Robert Deacon (deacon@econ.ucsb.edu)
Lectures:  T R 11:00-12:15 LSB 1001; Office hours: 3040 North Hall, Tues. 2:00-3:30,
TAs: Serena Canaan, North Hall 2021, scanaan@umail.ucsb.edu, Office hours: Fri. 1:30-3:00
Patrick Holder, North Hall 2051, holder@umail.ucsb.edu, Office hours: Thurs. 12:30-2:00
Corey White, North Hall 2051, cdwhite@umail.ucsb.edu, Office hours: Thurs. 12:30-2:00

Early in the quarter our TAs will hold office hours in a computer lab (room to be announced) to give
students practice with GauchoSpace and with Microsoft XL.

Sections:  M 9:00- 9:50 GIRV 2116  Serena
          M 4:00- 4:50 HSSB 1237  Patrick
          F 9:00- 9:50 GIRV 2124  Serena
          F 10:00-10:50 PHELP 2514  Corey
          F 11:00-11:50 PHELP 1440  Corey
          M 5:00- 5:50 HSSB 1237  Patrick

Exams:  Midterm May 1 (35%) Bring Parscore Scantron
         Final: Wed., June 11 1:00-3:00 (50%) Cumulative, but emphasizing material since midterm;
         Bring Parscore Scantron; Q&A review session during 12:00-1:00
         Homework problems count for the remaining 15%

Course Description:

We will examine markets for natural resources, including minerals, fossil fuels, forest resources, and fisheries. We will also examine economic issues related to biodiversity and deforestation. Natural resource abundance is determined by physical processes and an understanding of basic principles of these processes is necessary for correct economic analysis. For this reason the study materials present biological models for fisheries and forests and incorporate geological concepts in examining minerals. Ownership rights to natural resources often are not clearly defined. In these cases the interests of some potential resource users will not be reflected in market outcomes and the scramble to acquire these un-owned assets may be wasteful. Finally, the use of natural resources is ultimately linked to the release of waste products into the environment, so there are considerations of environmental degradation. These themes appear at various points in the course.

Pre-requisites:

Intermediate microeconomics (Econ. 10A or Econ. 104A) is required. Two sets of concepts are used repeatedly: welfare economics (concepts of Pareto efficiency, externalities and property rights) and intertemporal choice (interest rates, investment decisions and present value). These concepts will be presented briefly in class and in Section II of the readings, but the time spent will be minimal. Students who have not taken the second quarter of intermediate microeconomics are encouraged to review sections of intermediate microeconomics texts that cover this material.
**Readings and Other Study Materials:**

Readings for this course are available on GauchoSpace. It is important to read the material for a given section prior to lecture. Most of the lecture slides are also available on GauchoSpace as pdf files. Some of these give mathematical formulas, derivations and models to be used in the course. I suggest you bring slides to class to assist in taking notes. The slides are integral to the course and cover some topics not treated in the readings. In addition, I will present some concepts and factual material in lectures that are not covered in readings or slides. All of this material is eligible for inclusion on exams.

**Exams, Homework Problems and Grading**

**Exams:** Exam dates and weights used in grading are listed above. Exams will consist of objective questions and problems, e.g., T/F, multiple choice, solve a problem and fill in the blank, etc. Sample questions for readings will be provided before exams. Homework problems are good examples for analytical questions.

No make-up exams will be given. Students who miss a midterm for a valid reason (illness, family emergency, etc.) may substitute a term paper in its place. If you will miss a midterm and write a paper instead you must inform me before the scheduled examination time. If you miss a midterm due to an emergency that makes it impossible to inform me before the exam, you must provide a doctor's note or other confirmation indicating why you could not inform me earlier. In these cases, term papers must be turned in to me on June 6, the last day of lecture (no exceptions). The term paper option cannot be used more than once. Please see me for term paper guidelines if you choose this option. The final exam will be comprehensive, with added emphasis on material covered after the second midterm.

**Homework problems:** Homework problems are available on GauchoSpace. Our TAs will provide guidance on completing these. Homework problems are mandatory and performance on them constitutes 15% of the course grade. They will also give you practice answering the types of questions you will find on exams. All homework problems are due by 11:00 a.m. on the announced due date. You may submit them in class or by email to your TA. Late homework problems will receive no credit. We will drop your lowest homework grade when computing your course grade.

**Grading:** Numerical scores for homework problems and exams correspond to the following letter grades. The median letter grade in this course is expected to be B or B-. If the actual distribution of exam scores results in a substantially different median letter grade, I reserve the right to adjust the correspondence between letter grades and exam scores. If this occurs, I will make an announcement in class.

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<tr>
<th>Letter Grade</th>
<th>Homework Score</th>
<th>Exam Score</th>
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<tbody>
<tr>
<td>A/A-</td>
<td>19-20</td>
<td>88-100</td>
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<tr>
<td>B+/B/B-</td>
<td>16-18</td>
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<td>13-15</td>
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TOPIC OUTLINE, READINGS AND SLIDES

I. Basic Facts and Concepts (Introd Slides)


II. Welfare Economics, Benefit Cost Analysis and Intertemporal Choice (Review Slides)

Tietenberg and Lewis, Environmental and Natural Resource Economics, 8th Edition, Chapter

T. Tietenberg, Environmental and Natural Resource Economics, 7th Ed.

Chapters 2 and 4. (Tietenberg Chaps 2 & 4) Note: For further depth, review relevant sections of your intermediate microeconomics text, e.g., H. Varian, Intermediate Microeconomics.

III. Forest Resources (Forest Slides)


Midterm Exam (May 1)

IV. Non-renewable Resources (NRR Slides)


V. Fisheries (Fish Slides)


VI. Biodiversity and Species Extinction (Biodiversity Slides, Noah’s Ark spreadsheet)


VII. Concluding comments (Finale Slides)