COURSE DESCRIPTION

Natural Resources Economics (453) considers the efficient and equitable use of society's scarce natural resources. Natural resources include minerals, trees, fish, water, environmental systems, wildlife, parks, wilderness areas, etc. Natural resource use will be considered from three perspectives: the market allocation of natural resources, the optimal allocation, and government attempts to achieve a more efficient and equitable allocation. Natural Resource Economics is a course in applied welfare economics and will study in detail when the market is, and is not, capable of efficiently allocating natural resources. The course is designed for Econ majors who have had intermediate micro theory, calculus and math econ. My hope is that you will finish the course with a sound understanding of the economic theories of natural resource use and how those theories explain, in part, what does, and should, happen in the "real world".

GORY DETAILS

There will be two exams; a midterm and a comprehensive final. The tentative date for the midterm is Oct. 12. The midterm will constitute 25% of your course grade and the final 50%, unless you do better on the final, in which case, the midterm will not count and the grade on the final will constitute 75% of your course grade.

Review questions will be handed out before each exam. Knowledge of the review questions will be very helpful when taking the exam.

There will be a term paper (5-10 pages) which will be 25% of your grade. Choose some natural resource problem or environmental problem and evaluate it in economic terms. For example, choose a particular environmental market failure, explain why the market failed, and suggest policies for improving the situation. The intent of the paper is to get you to apply the economic theory that you have learned to a "real world" natural resource problem that you find interesting. Some interesting papers in the past have been on such topics as: "Do We Really Need Bighorn Sheep"; "The Economics of Whaling"; "The Economics of Outer Space"; "Recycling"; "The Love Canal"; "The Harp Seal Hunt"; "Geothermal Energy"; "Petroleum Regulation"; "Genetic Engineering"; "Severance Taxes"; "Coal"; "Lead"; "Wilderness Management"; "Boulder Mountain Parks"; "Deforestation"; etc.

- Discuss your topic with me before you write the paper;
- The paper is due on December 3rd.

I grade on the following scale

\[
\begin{align*}
\geq 90\% & = A \\
\geq 80\% & = B \\
\geq 70\% & = C \\
\geq 60\% & = D \\
< 59\% & = F
\end{align*}
\]

My office hours will be on Tuesdays from 4:45-6:00 pm, Wednesdays from 1:50-3:30 pm., and by appointment. My office is Econ 122. (492-6898).
PREREQUISITES

Econ. 407 and Econ. 480/580 (or permission of the instructor).

TEXTBOOK

There is no textbook for the course and much of the material that I will present in class will not appear in any of the readings.

NATURAL RESOURCE ECONOMICS: TOPICS AND READINGS

There is a packet of readings at Kinkos (hereafter referred to as packet A) which includes the readings for Sections I-III. Packet B (the readings for Sections IV-VI) will be ready later in the term.

I. An Introduction to N R Economics


II. An Introduction to Renewable Resources: Fishery Economics and the Common Property Problem

2. Scallop article in the CSM (Packet A).
3. Oyster article in the WSJ (Packet A).
5. Article on Deforestations in the CD (Packet A).
7. Edney, J., "Free Riders En Route to Disaster," Psychology Today, August 1979, 80-87 102 (Packet A).

III. Discounting and Present Value: A Mathematical Review

1. Chiang, Fundamental Methods of Mathematical Economics, 3rd edition, chapter 10 (pp. 280-294 and 313-316 only) and chapter 13 (pp. 452-459 only), (Packet A).
IV. Welfare Economics

1. My lecture notes on welfare economics (Packet B).
2. Letter from the Daily Camera (Packet B).
3. Article on the Local Mill in the CD (Packet B).
4. Article on White Rocks in the CD (Packet B).
5. Article on Smoking in Business Week (Packet B).
9. Article on Pollution Rights in the WSJ (Packet B).
10. Article on Air-Pollution Peddlers in the Washington Post (Packet B).

V. Portfolio Theory as Applied to Trees, and Nonrenewable Resources

1. Lecture notes on portfolio theory (Packet B).

VI. Extinction

1. Review the readings from Section II.
2. Article on Swans in the WSJ (Packet B).