

SYLLABUS

ARE 147 (ARE 147M):

UC Davis, Department of Agricultural and Resource Economics

Winter Quarter 2017

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Resource and Environmental Policy Analysis

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Course overview:

This course provides an overview of issues regarding the use and management of the environment and natural resources from an economics perspective. We will look at environmental issues as economic issues and consider economics as a cause and cure for environmental destruction. Beginning with an introduction to the principles of environmental and natural resource economics, we will develop a basic theory and methods required to understand the concept of economic efficiency and the conditions under which markets can and cannot be expected to result in efficient management of the environment. *3 units (2 units).*

Learning objectives:

This course provides you with powerful tools to approach current environmental issues and policy debates. By the end of this quarter, you will:

- Understand core economic concepts such as efficiency, costs and benefits, enforcement and trade-offs, and apply them to environmental issues
- Comprehend the virtues and limitations of markets and allocations through prices
- Have a basic understanding of measuring environmental benefits
- Be able to approach, analyze and discuss a variety of environmental issues, policy and politics.

How this course works:

Learning is not a spectator sport, it happens when you actively engage with the course content. The course design and materials provided throughout the quarter are meant to facilitate your learning process and support the above stated learning objectives. **Please carefully review the information regarding assignments here and familiarize yourself with the information in the assigned reading prior to coming to class.**

Quizzes, lecture attendance and participation:

We all procrastinate. Incentives serve as commitment devices to keep up and stay engaged with the assigned material throughout the quarter. We will have weekly quizzes every Thursday to assess your understanding of the material. You will need a UCD2000 (blue or red) scantron for each quiz. I will drop your lowest two quiz scores in computing your final grade. The quizzes test whether you keep up with the assigned material and summarize and re-emphasize important points. In addition, using iclicker and REEF allows you to participate during lecture even if you do not feel confident in contributing verbally in class. It also provides me with instant feedback. After each class, I'll choose one question that will be used to assign participation points for that day. You will receive one point for submitting an answer and an additional point if your answer was correct. If you receive at least 30 points, you will receive full participation credit toward your grade. No credit will be given if you attend class and your device does not work or if you forget to bring one.¹

¹ You can choose to opt out of the participation part of your grade. If you decide to do so, you will have to see me in person in my office hours to discuss this option for grading before the midterm. In this case, your midterm receives a higher weight in your overall grade.

Problem sets and discussion paper

In addition, there are two problem sets you are required to complete and submit (see due dates in the tentative schedule). In order to further apply the learned material, you are asked to discuss a topic of your choice by the end of the quarter. Additional information is provided in a separate handout.

Exams:

There will be one midterm on Tuesday, February 21st. The final will be held during the scheduled time on Friday, March 24th, from 3.30pm-5.30pm. Please bring a UCD2000 (blue or red) scantron form on the day of exams. The exams consist of multiple choice questions, true/false questions, and analytic questions. **There will be no make-up exams.** If, due to a serious illness or family tragedy, you are unable to take one of the exams, your final grade will be based solely on the remaining assignments and exams. You must contact me immediately with appropriate documentation in order to receive this accommodation.

If you do not understand something or need additional help, please ask. If you do not feel comfortable asking in lecture, come see me in office hours. I am happy to help!

Prerequisites:

No formal prerequisites for this course. (If you have never had an introductory microeconomics course, you may find it helpful to refer to a good basic economics textbook now and then, e.g. Gregory Mankiw's *Principles of Microeconomics*)

Required textbook:

Markets and the Environment, Second Edition by Nathaniel O. Keohane and Sheila M. Olmstead.

Note: This is not an expense textbook, but not the only textbook available to you. There are a number of Introductory Environmental Economics textbooks that could be used as a substitute. If you chose to use a different textbook, it is your responsibility to identify the appropriate pages to read. Please refer to the assigned chapters and readings from this textbook indicated on the tentative schedule.

Required readings:

Additional required readings are indicated on the tentative schedule and posted on Canvas.

Required technology:

iClicker2 (campus standard), REEF¹

Lectures:

TR: 1:40 – 3:00pm, Olson Hall 118

Office hours:

T: 9:00 – 10:00am, SSH 2147

R: 4:00 – 5:00pm, SSH 2147

*The best way to meet me outside of office hours is to email me and schedule a time. **If you have any problems with this course, or with any other matters that may affect your work in this course, please contact me immediately.***

Grades:

Your final numerical score will be calculated based on **quizzes, participation, two problem sets and a discussion paper, midterm, and final exam**. Numerical scores will not be converted to letter grades until the end of the quarter and specific letter grades will not be assigned to individual assignments. I will provide feedback on your performance over the course of the quarter, however. The final score breakdown and grade distribution is as follows:

Problem sets	8%	(40 points, 20 points each)
Group paper	10%	(50 points)
Quizzes	6%	(30 points)
Participation	6%	(30 points)
Midterm	30%	(150 points)
Final	40%	(200 points)
	100%	(500 points)

Percent	Points	Grade
93 – 100%	500 – 465	A
90 – 92%	464 – 450	A-
87 – 89%	435 – 463	B+
83 – 86%	415 – 434	B
80 – 82%	400 – 414	B-
77– 79%	385 – 399	C+
73– 76%	365 – 384	C

Academic Conduct:

Honor and academic integrity are expected as this class will be conducted in strict observance of the [Code of Academic Conduct *Honesty, Fairness, Integrity*](#). It assigns specific responsibilities to faculty, administration and students. Please review your responsibilities carefully and adhere to these rules. I encourage you to work together as I strongly believe it supports the learning process. However, your submitted quiz, problem sets, and exam answers need to be your own, and any sources used in the preparation of your discussion paper need to be properly cited. Please refer to [additional information on proper citation](#).

