University of Alaska Anchorage
Department of Economics
Fall 2014 Course Syllabus

ECON A453, Natural Resource Economics, 3 Credits
Aug 25, 2014 – Dec 13, 2014

Instructor: Prof. Matt Reimer
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Office: DPL 504F

Location: RH 206
Time: TR 2:30p – 3:45p
Office Hours: TR 1:00p – 2:15p, or by appointment.
Note that office hours will be held in RH 205H.

Course Prerequisites: ECON A321 with a minimum grade of C.

Textbook(s):
Hartwick, J., and N. Olewiler. 1998. *The Economics of Natural Resource Use.* 2nd Ed. Boston: Addison Wesley. [REQUIRED. In UAA bookstore.]
- Note: lectures will draw both from the textbook and additional sources. Supplementary reading material will be posted regularly on the course Blackboard site.

Catalog Description: Economic analysis of natural resource use, conservation, and management. Examines minerals, energy, forests, fisheries and ecosystem services. Uses Alaska examples.

Course Overview: Economics is the analysis of how society allocates scarce resources among competing uses. The field of natural resource economics would then be the study of how society allocates scarce natural resources, such as stocks of fish, stands of trees, fresh water, oil, and other naturally occurring resources. Why do we study natural resource economics separately, and not as just another example in microeconomic or macroeconomic theory? First, a large set of today's current policy issues concern natural resources, and thus, an understanding of the economic principles behind natural resource use is an invaluable tool to inform discussions of these practical problems. Second, the following features are more prevalent in the study of natural resources than in other economic topics:

1. Natural resource economics emphasizes economic *dynamics* and decision-making in an *intertemporal*—as opposed to *static*—setting.
2. Many natural resources are *nonrenewable*, in the sense that once the resource is used up, it is gone.
3. Proper *institutions* are often lacking to facilitate efficient use of natural resources.

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Class Objectives

In this class, we will use microeconomic theory and mathematical modeling tools to develop a rigorous understanding of the use and management of natural resources over time, and the role of institutions for achieving efficient outcomes. This class will expose students to models of resource economics and management while emphasizing the concepts and intuition of the models. The economic models covered in this class will be motivated by several real-world examples.

Student Learning Outcomes

By the end of this class, I expect students will be able to:

1. Approach natural resource policy issues in a systematic way and recognize the important role of institutions for resource management.
2. Extend the economic models covered in class to a wide variety of natural resource policy issues.
3. Discuss natural resource policy issues in a precise and concise manner through the use of words, pictures, and mathematical notation.
4. Write down a simple economic model and apply calculus and numerical methods (in Excel) to derive predictions and policy recommendations.

Assignments and Evaluation

Students will be graded according to the following scheme:

Problem Sets and Reading Assignments	35%
In-class Participation	15%
Take-home Midterm Exam	25%
Take-home Final Exam	25%

Grades: A = 90-100; B = 80-89; C = 70-79; D = 60-69; F <=59.

Problem Sets and Reading Assignments (35%): Students will be required to complete a number of problem sets and reading assignments throughout the semester.

a. *Reading assignments*: are designed to supplement lectures and provide real-world context to the economic models presented in class. Students are expected to complete these assignments on their own and to hand them in at the beginning of class.
b. *Problem sets*: are designed to aid in the understanding of course material, the building of simple economic models, and the practice of using problem-solving tools to draw conclusions about real-world natural resource policy issues. Students will be expected to use a combination of calculus and Microsoft Excel's Solver routine to build and solve economic models of natural resource use. Students are encouraged to work on problem sets as a group; however, there may be no more than three students per group. Each group will turn in a single problem set—along with any created Excel spreadsheets—via email before the assignment due date.

In-class Participation (15%): You are expected to attend class on a regular basis. Students will be graded on their participation in discussions and experiments during class time.

