

**AREC 351: Natural Resource Economics and Policy**  
Course Syllabus

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**Office Hours:** MW, 11:30–12:20 or *drop by anytime*

**Course Objective**

In this course we explore how to apply principles of economics to identify the causes, consequences, and ways of dealing with natural resource problems. The primary objective is to develop students' skills in using economic concepts to analyze contemporary issues associated natural resource uses and policies. The major topics covered in this course include

- Defining economic efficiency and other criteria for evaluating natural resource use and policy
- Examining sources of inefficiency in the exploration of natural resources
- Discussing policy options to reduce inefficiency, and
- Applying economic concepts to management of specific natural resources, including fisheries, forests, and water resources.

**Prerequisite**

ECON 201: Introduction to Microeconomics; MTH 111: College Algebra.

**Textbooks and Reading Materials**

Reading materials for this class are taken from a number of sources. Three copies of these materials have been reserved in the Valley Library. You should be able to check out these materials from the Circulation Desk of the Valley Library:

<u>Items</u>	<u>Call Number</u>
1. Reading Packet – Wu (1 <sup>st</sup> copy)	AREC 351-1 C.1
2. Reading Packet – Wu (2 <sup>nd</sup> copy)	AREC 351-1 C.1
3. Reading Packet – Wu (3 <sup>rd</sup> copy)	AREC 351-1 C.1

You are required to read all the materials indicated by an asterisk in the Course Outline and Reading List, and are encouraged to read the rest as much as you can. The following textbooks are recommended (but not required):

- Tom Tietenberg. *Environmental and Natural Resource Economics*. Seventh edition. Reading, MA: Addison-Wesley, 2005.
- Barry C. Field. *Natural Resource Economics: An Introduction*. Boston: McGraw-Hill, 2001.

### ***Lecture Notes and Homework Answer Keys***

My lecture notes will be posted on our class website (Blackboard). You can logon to the website at <http://my.oregonstate.edu> to access the lecture notes. I will also provide answer keys to each homework assignment after grading through the class website. Students in my previous classes found my lecture notes very helpful.

### ***Course Requirements and Grading Policy***

There are four basic requirements for this course. Your grade will depend on how well you fulfill these four requirements. The weights of these requirements are shown in the parentheses:

- 1) Class participation (5%): You are required to attend all lectures and to read the assigned materials. I will choose three lectures in which you will be asked to sign your name on a sheet. Students who miss one of the three lectures will be penalized by 25% of the class-participation points. Students who miss two of the three lectures will be penalized by 50% of the class-participation points. Students who miss all three lectures will receive no points for class participation.
- 2) Homework (25%): There will be a weekly homework assignment except the first week and the week before the midterm and final exams. These assignments are designed for students to review concepts introduced in classes, to learn problem-solving skills, and to prepare for the exams. Late homework will be penalized 25% of grade if overdue by one day and 50% if overdue by two days. Homework overdue three days or more will not be accepted.
- 3) Midterm Exam (30%): Wednesday, February 13, 2008, 10:00-11:20 pm. No make-up exam.
- 4) Final Exam (40%): Tuesday, March 18, 2008, 9:30 - 11:00 am. No make-up exam.

### ***Announcement***

Students with documented disabilities who may need accommodations, who have any emergency medical information the instructor should know, or who need special arrangements in the event of evacuation, should make an appointment with the instructor as early as possible, no later than the first week of the term. Students seeking accommodations should be registered with the Office of Services for Students with Disabilities.

**AREC 351: Natural Resource Economics and Policy**  
Course Outline and Reading List  
(\* required readings)

All readings in the following list (3 copies) have been reserved in the Reserve Room in Valley Library. You can check out these materials by using the call numbers listed in the course syllabus.

**I. Concepts and Methods**

A. Overview of the Course and the Field – Lecture #1

*Reading: Field, Ch.1.\* Hartwick & Olewiler, Ch. 1*

B. Economic Perspectives of Natural Resource Use – Lectures #2-5

1. Review of Economic Concepts
2. Static Efficiency
2. Dynamic Efficiency
3. Sustainability

*Readings: Field, Chs. 3-5\*. Tietenberg, Ch.2*

C. Sources of Inefficiency in the Use of Natural Resources - Lectures #6-8

1. Externalities
2. Improperly Defined Property Right Systems
3. Imperfect Market Structures
4. Divergence of Social and private Discount Rates
5. Government Failure

*Readings: Tietenberg, Ch.4, pp.61-78\**

D. The Pursuit of Efficiency - Lectures #9-10

1. Private Resolution Through Negotiation
2. Property Rights and Liability Rules
3. Government Policies

*Readings: Tietenberg, Ch. 4, pp. 78-83\**

**Midterm Exam**

**II. Applications**

A. Forests – Lectures #11-13

1. Special Attributes of Forestry Resource
2. Efficient Management of Forestry Resource
3. Source of Inefficiency
4. Public Policy Toward Forestry

*Readings: Hartwick & Olewiler, Ch. 10\**

B. Fisheries – Lectures #14-15

1. Special Attributes of the Fishery Resource
2. Fisheries as a Common-Property Resource
3. Efficient Extraction
4. Sources of Inefficiency
5. Public Policy Toward Fisheries

*Readings: Hartwick & Olewiler, Ch. 4\*. Hartwick & Olewiler, Ch. 5*

C. Water - Lectures #16-17

1. A Globe Perspective of Water Scarcity
2. Water Allocation Doctrines in United States
3. Water Allocation Inefficiency and Potential Remedies

*Readings: Tietenberg, Ch. 10\**

D. A Summary of the Course - Lecture #18

**Final Exam**