ECON 358: Environmental Economics

Spring 2005
MWF 12:30-1:20
KUY 307
http://www2.hawaii.edu/~kburnett

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Office hours: MW 2-3:30
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Overview

Causes and consequences of environmental degradation and the accompanying economic solutions. Topics include techniques for valuing the environment, global climate change, energy, fisheries, forestry, water, biodiversity, and sustainability.

Prerequisites

Econ 120, 130, 131, or consent. If you have not taken an introductory level economics course, it is strongly recommended that you review these concepts on your own – see instructor for details.

Required text

The Economic Approach to Environmental and Natural Resources
James R. Kahn, 3rd Edition

Assessment

<table>
<thead>
<tr>
<th>Participation</th>
<th>10%</th>
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<tbody>
<tr>
<td>Problem sets</td>
<td>10%</td>
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<tr>
<td>Project</td>
<td>25%</td>
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<tr>
<td>Midterm exam</td>
<td>25%</td>
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<tr>
<td>Final exam</td>
<td>30%</td>
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Participation in class discussion is expected. Reading the assigned sections in advance greatly enhances discussion. 4-5 problem sets will be assigned throughout the semester. Problem sets are intended to prepare you for the examinations, so although they constitute only 10% of your final grade, it is highly recommended you take these seriously! Everyone will participate in a group project, details to be given later. During the last 2 weeks of the semester, we will hold a mini conference in which groups will present their work. Extra credit opportunities may arise – stay tuned throughout the semester for details.
### Important Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Monday, January 10</td>
<td>First day of instruction</td>
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<tr>
<td>Wednesday, March 2</td>
<td>Midterm examination</td>
</tr>
<tr>
<td>Monday, March 7</td>
<td>Guest lecture – mandatory</td>
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<tr>
<td>(Approximate dates)</td>
<td>April 25 – May 4</td>
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<td></td>
<td>Project presentations</td>
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<tr>
<td></td>
<td>Wednesday, May 4</td>
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<td>Last day of instruction</td>
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<td>Monday, May 9</td>
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<td>Final examination (12-2 PM)</td>
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*Please arrange your schedules accordingly. No early/late/makeup exams will be given.*

### Policies

1. Problem sets due in class on due dates – late work will not be accepted.
2. No makeup exams. Put the dates on your calendar today.
3. Cell phones/electronic devices must be OFF during class. I reserve the right to deduct points from your final score if this policy is abused.

### Disability Access

If you feel you need reasonable accommodations because of the impact of a disability, please 1) contact the KOKUA Program (V/T) at 956-7511 or 956-7612 in room 013 of the QLCSS; 2) speak with me privately to discuss your specific needs. I will be happy to work with you and the KOKUA Program to meet your access needs related to your documented disability.
Tentative Course Schedule

Part I. Principles

A. Markets

B. Market failure
   a. Public goods
   b. Externalities

C. Discounting and Present Value

D. Dynamic Efficiency

E. Pollution Solutions
   a. Pigou vs. Coase
   b. The Optimal Level of Pollution
   c. Command and Control
   d. Incentives

Part II. Environmental Valuation

A. Value
   a. Revealed Preference
      i. Hedonics
      ii. Travel cost
   b. Stated Preference
      i. Contingent Valuation
      ii. Conjoint analysis
   c. Benefits Transfer
   d. Non-WTP

B. Environmental Decision Making
   a. Criteria
   b. Cost-Benefit Analysis
   c. Marginal Analysis
   d. Expected Value Analysis

Part III. Exhaustible Resources

A. Ozone, climate change
   a. Global warming?
   b. Policy
   c. Kyoto revisited
B. Energy  
   a. Oil  
   b. Costs  
   c. Alternatives  
   d. Policy  

   *Chapters 8 and 9*

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**Midterm Wednesday March 2**

Part IV. Renewable Resources

A. Forests

   a. Tropical  
      i. Benefits  
      ii. Deforestation  
      iii. Global Public Good

   b. Temperate  
      i. Ecology  
      ii. Management Deforestation  
      iii. Optimal Rotation

   *Chapter 12*

B. Fish  

   a. Biology  
   b. Optimal harvest  
   c. Gordon model  
   d. Policy

   *Chapter 11*

C. Water  

   a. Consumption  
   b. Pricing  
   c. Policy

   *Chapter 15*

D. Biodiversity  

   a. Extinction  
   b. Costs  
   c. Policy

   *Chapter 14*

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Part V. Growth and the Environment

A. The Porter Hypothesis  
   *Chapter 6*

B. Environmental Kuznets Curve

C. Sustainable Development  
   *Selections of chapters 6, 18,19*