

**Economics 371 (B1) – Summer II, 2004**  
**Environmental Economics**  
Zvika Neeman  
Lectures: Mon, Tue, Thu 9:30-12:00, CAS 204a

**Office Hours:** M 3:30 pm – 5:00 pm, TH 2:00 pm – 3:30 pm, or by appointment;  
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**Course Web Page:** The material for this class (syllabus, announcements, problem sets and solutions, and additional readings) will be posted on Course Info. In order to access the course web page you can go to <http://courseinfo.bu.edu/courses/04sum2casec371sb1>. You will be asked to login. Use your BU username and Kerberos password. You can also access the web page directly through Student Link (simply click the course button).

### **Course Overview**

This course provides a one semester introduction to the economic aspects of environmental and natural resources issues. Topics to be covered include cost-benefit analysis, externalities, market failure, the Coase Theorem, public goods, measurement of costs and benefits, tradable permits, emission taxes, and economics of the fishery.

**Prerequisites:** EC201 (or EC211) Intermediate Microeconomics and a Calculus Course (one of MA121, 122, 123, 124, 127, or 129).

### **Texts:**

Class discussion will be very loosely based the following text, which should be available in the BU bookstore as of January 20th.

- Eban S. Goodstein, *Economics and the Environment* (4<sup>th</sup> edition) Wiley

### **Grades**

- Problem Sets (10%) Each of the 4 problem sets counts for 2.5% of the final grade. Missing problem sets receive the grade of 0.
- Midterm Exam (25%)
- Term Paper (25%)
- Final Exam (40%)

### **Exam Dates**

Midterm Exam (120 minutes): **Monday, July 26** ⇒ IN CLASS

Final Exam (120 minutes): **Thursday, August 12** ⇒ IN CLASS

### **Problem Sets**

There will be 4 problem sets during the course. Each problem set will be both distributed in class and posted on the course web page. Solutions will be discussed in class. You can work in teams for the problem sets (2 to 3 students per team), but each of you must turn in the problem set with his/her own name (and the names of the team members). Problem sets handed in late will not be accepted unless you have a valid medical or personal excuse.

### **Term Paper**

A paper of 5-10 pages related to some aspect of the course is required. It is due in the last day of classes, on Wednesday, August 12. You may submit the paper in groups of no more than two students. A short outline (no longer than one page) describing the topic you will write your paper on is expected in the week of the midterm.

### **Exams**

The midterm exam will be based on the material covered in class prior to the exam. The final exam will be based on material covered in class over the entire semester.

#### **IMPORTANT:**

- It is your responsibility to plan your travel around exams dates. In particular, the date of the final exam is determined by the Registrar and cannot be changed for any reason.
- All exams are required. If you miss an exam without an acceptable excuse, you will receive a grade of zero. The only exceptions will be for a verified family emergency or for an illness or injury that is confirmed by the University Medical Clinic or other doctor. If you miss an exam for a legitimate reason you will be given the choice of taking a makeup or having your remaining grades re-weighted appropriately.

### **Academic Conduct**

It is your responsibility to know and understand the provisions of the CAS Academic Conduct Code (copies are available in room CAS 105). Cases of suspected academic misconduct will be referred to the Dean's Office, and will receive a zero grade for the exam.

### **Class Attendance and Requirements**

Class attendance is required. Failure to attend classes without medical or reasonable excuses, such as religious holidays, will have a negative effect on your final grade.

## COURSE OUTLINE

### Part 1: Introduction (1<sup>st</sup> week)

The relationship between globalization and the environment

Recommended reading: Goodstein ch. 1 and 11.

- Grossman and Krueger (1991) “environmental implications of a North American free trade agreement, NBER working paper series.
- Grossman and Krueger (1995) “Economic growth and the environment,” *Quarterly Journal of Economics*.
- Schelling (1992) “Some Economics of global warming,” *American Economic Review*.

### Part 2: Foundations of Cost-Benefit Analysis (1<sup>st</sup> week)

Utility, benefit, and cost.

Recommended reading: Goodstein ch. 2.

### Part 3: Economic Efficiency (2<sup>nd</sup> week)

Pareto efficiency and dynamic efficiency

Recommended reading: Goodstein ch. 4.0-4.3, 4.6.

### Part 4: The Market System (2<sup>nd</sup> week)

Market equilibrium, the First Welfare Theorem, and market failure

### Part 5: Externalities (3<sup>rd</sup> week)

Externalities and ways to overcome them including liability for damages, taxes, standards, and property rights and bargaining. The Coase Theorem.

Recommended reading: Goodstein ch. 3.0, 4.4-4.5.

- Coase (1960) “The Problem of Social Cost,” *Journal of Law and Economics*.
- Frey, Oberholzer-Gee, and Eichenberger (1996) “The Old Lady Visits Your Backyard: A Tale of Morals and Markets,” *Journal of Political Economy*.
- Farrell (1987) “Information and the Coase Theorem,” *Journal of Economic Perspectives*.

### Part 6: Public Goods (4<sup>th</sup> week)

Recommended reading: Goodstein ch. 3.2.

### Part 7: Measurement of Costs and Benefits (4<sup>th</sup> week)

Methods, Value of life, responses to pricing of garbage.

Recommended reading: Goodstein ch. 8-10.

- Portney (1994) “The Contingent-Valuation Debate: Why Economists Should Care,” *Journal of Economic Perspectives*.
- Viscusi, Vernon, and Harrington (1995) “valuing life and other nonmonetary benefits,” *Economics of Regulation and Antitrust* (chapter 20), MIT Press.
- Fullerton and Kinnaman (1996) “Household responses to pricing garbage by the bag,” *American Economic Review*.

### **Part 8: Controlling Pollution (5<sup>th</sup> week)**

Standards, emission fees, and tradable permits.

Recommended reading: Goodstein ch. 16-17.

- Weitzman (1974) "Prices vs. Quantities," *Review of Economic Studies*.
- Schmalensee et al. (1998) "An Interim Evaluation of Sulfur Dioxide Emissions Trading," *Journal of Economic Perspectives*.
- Joskow et al. (1998) "The Market for Sulfur Dioxide Emissions," *American Economic Review*.

### **Part 9: Economics of the Fishery (6<sup>th</sup> weeks)**

Recommended reading: Goodstein ch. 3.1.

- Clark (1976) *Mathematical Bioeconomics*, Wiley- Interscience publication.
- Weitzman (2002) "Landing fees vs. Harvest Quotas with uncertain fish stocks," *Journal of Environmental Economics and Management*.

Schedules and topics are subject to change. The midterm and final examination dates ARE NOT.