

## Economics 131 & 281: Environmental Economics

### Syllabus and Reading List

### Course Overview

This course is an introduction to an economics perspective of environmental systems and their problems, with special attention to the use, misuse, and overuse of natural and environmental resources.

The first part of the course will develop appropriate economic concepts, models, and tools for analyzing environmental and natural resource issues and problems. The second part of the course will discuss the efficient use of depletable and renewable natural resources such as oil, gas, land, water, forests, and fisheries. The third part of the course will explore the particular problems arising from the use of environmental resources such as the air, rivers, lakes, and the oceans as repositories for pollution.

Throughout the course we will consider the separate and complementary roles of markets and governments in allocating and regulating the use of environmental and natural resources.

### Lectures and Class Room

The course lectures during the Fall Quarter will be Tuesdays and Thursdays, from 2:00 - 3:20 a.m., in Pepper Canyon Hall 106. In addition, weekly sections will be held at times and places to be announced.

### Sections, TAs, and Office Hours

This course has two numbers - 131 and 281. Economics 131 is the regular environmental economics course for undergraduates; Economics 281 is a special topics course conjoined this quarter to Economics 131 and is for graduate students, primarily those in the IGERT Masters program in Marine Biodiversity and Conservation.

There are two T.A.'s for Econ 131: Ms. Dalia Ghanem. Ms. Yen-Lin Tseng. They will hold sections on Monday from 6:00 - 6:50 pm and Wednesday from 5:00 - 5:50 pm in Pepper Canyon Hall 121. The sections will be used to go over pre-requisite economics material, questions arising from the lectures, and, especially exam-type questions that will be posed from time to time during the lectures or posted on the UCSD WebCT class website.

Economics 281 also has a T.A.: Mr. Ben Gilbert who will hold a special section for those graduate students enrolled in this course. His section will feature additional readings of particular relevance to students in the IGERT/MAS program. The syllabus for this section is posted on the WebCT course home page.

Prof. Groves's Office Hours are on Wednesday, from 2:30 - 3:30 in Economics 317. Ms. Ghanem's Office Hours are on Monday, from 1:00 - 2:00 in Sequoyah 140. Ms. Tseng's Office Hours are on Thursday, from 9:50 - 10:50 in Sequoyah 140. Mr. Gilbert is available by appointment. Any changes in the instructors' office hours will be posted on the class website so check there for the latest information. Please take advantage of office hours and also use e-mail to contact any instructor at other times or if you need to make an appointment.

Please use WebCT for all course-related e-mail. E-mail sent to other addresses (e.g. my official UCSD account) may not receive a timely response. You must be logged into WebCT to send e-mail to WebCT mailboxes.

### Exams and Grading (NOTE CORRECTED DATE FOR MIDTERM!)

The grades for students enrolled in Economics 131 will be based on a Mid-Term Exam (35%) to be given on **WEDNESDAY, October 29, from 5:00 - 6:20 pm** and a Final Exam (65%) to be given on **THURSDAY, December 11** from 3:00 - 6:00 p.m. The exams will consist of questions similar (but not identical) to the exam-type problems mentioned above.

Students enrolled in Economics 281 will also take the mid-term exam, but will be given the option of either taking the final exam or writing a 20 page paper on an appropriate topic approved by the course instructors. Details about the paper assignment will be given in the section and posted on WebCT later.

### Textbook and other Readings

The textbook for this course is Tom Tietenberg & Lynne Lewis, *Environmental and Natural Resource Economics* Eighth Edition, Boston:Pearson Addison Wesley, 2009.

This textbook is extremely comprehensive and exhaustive (maybe even exhausting!). The course lectures will help you navigate the readings. While not all chapters will be assigned, even those chapters that are assigned contain vast amounts of information, not all of which will be emphasized equally. Regular attendance of lectures will make it easier for you to read the assigned chapters more efficiently.

In addition to the textbook various other readings will also be assigned. Where available in electronic form they will be made available through the course WebCT site (for copyright reasons).

Readings for the Economics 281 (Graduate) section can be found in the separate folder on the main WebCT course page. *All students enrolled in Econ 131 are invited to read these items as well.*

### Course Outline and Reading Assignments

## **Introduction: Environmental Challenges and the Role of Economics (1 lecture: September 25)**

### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 1.

## **Part I. Economic Concepts, Models, and Tools (3 weeks: September 30 - October 16)**

### **1. Concepts of Valuing the Environment**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 2.

### **2. Methods of Valuing the Environment**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 3.

### **3. Property Rights, Externalities, and Efficiency**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 4.

### **4. Dynamic Efficiency and Sustainable Development**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 5.

**WEDNESDAY, October 29<sup>th</sup>, MIDTERM EXAM 5:00 - 6:20 PM (in classroom - Pepper Canyon Hall 106)**

## **Part II. Depletable and Renewable Resources (3 weeks: October 21 - November 6)**

### **5. Allocating Depletable and Renewable Resources: An Overview**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 7.

### **6. Depletable, Non-Recyclable Resources: Oil, Gas, etc.**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 8.

### **7. Replenishable, but Depletable Resources: Water**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 10.

### **8. Storable, Renewable Resources: Forests**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 13.

### **9. Renewable Common Property Resources: Fisheries**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 14.

### **10. Land and Agriculture**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapters 11 & 12.

## **Part III. Pollution Control, Global Warming, and Toxics (3 weeks: November 11 - December 4)**

### **11. Overview**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 15.

### **12. Stationary Source Pollution: Power Plants**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 16.

### **13. Regional and Global Pollution: Global Warming**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 17.

### **14. Mobile Source Pollution: Cars**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 18.

### **15. Water Pollution**

#### **Readings:**

*Environmental and Natural Resource Economics*, Chapter 19.

### **16. Toxic Waste Pollution**

**Readings:**

*Environmental and Natural Resource Economics*, Chapter 20.

**THURSDAY, December 11<sup>th</sup> FINAL EXAM 3:00 - 6:00 PM**