

# ECO 477: Economics of Environmental and Resource Management

## Fall 2014

### Class Meetings

Days: MWF

Time: 10:00-10:50 am

Location: Winslow 201

Course ID: ECO 477-0001

### Instructor Contact Information

Jonathan Rubin, School of Econ.

Office: 302C Winslow Hall

Phone: (207) 581-1528

Email: rubinj@maine.edu

Office Hours: after class, & appt.

**Prerequisites:** Prerequisite: ECO 350 or ECO 420 or permission of the instructor.

### Text and Readings:

- (1) Required: Tietenberg, Thomas H and Lynne Lewis, *Environmental and Natural Resource Economics*, 8th edition or later.
- (2) Required: additional assigned will be available via Blackboard

### Course Description:

This course will explore environmental and resource economics. The first part of the course examines the economics of pollution generation and its control. We will review the theory of externalities, public goods and property rights and then focus on the design of environmental policy. In this section we will examine the use of emission taxes, marketable credits, regulatory standards and subsidies as potential pollution control tools, both in terms of their theoretical properties and practical potential as policy instruments. In the second half of the course we will look at what is traditionally known as resource economics. We will explore the economics of renewable (fisheries, forests) and non-renewable resources (oil and natural gas). Over the course, we will take time to focus on contemporary, policy-relevant environmental issues such as Canadian Oil Sands, Corporate Average Fuel Economy (CAFE) standards for cars and acid rain impacts and the regulatory response.

### Course Learning Objectives:

By the end of this course you will:

- Demonstrate mastery of the economics of public policy towards natural resources and the environment. Demonstrate mastery in the economics of firms and industries impacted by natural resource and environmental policies. These objectives will be attained through the use of economic tools such as BCA, marginal analysis, and non-market valuation of environmental & natural resource regulations and laws.
- Gain subject matter knowledge in specific environmental & natural resource management topics important today.

## Class Procedures and Requirements

### Evaluation of Work and Grading

Grading: The overall grade for the course will be determined by the following weights:

Exam 1	25%
Exam 2	25%
Class Paper	25%
Assignments	15%
Class Participation/Attendance	10%

Final grades will be assigned as follows: A (91+); B+ (87-89); B (83-86); B- (80-82); C+ (77-79); C (73-76); C- (70-72); D+ (67-69); D (62-66); D- (60-69); F (59 or less).

Exams: There will be two midterm exams and a class paper.  
Exam 1 15 October 2014  
Exam 2 5 December 2014

The questions will be mostly drawn from material discussed in class and in the textbook, but not necessarily covered explicitly in both. A make-up exam will be given only if: there is an very good reason, written verification is provided, and the student notifies the professor within 48 hours of the missed exam (and preferably prior to the exam).

### Research Paper

Each student is responsible for writing a paper on some economic aspect of environmental or natural resource economics. The paper is intended to give you practice in applying economic principles to actual environmental or natural resource issues. You are to find an environmental or natural resource topic and model the situation, either theoretically or empirically. In the latter case, you may need to find data and conduct the analysis or discuss the kinds of data and methods that you would need to conduct your empirical analysis. I am happy to suggest and discuss topics with you.

*Paper Proposal.* The paper proposal will consist of a two-page, single spaced document which provides: (1) the title of the project, (2) the scope of the project (research questions, coverage, etc.), (3) a tentative outline of the final paper and, (4) a tentative bibliography of sources you will consult. This proposal should reflect sufficient knowledge of the literature that you can specify both the subjects to be covered by the report and how they fit together. This proposal will count towards 10% of the paper grade. **Due: Friday, 17 October**

*Optional First Draft.* You may submit a first draft of the paper for my critique. No grades will be assigned to the first draft. You can use the comments to improve

the paper. If you chose this option, I must receive the paper at least 7 days before it is due (earlier is better).

*Final Paper.* The class paper is **due** the last day of class, **12 December 2014**. A five-point-per-day penalty will be assigned (out of 100) for each day the paper is late. This implies, for example, that a paper, which, if handed in on time, would have received a 90%, would, after a two-day-late penalty, receive an 80%.

### **Presentation of Research Paper**

To build your presentation skills, each student will take responsibility for presenting a 15 minute presentation of her/his research paper. Deadline: Last week of class by lottery. This will be a graded assignment.