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Take-home Midterm Exam (25%): Students will be graded on a take-home midterm exam covering topics presented in the first half of the semester. **Due date: (TBD).**

Take-home Final Exam (25%): Students will be graded on a take-home final exam covering topics presented in the second half of the semester. **Due date: 11:59pm AKT on December 13, 2014.**

Notes: Students will have one week to complete a take-home exam and will turn it in—along with any Excel spreadsheets—via email before the due date. All course materials are fair to use but ***you are not to consult with classmates or faculty or ANY other human being.*** This is to be your work and your opportunity to demonstrate your ability to learn and communicate.

I take a very dim view of assignments or exams that are identical (see the *Academic Honesty* section below). ***All late assignments and exams will be assigned a score of zero, unless a written exemption has been obtained beforehand.*** Exemptions will be given only in exceptional circumstances.

Communications and availability

The best way to reach me is through email, or by coming to scheduled office hours or at a scheduled appointment. Note that my main office is in the Diplomacy Building (DPL 504F). The office that I will hold office hours in (RH 205H) is a shared office for faculty from the Institute of Social and Economic Research. I will therefore not always be around Rasmuson Hall, so that a scheduled appointment works better than "dropping in." To facilitate efficiency, ***be sure to use ECON 435 in the subject line so I will spot your message quickly***. I will communicate regularly through Blackboard, so students are expected to visit the course Blackboard site on a regular basis and ensure that Blackboard is using a current email address.

Lecture Plan and Readings

A detailed reading list will be posted on Blackboard and will be updated regularly throughout the semester. Please note that the following outline is not a lecture-by-lecture calendar of the course. Instead, it is aimed at providing a broad overview of the issues and topics to be covered during the course of the semester.

1. Introduction to resource economics
2. Basic concepts and mathematical tools for studying resource economics
3. The economics and regulation of fisheries
4. The economics of forestry
5. The economics of nonrenewable resources
6. The economics of stock pollutants
7. Ecosystem Services (Time permitting)

Student Code of Conduct

As with all members of the University community, the University requires students to conduct themselves honestly and responsibly, and to respect the rights of others. Conduct that unreasonably interferes with the learning environment or that violates the rights of others is prohibited by the standards and guidelines collectively described as the Student Code of Conduct. For more information, refer to Student Rights, Freedoms, and Responsibilities section in the *UAA Fact Finder/Student Handbook* http://www.uaa.alaska.edu/studentaffairs/fact-finder.cfm or Chapter 7 Academic Standards and Regulations in the UAA catalog http://www.uaa.alaska.edu/records/catalogs/catalogs.cfm.

Academic Honesty

Academic integrity is a basic principle, which requires that students take credit only for ideas and efforts that are their own. Cheating, plagiarism, and other forms of academic dishonesty are defined as the submission of materials in assignments, exams, or other academic work that is based on sources prohibited by the faculty member. Plagiarism in written work will result in a class grade of F. Plagiarism includes: (i) stealing or passing off the ideas or words of another as one's own, (ii) using another's production without crediting the source, and (iii) to present as new and original an idea derived from an existing source. In addition to any adverse academic action, which may result from engaging in academically dishonest behavior, the university specifically reserves the right to address and sanction the conduct involved through the student judicial review procedures outlined in the *UAA Fact Finder/Student Handbook*.

Additional information on plagiarism is located on the UAA Library website: http://www.consortiumlibrary.org/blogs/ahi/plagiarism/

Disability Support Services

Disability Support Services (DSS) coordinates academic support services for students who experience disabilities. To access support services, students should contact DSS and provide current disability documentation. Additional information may be accessed at the DSS Office in Rasmuson Hall (RH105) or on-line at www.uaa.alaska.edu/dss. Services include, but are not limited to, American Sign Language interpreters, note-taking assistance, testing adjustments, ergonomic furniture, textbooks in alternate formats (e.g., large print, audio, e-text, etc.), and access to adaptive technology. DSS also serves as a resource for the community, facilitating workshops and awareness-building events, and maintaining an extensive lending library.