Environmental Economics and Policy Analysis

Danish Institute for Study Abroad
Spring 2012

Class meetings: Monday and Thursday, 13:15-14:35, V23-301

Instructor: Patricia Silva, Ph.D. Economics, University of California Santa Barbara;
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Course Description

This course will introduce you to the use economic theory and the tools of policy analysis to understand modern environmental issues. The objective of the course is to (1) give you a broad understanding of the causes and alternative solutions to modern environmental problems from an economic perspective and (2) apply the insights derived from economic theory to design and evaluate policy solutions to a variety of environmental issues. The course will particularly focus on the topics of energy reform and climate change. By the end of this course you will be able to express an informed view on the role, contribution, and limitations of economic tools to provide policy guidance on these environmental issues.

The course is organized into 3 modules. In the first module, we will focus on introducing basic analytical concepts and the relevant economic theory concerning market failures to understand the cause of many environmental problems. The second module will focus on the tools of economic policy analysis, particularly alternative policy's effect on firms and individuals. The last module will focus on applying the knowledge and insights learned in the earlier modules to specific environmental policy areas, such as climate change and energy policy.

Course Requirements

This course requires at least one introductory economics course, preferably microeconomics. This means that you are expected to be comfortable handling basic supply and demand analysis both graphically and algebraically (i.e., with equations). If you are unsure you meet the requirement, see me as soon as possible.

The course's textbooks are:

Field, Barry and Martha Field (2008), "Environmental Economics: An Introduction"
Harris, Jonathan (2006), "Environmental and Natural Resource Economics: A Contemporary Approach"

Required reading assignment from these books will be made available online, along with the supplementary articles which will be assigned over the course of the semester. The course outline will be posted on Forum, and lists the required readings for each lecture. Check the course outline frequently for recent updates.

The assigned readings for each lecture should be read ***prior*** to the lecture. Students will often be randomly asked to answer questions about the assigned readings. Here is a suggestion: as you read the article, write down 2 or 3 things that strike you about the reading, such as some key findings, interesting arguments, etc. This will help you be prepared to answer questions in such instances. Sometimes, you will also be given specific questions to answer ahead of time to focus your reading. You are also encouraged to actively participate in class by asking questions, making comments, sharing ideas, etc.

In addition to the readings and through **active participation** in class, a variety of small written and oral assignments will be used to develop your understanding of the tools of environmental economics and analytical skills in general. Preparation for and participation in these in-class assignments will also contribute to your participation grade.

There will be three exams in the course. These will be closed book, in-class, written exams.

The grading allocation will be as follows:

Participation: 10%
Homework/assignments: 15%
Exam #1: 25%
Exam #2: 25%
Exam #3: 25%

Computer policy: laptop computers are allowed in class ONLY for note-taking purposes. Any other use will have a negative impact on your final grade. Furthermore, any student violating this policy will not be allowed to continue using their laptop in class for the remainder of the semester.

Academic Honesty: Plagiarism and Violating the Rules of an Assignment - DIS expects that students abide by the highest standards of intellectual honesty in all academic work. DIS assumes that all students do their own work and credit all work or thought taken from others. Academic dishonesty will result in a final course grade of "F" and can result in dismissal. The students' home universities will be notified. DIS reserves the right to request that written student assignments be turned in electronic form for submission to plagiarism detection software. See the Academic Handbook for more information, or ask your instructor if you have questions.

Attendance: You are expected to attend all DIS classes when scheduled. If you miss multiple classes the Director of Teaching and Learning, and the Director of Student Affairs will be notified and they will follow-up with you to make sure that all is well. Absences will jeopardize your grade and your standing at DIS. Allowances will be made in cases of illness, but in the case of multiple absences you will need to provide a doctor's note.

Disability and Resource Statement: Any student who has a need for accommodation based on the impact of a disability should contact Sean Green (sgr@dis.dk) to coordinate this. In order to receive accommodations, students should inform the instructor of approved DIS accommodations within the first two weeks of classes.

General Topics Outline

1. Introduction
    a. What is this course all about?
    b. What is economics? Environmental economics? The place of economics in environmental policy analysis?
    c. Environmental and energy policy in Denmark—past and future

2. Economic Efficiency and Environmental Protection
    a. Economic efficiency as an evaluation criteria
    b. Efficiency and equity trade offs
    c. Competitive market equilibrium and efficiency

3. Economic Analysis of Environmental Issues
    a. Externalities
    b. Public goods
    c. The tragedy of the commons
    d. Managing resources overtime

4. Environmental Policy Analysis
    a. Criteria for evaluating environmental policies
    b. Cost Benefit Analysis and Discouting
    c. Environmental Regulation I: Command and control policy approach
    d. Environmental Regulation II: Decentralized environmental policy approach
    e. Incentive Based Instruments in Practice
        i. Environmental tax reform in Denmark
        ii. Double dividend Hypothesis

5. Climate Change
    a. Causes of climate change, and an economic understanding of its impact
    b. Structure and process of the global effort in response to climate change
    c. Ethics, economics and politics of climate change. North-Shouth dialogues.
    d. Demonstration of game theory in the case of climate change
    e. Introduction and evaluation of policy instruments' effectiveness
    f. Technology review: renewables promise and technology cost-curve
    g. Role of governments and private sector in creating sustainable environment

Environmental Economics Lecture Outline

Updated January 9, 2012

Lec#	Date	Topic	Read (all readings are found on Forum)
1	Thursday January 26	Introduction	Please read *The Lorax* before coming to class.
2	Monday January 30	Energy Policy in DK: An overview of the history	Henrik Lund on DK energy history
	Wednesday February 1	Field Study	TBA
3	Thursday February 2	Energy Policy in DK II: The Climate Commission Report	See Forum…
	Friday February 3	Deadline to add courses	
4	Monday February 6	Economics and the Environment	Harris article, plus other articles posted on Forum
	February 9-11	Short Study tour	
5	Monday February 13	Economic Efficiency *Elect 2 class reps.	Field, ch. 4
6	Thursday February 16	Externalities	Harris, ch. 3
7	Monday February 20	Public Goods	Harris, ch. 4
8	Thursday February 23	Common Goods	Harris, ch. 4
9	Monday February 27	Managing resources overtime	Harris, ch. 5
	Wednesday February 29	Field Study	BetterPlace A/S, Strandvejen, Hellerup
10	Thursday March 1	Midterm #1	
	Friday March 2	Deadline to drop courses & Deadline to declare pass-fail	
	March 5-10	Long study tour	

11	Monday March 12	Introduction to Environmental Policy Analysis	Field, ch. 5 and ch 9
12	Thursday March 15	CBA and Discounting	"Intertemporal Equity. Discounting and Economic Efficiency"
13	Monday March 19	Environmental Regulation I	Field ch. 11
14	Thursday March 22	Environmental Regulation II	Field ch. 12
15	Monday March 26	Environmental Tax Reform and Double Dividend	See Forum
16	Thursday March 29	Midterm #2	
		2 week travel break	
17	Monday April 16	Causes of climate change, and an economic understanding of its impact	
18	Thursday April 19	Structure and process of the global effort in response to climate change	
19	Monday April 23	Ethics, economics and politics of climate change. North-Shouth dialogues.	
20	Thursday April 26	Demonstration of game theory in the case of climate change	
21	Monday April 30	Introduction and evaluation of policy instruments' effectiveness	
22	Thursday May 3	The promise of renewable sources and sustainable practices	
23	Monday May 7	The role of governments and private sector in creating sustainable environment	
24	Thursday May 10	Course wrap up	
	Monday May 14	FINAL EXAM 10-12pm	