

## **ESRM/ENVIR/ECON 235**

### **Introduction to Environmental Economics**

Spring 2015

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**Course location:** Winkenwerder Hall 201

**Course meeting times:** Monday, Wednesday 2:30-4:20

**Course website:** Catalyst CommonView available to all registered students (please check it frequently)

#### **Course overview and objectives:**

This course is intended to serve as an introduction to the concepts, theories, and methods used in the economic analysis of environmental and natural resource issues. The course covers topics such as scarcity, choice, economic concept of value, the principles of market efficiency, and why the market often appears to fail where environmental and natural resource issues are concerned. Environmental policy prescriptions and tools designed to correct such market failures are explored. Economic principles and tools are used to discuss pollution, management and use of renewable natural resources such as forests and fisheries, as well as the problem of managing nonrenewable resources. The course aims to provide students with an ability to think about pressing environmental and resource issues and possible solutions in terms of choices, tradeoffs, and scarcity, i.e., in economic terms.

#### **Strongly Recommended textbook:**

**The Economics of the Environment** by

**Peter Berck and Gloria Helfand**

ISBN-10: 0321321669

ISBN-13: 9780321321664

Publisher: Prentice Hall

Copyright: 2011

**Recommended:**

[Keohane, N., and Olmstead, S. Markets and the Environment. Island Press, 2007.](#)  
[www.env-econ.net](http://www.env-econ.net)

**Course outline (subject to change as quarter progresses):**

Week	Topic
1.	<p>1.1. 3/30/15. Introduction. Economic preliminaries. Efficiency. Benefits and costs. Choosing the level of environmental quality.</p> <p>Supply and Demand experiments</p> <p>Notes; Ch.1 Berck and Helfand (BH); Keohane and Olmstead (KO): Ch. 2 (up to p. 28), KO Ch. 3, pp. 50-52</p>
	<p>1.2. 4/1/15. Choosing the efficient level of environmental quality. Total benefits and total costs and marginal benefits and marginal costs. Equimarginal Principle I. Efficiency of markets. Supply and demand</p> <p>Notes; Ch. 2 BH; Ch. 4 KO</p>
2.	<p>2.1. 4/6/15. Working with a market model. Markets and economic efficiency. Taxes and quotas. Using Supply and Demand to understand land use (BH, pp. 27-31).</p> <p>Adding up demand (BH, pp. 75-77).</p> <p>Measuring benefits and costs using demand and supply. Consumers' surplus (BH, pp. 81-88), producers' surplus.</p> <p><b>HW 1 out.</b></p>
	<p>2.2. 4/8/15. Market failures I (externalities)</p> <p>Notes, reading ("externality.pdf"), BH Ch. 10. Possible solutions (standards, taxes/subsidies).</p> <p>A case for gas tax: <a href="http://www.env-econ.net/stavins/Column 4.pdf">http://www.env-econ.net/stavins/Column 4.pdf</a></p>
3.	<p>3.1. 4/13/15. A private remedy? Coase theorem.</p> <p>Notes, Ch. 11 BH., "coasian bargaining.pdf", pp. 125-130 in KO.</p>

	<p><b>HW 1 due. HW 2 out.</b></p>
	<p>3.2. 4/15/15. Market failures II (public goods). Tragedy of the commons.</p> <p>Notes. Pp. 46-54 BH.</p>
4.	<p>4.1. 4/20/15. Using game theory concepts to illustrate market failures. Notes, KO pp. 79-83.</p> <p><b>HW 2 due.</b></p>
	<p>4.2. 4/22/15. Can public goods be provided privately? Classroom experiment.</p> <p>Notes; examples: Kickstarter, ThePoint, GroupOn</p>
5.	<p>5.1. 4/27/15. <b>Midterm exam.</b></p>
	<p>5.2. 4/29/15. “Efficiency without optimality” —cost-efficiency. Equimarginal Principle II. Assessing incentive-based policy options: subsidies, taxes, cap-and-trade.</p> <p>Notes.</p>
6.	<p>6.1. 5/4/15. Experience with market instruments. Ch. 12 BH.</p> <p><b>HW 3 out.</b></p>
	<p>6.2. 5/6/15. Policies for climate change: taxes, cap-and-trade.</p> <p>Ch. 12 BH, Notes Reading: <a href="http://www.pewclimate.org/docUploads/Climate101-CapTrade-Jan09.pdf">http://www.pewclimate.org/docUploads/Climate101-CapTrade-Jan09.pdf</a></p>
7.	<p>7.1. 5/11/15. Giving environment a “money voice”: valuation I. Taxonomy of values and methods. Revealed preference methods.</p> <p>Notes; Ch. 6 BH.</p> <p><b>HW 3 due.</b></p>
	<p>7.2. 5/13/15. Valuation II: Stated preference methods. Value of risks to life and health.</p> <p>Notes, Ch. 7 BH, pp. 125-126.</p>

8.	8.1. 5/18/15. Benefits and costs across time. Discounting.  Notes, Ch. 14 BH.
	8.2. 5/20/15. Benefit-cost analysis. Choosing projects.  Notes, Ch. 15 BH, "Arrow_BCA.pdf"  <b>HW 4 out.</b>
9.	9.1. 5/25/15. Memorial Day: no class  Ch. 16 BH.
	9.2. 5/27/15. Economics of natural resources I. Nonrenewables.  Ch. 17 BH. <b>HW 4 due.</b>
10.	10.1. 6/1/15. Economics of natural resources II: Resources that grow: forests, fisheries.
	10.2. 6/3/15. Can we keep on going? Economic growth and the environment and sustainability. Notes, Ch. 18 BH., Ch. 19 BH, Ch. 11 KO.

### **Grading and Evaluation**

Quality of class participation: 10%

Students are expected to come to class prepared and ready to engage in a meaningful discussion.

Homework assignments: 40%

There will be 4 homework assignments throughout the course.

Midterm Exam: 25%

Final Exam: 25%

### **Disability Accommodations**

**To request academic accommodations due to a disability, please contact [Disability Resources for Students](#), 011 Mary Gates Hall, (206) 543-8924 (V/TTY). If you have a letter from DRS indicating that you have a disability which requires academic accommodations, please present the letter to the instructor so we can arrange the accommodations needed for this class.**

### **Academic Integrity**

**Plagiarism, cheating, and other misconduct are serious violations of your contract as a student. We expect that you will know and follow the University's**

**policies on cheating and plagiarism. Any suspected cases of academic misconduct will be handled according to University regulations. More information, including definitions and examples of Academic Misconduct, is available at <http://depts.washington.edu/grading/conduct/>**