Courtesy:

As a courtesy to your fellow students and me, please be respectful. Be on time for class. If you arrive late or leave early, please do so quietly. Please do not use your cell phones, tablets or laptops during lecture other than for class purposes.

UC Davis is a diverse community comprised of individuals having many perspectives and identities. In order to create an inclusive and intellectually vibrant community, we must understand and value individual differences and common ground. The [UC Davis Principles of Community](#) reflect the ideals I seek to uphold in this class.

Disabilities:

If you have a learning disability or a physical disability that requires accommodation, please let me know as soon as possible. All needs that have been verified through the [Student Disability Center](#) will be accommodated.

Tentative schedule:

Week	Subject	Readings (K&O and posted readings)
Week 1 (T 01/10, R 01/12)	Introduction and Overview, Basic Concepts	<i>Fullerton, D. and R. Stavins (1998), "How economists see the environment", Nature 395(Oct): 433-434.</i>
Week 2 (T 01/17, R 01/19)	Benefits, Costs, and Economic Efficiency	Chapter 2 (pp. 11-30), Chapter 3 (pp. 35-55) Chapter 4 (pp. 69-78) <i>Arrow et al. (1996), "Is there a role for benefit-cost analysis in environmental, health and safety regulations?" Science, 272: 221-222.</i>
Week 3 (T 01/24, R 01/26) PS1 due: R 01/26	Market Failures and the Environment	Chapter 5 (pp. 81-97)
Week 4 (T 01/31, R 02/02)	Valuing the Environment	Chapter 2 (pp. 31-34) Chapter 3 (pp. 55-68) <i>Bockstael et al (2000), "On Measuring Economic Values for Nature," Environmental Science and Technology 34: 1384-1389.</i> <i>Chay, K.Y. and M. Greenstone: "Does Air Quality Matter? Evidence from the Housing Market." Journal of Political Economy, 2005, Vol. 113, 2: pp. 376-424 (Only to p. 381)</i>
Week 5 (T 02/07, R 02/09)	Policy Instruments to Manage the Environment I	Chapter 8 (pp. 125-167) <i>Coase, R. H.: "The Problem of Social Cost". Journal of Law and Economics, Vol. 3 (Oct., 1960), pp. 1-44. (only to p. 9)</i>
Week 6 (T 02/14, R 02/16) PS 2 due: R 02/16	Policy Instruments to Manage the Environment II	Chapter 9 (pp. 168-184) <i>Schmalensee, R. and R. Stavins, (2013), "The SO2 Allowance Trading System: The Ironic History of a Grand Policy Experiment," Journal of Economic Perspectives, 27(1): 103-122</i>
Week 7 (T 02/21, R 02/23) Midterm: T 02/21	Non-renewable Resources – Optimal Extraction	Chapter 6 (pp. 100-113) <i>Solow, R. M. (1974), "The Economics of Resources or the Resources of Economics," American Economic Review 64(2): 1-14.</i>
Week8 (T 02/28, R 03/02)	Renewable Resources – Optimal Extraction	Chapter 7 (pp. 114-137) Chapter 9 (pp. 184-189) <i>Berkes, F. et al. (1989), "The benefits of the commons," Nature 340(6229): 91-93.</i> <i>Costello et al (2008), "Can catch shares prevent fisheries collapse? Science 321: 1678-1681.</i>
Week9 (T 03/07, R 03/09)	Climate Change Economics and other applications (EPA's Clean Power Plan)	<i>Nordhaus, W. "Why the Global Warming Skeptics are Wrong," The New York Review of Books, March 22, 2012.</i> <i>Mankiw, G: "One Answer to Global Warming: A New Tax", NYT, Sept. 16, 2007</i> <i>Fowlie et al (2014). "An Economic Perspective on EPA's Clean Power Plan." Science 346(6211): 815-816.</i>
Week10 (T 03/12, R 03/14)	Other applications cont. (AB 32 and Cap and Trade in California), Final Exam Review	<i>Next 10: "Using the Allowance Value from California's Carbon Trading System. Legal Risk Factors, Impacts to Ratepayers and the Economy." May 17, 2012, pp. 1-17. Available at http://next10.org/allowance</i>
Final Exam: Friday 03/24, 3.30pm	Comprehensive	

I hope you will enjoy this course and I wish you a successful quarter!