Fellow students will submit a ½ page critique of each presentation – this will be a graded assignment of the critiques.

### **Assignments**

During the semester you will be asked to complete several homework assignments. Late work will be accepted, but will be penalized. Assignments turned in after the due date/time will be assessed a 50% penalty.

### **Participation/Attendance**

Class preparation, attendance, and participation are expected. Students are responsible for all announcements made in class. Throughout the semester I will periodically record class participation or lack thereof.

### **Class Website**

We will be using the on-line course website program called Blackboard. This website will contain all course materials (except readings in the text) – including homework, additional readings and due dates.

### **Disability Policy**

Students with disabilities who may need services or accommodations to fully participate in this class should contact Ann Smith, Director Disability Services in 121 East Annex, (voice) 581-2319, (TTY) 581-2325 as early as possible in the semester.

### **Academic Integrity**

Academic honesty is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, to fake experimental results, or to copy or reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University.

### COURSE OUTLINE

**This outline is tentative.** Replacements will be given during the semester. Please hold exam dates - however additional readings and assignments will be assigned as we proceed through the semester.

Week	Date	Lecture Topic	Readings	Assessments Due
<b>Environmental Economics Policy, Management &amp; Tools</b>				
1	M 9/1	No Class		
	W 9/3	Vision of the Future: Economic Approach:	Chpt. 1	Pre-Course Assessment
	F 9/5	Valuing the Environment: Concepts	Chpt. 2	
2	M 9/8	Valuing the Environment: Methods	Chpt. 3	
	W 9/10	Property Rights, Externalities, and Environmental Problems	Chpt 4	
	F 9/12	Benefit Cost Analysis	See BB	
3	M 9/15	Case Study CAFE	See BB	
	W 9/17	TBD	See BB	
	F 9/19	Economics of Pollution Control	Chpt. 15	
4	M 9/22	Economics of Pollution Control	Chpt. 15	
	W 9/24	Case Study: Acid Rain	See BB	
	F 9/26	Mobile Sources	Chapter 18	
5	M 9/29	Mobile Sources	See BB	
	W 10/1	Water Pollution	Chapter 19	
	F 10/3	Water Pollution	See BB	
6	M 10/6	Toxic Substances and Environmental Justice	Chpt. 20	
	W 10/8		<b>See BB</b>	
	F 10/10	Review	See BB	
7	M 10/13	No Class – Fall Break	<b>See BB</b>	
	W 10/15	Exam 1	See BB	<b>Exam 1</b>
	F 10/17	Dynamic Efficiency	Chpt. 2, Appendix, p. 33, Chpt. 5 plus Appendix, p. 107.	<b>Paper Proposals Due</b>
<b>Renewable &amp; Non-Renewable Resource Policy &amp; Management</b>				
8	M 10/20	Dynamic Efficiency		
	W 10/22			
	F 10/24	Depletable Resources		
9	M 10/27	Depletable Resources		
	W 10/29	Forestry	Chpt. 13	
	F 10/31			
			Chpt 8	

10	M 11/3			
	W 11/5	Energy Security	See BB	
	F 11/7	Transition to Renewables		
11	M 11/10	Biofuels	See BB	
	W 11/12	Forestry	Chpt. 13	
	F 11/14	Forestry	See BB	In-Class
12	M 11/17	Fisheries	Chpt. 14	
	W 11/19	Climate Change	Chpt. 17, pp. 425-437	
	F 11/21	Climate Change	See BB	
13	M 11/24	TBD		
	W 11/26	Thanksgiving Break		No Class
	F 11/28	Thanksgiving Break		No Class
14	M 12/1	Sustainable Development	Chapter 23	
	W 12/3	Review		
	F 12/5	<b>Exam 2</b>		<b>Exam 2</b>
15	M 12/8	Class Presentations		Provide written feedback on class presentation
	W 12/10	Class Presentations		Provide written feedback on class presentation Course Evaluation
	F 12/12	Last Class		<b>Class Papers Due</b>

*In the event of disruption of normal classroom activities, the format for this course may be modified to enable completion of the course. In that event, you will be provided an addendum to this syllabus that will supersede this version.*