

ECON/ENVS 1355: Environmental Issues in Economic Development

Course Description, Spring 2011

Basic Information

Instructor: Sriniketh Nagavarapu

Lecture Days/Time: TTh 10:30-11:50

Lecture Location: UEL 106

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TA: Manabu Nose

Section Days/Time: Th 6:00-7:00, F 12:00-1:00

Section Location: UEL 106

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Pre-requisites: Econ 1110,1620

Suggested pre-requisite: Envs 1350

Summary of Course

This advanced course examines environmental issues in developing countries, including air and water pollution, land use change, energy use, and the extraction of natural resources. The course builds in two ways on concepts from ENVS 1350: First, it delves more deeply into microeconomic theory, and links household and firm decision-making on environmental issues to choices in labor, land, and product markets; second, it emphasizes basic empirical techniques and uses recent research to illustrate the roles of econometric analysis and economic theory in diagnosing and confronting problems lying at the nexus of the environment and economic development.

Course Goals

This course interweaves economic theory and empirical techniques in an effort to better understand the relationship between human decision-making, economic markets, and the natural environment in developing countries. By the end of the course, I hope that you will be able to:

- Discuss the key environmental problems in development and understand their possible economic causes and consequences
- Apply basic microeconomic theory to a wide variety of environmental issues, and decide which frameworks are most appropriate for a given situation
- Conduct simple econometric analysis of household survey data
- Evaluate the validity of statistical arguments in popular media and policy debates

- Evaluate the spectrum of government and market-based solutions to environmental issues in development and understand when and how these are effective

Evaluation

Your grade for this course will be determined as follows:

- **4 Problem Sets (40%):** These will be due every two weeks at the beginning of the semester. The problem sets will include both a theoretical and an empirical component, and you will be asked to use Stata for the empirical component. You are welcome to work with others, but you should write up your answers on your own. Please list the names of people you worked with on the first page of the problem sets. Due dates are as follows:
 - PS 1: Feb. 18
 - PS 2: Mar. 4
 - PS 3: Mar. 18
 - PS 4: Apr. 6
- **In-Class Participation (10%)**
- **Group Presentation (30% or 20%):** The presentation will involve choosing a data set for a country not included in the problem sets above, and conducting a coherent empirical analysis with this data set. The presentations will be held during reading period. The presentation will count for 30% if your presentation score is higher than your final exam score, and will count for 20% otherwise.
- **Final Exam (20% or 30%):** This will be an open-book take-home exam due at the regularly scheduled date for this course block.

Note:

Late problem sets will receive no more than half the total points possible. If you have an emergency and cannot turn in homework on time, then please let me know. I will re-weight the value of your other assignments in this case.

Books

There is no textbook for this class. Instead, I will post the articles below on MyCourses the week before we cover them. As in previous years, I will remove items from the required reading if we need to because of time. In case you would like references on environmental economics concepts, two useful ones are:

- Environmental Economics, by Charles Kolstad
- Environmental Economics and Management, by Scott Callan and Janet Thomas

If you would like references on econometrics concepts, then three good ones are:

- Introductory Econometrics, by Arthur Goldberger

- Basic Econometrics, by Damodar Gujarati
- Statistics for Business and Economics, by Newbold, et al.

And, finally, two good references for microeconomics are:

- Intermediate Microeconomics, by Hal Varian
- Microeconomic Theory, by Walter Nicholson

Syllabus

Unit I: Introduction

(Jan. 27): Overview: Environment and Development

Required reading:

- WorldBank (2003), Chapters 1-3
- Cropper (2009)

Optional reading:

- Oates (2006), Sections 45-47
- WorldBank (1992), Chapter 1, 38-56
- Bardhan and Udry (1999), Chapter 13
- Dasgupta (2009)
- Dasgupta (2003)

(Feb. 1): Integrating Empirical Methods and Economic Theory

Optional reading:

- Greenstone and Gayer (2007)
- Deaton (2009)

