parley (i.e., negotiate)

Transactions costs and the Coase “Theorem”

Government as facilitator (i.e., transactions costs reducer)?

5. Cost-Benefit Analysis

The cost-benefit framework

Rationale

Discounting future costs/benefits

Dealing with uncertainties

Estimating non-market values

“Indirect” market values

Direct survey techniques

Tentative reading list for ECON 207 Environmental Economics 2010

Supplementary reading: Thorsnes, Paul, 2008, "Microeconomics: Basic Concepts and Tools," unpublished manuscript (reviews useful micro principles)

Tietenberg, Tom and Lynne Lewis, 2009, "Chapter 14: Common-Pool Resources: Fisheries and Other Commercially Valuable Species," in *Environmental and Natural Resource Economics*, 8th ed., Pearson/Addison-Wesley.

Supplementary reading: Hardin, Garrett, 1968, "The Tragedy of the Commons," *Science*, 162: 1243-1248.

Field, Barry C., 2001, "Chapter 7: Public Policy for Natural Resources," in *Natural Resource Economics: An Introduction*, McGraw-Hill/Irwin.

Field, Barry C. and Martha K. Field, 2006, "Chapter 11: Command-and-Control Strategies: the Case of Standards," in *Environmental Economics: An Introduction*, 4th ed., McGraw-Hill/Irwin.

Supplementary reading: Ministry for the Environment, 2005, *Updated Users Guide to Resource Management Regulations 2004* (outlines NZ air quality regulations).

Callan, S. J. and J. M. Thomas, 2007, "Economic Solutions to Environmental Problems: The Market Approach," in *Environmental Economics and Management*, 4th ed., Thomson Southwestern.

Supplementary reading: Jiang, Nan, Basil Sharp, and Mingyue Sheng, 2009, "New Zealand's Emissions Trading Scheme," *New Zealand Economic Papers*, 43(1): 69-79.

Landsburg, Steven E., 1995, "Chapter 13: External Costs and Benefits," in *Price Theory and Applications*, West Publishing Company (focuses on a Coasian analysis).

Supplementary reading: Butler, Michael R. and Robert F. Garnett, 2003, "Teaching the Coase Theorem: Are We Getting It Right?" *Atlantic Economic Journal*, 31(2): 133-146.

Ison, Stephen, Stephen Peake, and Stuart Wall, 2002, "Chapter 2: Valuing the Environment," in *Environmental Issues and Policies*, Pearson Education Ltd.