

Microeconomics and Policy Analysis II
Columbia University – ENVP U8216
Spring 2015
Tuesday 6:10 – 8:00 pm

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Course Objective

Microeconomics and Policy Analysis covers how to use an economics framework to analyze public policy and decision-making related to environmental issues. In part II of the course, students will learn to understand, apply, and critique basic microeconomic, macroeconomic and econometric tools that inform environmental problems. By the end of the semester, students will gain experience in using a range of economic concepts to recommend or critique actual environmental decisions. The course will cover concepts and metrics from micro- and macro-economic theory, regression analysis, and computable general equilibrium models. The course will be tailored to the skill level of the students.

Course Overview

This is a semester-long course and has two broad sections. The first section begins by introducing economic efficiency and cost-effectiveness criteria commonly used to evaluate public policy decisions related to environment issues. We examine practical steps for evaluating policies by studying environmental valuation techniques, cost-benefit approaches and cost-effectiveness analysis. We then apply some of these techniques to analyze the appropriateness of various pollution regulation options. This section ends with a discussion of more sophisticated public policy options that take into account information, risk, and uncertainty problems.

In the second section, the focus moves from applying an economic framework to analyze environmental issues within a single market to thinking about the impacts across an entire economy and across countries. We begin by introducing how to measure a country's economic performance in the short run and then turn to long-run economic growth theory and how these concepts relate to the environment. This section also examines the role of natural resource management in sustainable development. We will then discuss the impact of trade and globalization on the environment. The semester ends by examining some current environmental policy debates.

Prerequisites

Students are expected to have had some exposure to economics. Students who have had an undergraduate course in principal microeconomics will be sufficiently prepared. Those who have not had such preparation will need to work harder to absorb the theoretical concepts along with the applications. However, it is not uncommon for students with little economics preparation to excel in this course. In the absence of any economics preparation, it is useful to have some mathematical fluency.

If you are concerned about your level of mathematics preparation, and did not attend the Math Camp provided before the start of the Fall semester, you are strongly encouraged to watch the lectures online. The lectures are available at:

http://www.youtube.com/view_play_list?p=DD613FD445373CB9

Method of Instruction

Pre-class reading, regular attendance at lectures, thoughtful class participation and diligent efforts to do the problem sets are each necessary to master the course. The course will use some basic tools from calculus, econometrics, and linear algebra when convenient. The emphasis will be on building economic intuition and critical interpretation of economic research and technical research skills.

Textbook and Reading

The Kolstad textbook and the Jones textbook are required. The course will also draw on the three recommended books, as well as additional articles and readings listed on CourseWorks.

Required Textbook

Jones, Charles. Macroeconomics. Third Edition. New York: W.W. Norton & Company Inc., 2013.

Kolstad, Charles D. Environmental Economics. Second Edition. New York: Oxford University Press, 2010.

Recommended Textbooks

CoreEcon. CORE economics e-book. 2014. <http://core-econ.org/>.

Keohane, Nathaniel, and Sheila Olmstead. Markets and the Environment. Washington: Island Press, 2007.

Pindyck, Robert, and Daniel Rubinfeld. Microeconomics. Eight Edition. New Jersey: Pearson Education.

Stavins, Robert N., ed. *Economics of the Environment: Selected Readings, Sixth Edition*. New York, New York: W. W. Norton & Company, 2012.

Course Outline

The following is a preliminary course outline. Certain section may be extended or speeded up depending on the progress of the class. Additional readings will be posted on CourseWorks before each lecture.

Date	Topics	Reading
Week 1 1/20/2014	Course Introduction and Review on Markets	CDK (1,2,3)
Week 2 1/27/2014	Analyzing Environmental Policy: From Economic Efficiency to Cost Effectiveness; the Role of Cost-Benefit Analysis	CDK(4,6)
Week 3 2/3/2014	Measuring the Cost of Environmental Policies	CDK(6)
Week 4 2/10/2014	Benefit Estimation Methods: Hedonic Pricing	CDK(7,8)
Week 5 2/17/2014	Benefit Estimation Methods: Travel Cost and Contingent Valuation	CDK(9,10)
Week 6 2/24/2014	Taxes and Subsidies	CDK(12)
Week 7 3/3/2014	Tradable Permits	CDK(13: pp 272-280)
Week 8 3/10/2014	Information Problems: Environmental Policy Design and Public Good Provision	CDK(5,15)
Week 9 3/17/2014	<i>Spring Recess</i>	
Week 10 3/24/2014	<i>Mid-Term Exam</i>	
Week 11 3/31/2014	From Micro to Macro: Measuring the Macroeconomy	CJ(1,2,3,)
Week 12 4/7/2014	Long Run Economic Growth Model and the Environment	CJ(4,5)
Week 13 4/14/2014	Sustainable Development and Resource Management	CJ(6); CDK(13: pp 262-272,20)
Week 14 4/21/2014	Applying Economics in Practice for Environmental Policy Design	TBA
Week 15 4/28/2014	<i>Final Exam</i>	

Method of Evaluation

Regular attendance and active class participation are expected. Students should have done the readings for each lecture before class. Grades for the course will be based on:

1. *Midterm Examination (35%)*

The examination will be given in class. Each student is required to take the examination and it will be a closed-book examination.

2. *Final Examination (35%)*

The examination will be given in class. Each student is required to take the examination and it will be a closed-book examination.

3. *Problem Sets (30%)*

There are 4 problem sets. You can work individually or form groups of up to 4 people to work on the problem sets. Each team member must sign on the front page that they contributed to the problem sets. Except under extenuating circumstances, students are expected to remain in the same problem set team for the entire semester. Problem sets are always due at the beginning of class and no late problem sets will be accepted.

Problem Set	Available on CourseWorks	Due Date
1	02/03/2015	02/10/2015
2	02/24/2015	03/03/2015
3	03/31/2015	04/07/2015
4	04/14/2015	04/21/2015

Re-Grading Policy

If you feel your solution has been overlooked or graded it incorrectly, please hand in a written note explaining why the particular item should be regarded within two weeks after the problem set/exam was made available for pick-up. Once the two weeks have passed, you forfeit the right for a re-grade.

Academic Integrity

The School of Continuing Education does not tolerate cheating and/or plagiarism in any form. Those students who violate the Code of Academic and Professional Conduct will be subject to the Dean's Disciplinary Procedures. The Code of Academic and Professional Conduct can be viewed online:

<http://ce.columbia.edu/node/217>

Academic dishonesty includes failure to properly cite ideas in your work that are not originally yours. Please familiarize yourself with the proper methods of citation and attribution. The School provides some useful resources online; we strongly encourage you to familiarize yourself with these various styles before conducting your research:

<http://library.columbia.edu/help/howto/endnote.html>

Violations of the Code of Academic and Professional Conduct will be reported to the Associate Dean for Student Affairs.