Unit II: Outdoor and Indoor Air Pollution

(Feb. 3,8,10): Health Effects

Required reading:

- Overview of outdoor pollution: HEI (2010), Krzyzanowski and Cohen (2008)
- Jayachandran (2008)
- Gutierrez-Fernandez (2009)

- Overview of indoor pollution: Duflo, Greenstone, and Hanna (2008)
- Pitt, Rosenzweig, and Hassan (2007)

Optional reading:

- Almond, Chen, Greenstone, and Li (2009)
- Zheng, Khan, and Liu (2009)

(Feb. 15,17,24): Policy Options

Required reading:

- Blackman (2000)
- Blackman, Shih, Evans, Batz, Newbold, and Cook (2006)
- Oliva (2009)
- Gutierrez-Fernandez and Foster (2009)

Optional reading:

- Coria and Sterner (2008)

Unit III: Water Pollution

(Mar. 1,3): Water Quality and Infrastructure Interventions

Required reading:

- Overview: WHO (2010)
- Gamper-Rabindran, Khan, and Timmins (2007)
- Bennett (2008)
- Kremer, Leino, Miguel, and Zwane (2008)

(Mar. 8,10): Water Quality and Information Interventions

Required reading:

- Benneer, Soumya, Pfaff, Matin, van Geen, and Tarozzi (2010)
- Benneer, Soumya, Pfaff, Matin, van Geen, and Tarozzi (2011)
- Field, Glennerster, and Hussam (2010)

Optional reading:

- Madajewicz, Pfaff, and et al. (2006)

(Mar. 15,17): Decentralization and Privatization

Required reading:

- Lipscomb and Mobarak (2007)
- Lipscomb and Mobarak (2008)
- Galiani, Gertler, and Schargrodsky (2005)

Optional reading:

- Easter and Hearne (1993)
- Szabo (2009)
- Pargal and Wheeler (1996)

Unit IV: Water Resource Use

(Mar. 22,24): Irrigation and Cooperation

Required reading:

- Overview: FAO (2007)
- Anderson (2011)
- Ostrom and Gardner (1993)
- Jacoby, Murgai, and Rehman (2004)

Optional reading:

- Bardhan (2000)
- Dayton-Johnson (2000)

(Apr. 5, 7): Groundwater Depletion

Required reading:

- Sekhri (2007)
- Keskin (2009)

Optional reading:

- Foster and Sekhri (2009)

Unit V: Deforestation

(Apr. 12, 14): Consequences of Growth

Required reading:

- Overview: Economist (2010)
- Baland, Bardhan, Das, Mookherjee, and Sarkar (2007)

- Foster and Rosenzweig (2003)
- Pfaff (1999)

Optional reading:

- Behrman, Foster, and Rosenzweig (2009)
- Pfaff and et al. (2007)
- Zivin, Damon, and Thirumurthy (2010)

(Apr. 19,21): Management of the Commons

Required reading:

- Alix-Garcia (2008)
- Edmonds (2002)
- Barbier (2008)

Optional reading:

- Alix-Garcia (2007)
- Barbier (2007)

Unit VI: Special Topics

(Apr. 26): Energy and Infrastructure

Required reading:

- McRae (2009)
- Duflo and Pande (2007)

Optional reading:

- von der Fehr and Wolak (2003)
- Dinkelman (2007)
- Barham, Lipscomb, and Mobarak (2008)

(Apr. 28): Trade

Required reading:

- Davis and Kahn (2010)
- Brambilla, Porto, and Tarozzi (2008)

Optional reading:

- Frankel and Rose (2005)
- Lipscomb (2009)
- Antweiler, Copeland, and Taylor (2001)

(May 3): Climate Change

Required reading:

- Burgess, Deschenes, Donaldson, and Greenstone (2009)
- Dell, Jones, and Olken (2009)

(May 5,10): Reading Period – Reserved for presentations

(May 13): Final Exam Due

References

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