AREC 551 – Applications of Environmental and Natural Resource Economics
Spring 2014, 4 Credits

Professor
William Jaeger
Department of Applied Economics
Office: 220A Ballard Hall
Phone: 541-737-1419
E-mail: wjaeger@oregonstate.edu

Course Description
This course applies and expands upon concepts, theories, and methods in environmental and natural resource economics introduced in AREC 550. In addition to applications of what was introduced in AREC 550, topics in this course will include non-market valuation, discounting, and benefit-cost analysis, as well as the role and importance of institutions, appropriate research methods, and the philosophical basis for normative judgments in economics.

Objectives
The course objectives are:
- To develop students’ ability to apply theory and utilize empirical evidence in evaluating environmental and natural resource issues from “problem solving” perspective at a level appropriate for M.S. students.
- To provide students with the necessary background and tools, and to expose students to relevant research and policy analysis, to develop their skills for conducting applied research and evaluation of policy at a level appropriate for an M.S. thesis.

Learning Outcomes
Students completing this class successfully will be:
- Able to identify and describe a range of market and policy failures that can plague environmental resource allocation;
- Able to identify and describe a range of regulatory, market-based and other mechanisms that can be used to address pollution and other environmental and natural resource policy issues, and assess their potential strengths and weaknesses (private property, common property, standards, taxes, and tradable permits);
- Able to recognize a range of social welfare criteria and explain their differences including Pareto efficiency, potential Pareto efficiency, and other approaches to social welfare for evaluating natural resource allocations and policies.
- Able to identify and describe standard approaches to using quantitative methods and economic models for addressing environmental and natural resource issues;
- Able to frame and discuss environmental and resource issues and policy within the context of economic theory, methods and empirical evidence.

Prerequisites: AREC 550
Lectures: The class meets Mondays and Wednesday at 10:00 – 11:40.
Office Hours: Monday and Wednesday 3:30 – 5:00, or by appointment.
Textbooks (Required): We will refer to materials assigned in AREC 550 from the texts:


Other potentially useful books include:


The Hanley, Shogren, & White (HSW) and Conrad books are available at the OSU bookstore. All other required or recommended readings will be available on Blackboard.

Course Requirements
   Exercises/problem sets: 25% of total
   Midterm Exam: 25%
   Final Exam: 35%
   Attendance, participation: 15%

There are no exceptions to the exam dates. Please make travel plans accordingly. There are no makeup exams or extra credit assignments. Any unexcused absence from an exam will receive a grade of zero. An absence will be excused only with appropriate documentation.

The course schedule, readings and assignments below is flexible, and adjustments may still be made as we proceed.

A # in front of a reading indicates that these will involve student presentations, or on the case of the CV a debate of sorts. CBA or spreadsheet exercises may also be given.

Course Outline and Readings (Revised)

I. Introduction (March 31, 2014)
   • Characklis, et al., 2011. In Increasing the Role of Economics in Environmental Research (or Moving beyond the Mindset That Economics = Accounting). Environmental Science and Technology 45. (pubs.acs.org/est).

II. Water Economics – Urban
III. Water Economics – Agriculture


IV. Institutions, Welfare and Efficiency (two class meetings)

V. Environmental Kuznets Curve; Trade and the Environment (two classes)

VI. Environmental taxation and the double dividend hypothesis

VII. Theory and Methods of Environmental Valuation (two weeks)
A. Theory of valuation
   HSW, Chapter 11, pp. 322-332.

B. Contingent valuation & choice modeling
   HSW, Chapter 11, pp. 332-344.

C. Revealed preference, travel cost method
HSW, Chapter 11, pp. 344-352.

D. Hedonic pricing models
HSW, Chapter 11, pp. 352-356.

E. Value typology, ecosystem service valuation
HSW, Chapter 11, pp. 356-357.

VIII. Valuation Applications:

IX. Fishery applications

X. Research methods – debate and critique

XI. Discounting
Conrad, JM., Resource Economics, pp. 11-17. 

XII. Benefit-cost analysis


XIII. Climate Change and carbon policies


Additional Case Studies/Applications (time permitting)


**Students with Disabilities**

Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

**Student Conduct**

OSU policies with regard to academic dishonesty and disruptive behavior will be strictly followed. Oregon State University defines academic dishonesty as: “An intentional act of deception in which a student seeks to claim credit for the work or effort of another person or uses unauthorized materials or fabricated information in any academic work.” Academic dishonesty includes: Cheating, Fabrication, Assisting, Tampering, Plagiarism. More information is available at: [http://oregonstate.edu/studentconduct/](http://oregonstate.edu/studentconduct/).