

Econ 348: Natural Resource and Energy Economics
Professor T. Drennen
Spring 2009

Office hours:
Monday 11:00 – 12:30
Wednesday 3:00 – 4:30
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This course has three goals: 1) to understand the basic economic principles that guide natural resource use; 2) to discuss and analyze competing visions for energy policy; and 3) to learn how to build dynamic simulation models capable of analyzing energy policy options. Required prerequisites for this class are: Econ 301 (Microeconomic Theory) or Econ 212 (Environmental Econ).

As several new proposals for a national energy policy likely will emerge during the course of the term, the class schedule will remain a “work in progress.” During the first couple weeks of class, we’ll begin with a basic review of the economic principles necessary for this course, including:

- Optimal resource use and depletion
- Reserve/resource terminology and estimates
- Role of backstop technologies (like solar)
- Levelized cost calculations
- Externalities
- Path Dependency

We will also debate and discuss Thomas Friedman’s newest book, *Hot, Flat, and Crowded: Why We Need a Green Revolution and how it can Renew America*. As part of this discussion, all students are required to share their thoughts and opinions in a Blackboard Discussion group. You are expected to read the postings by others in the class and to engage them intellectually. My job will be to use the classroom setting to supplement this reading with background economic and policy principles.

To accomplish the third goal, students will be taught the basics of dynamic simulation programming using a language called Powersim Studio. We will begin early in the semester with several simple examples designed to give you practice building models. I will introduce the basic concepts during class time; you will complete the examples outside of class. The final project will involve building a model that allows one to analyze a specific energy policy proposal. For example, it may involve analyzing the effectiveness of various proposals for increasing vehicular fuel efficiency or for transitioning to plug-in hybrid vehicles.

Attendance Policy: Students are expected to attend all classes. If you must miss a class, please discuss it with me prior to class. You are responsible for any material missed. I cannot duplicate my lectures or notes for you.

Test: There will be one test. The tentative date is Tuesday, March 12.

Grading: Your final grade will be determined as follows: Homework (25%), Class Participation/Presentations (15%), Test (20%), Final Project (40%).

Initial Schedule

January 20. Introduction and Course Goals

January 22. Intro to Natural Resource Economics

Readings: Tietenberg, Chapter 1.

January 27. Sustainable Development/Natural Resource Economics

Readings: Tietenberg, Chapters 5, 7
HW #1 assigned

January 29. Intro to Powersim Studio

Readings: Powersim tutorial
(Video tutorials available at:
<http://www.powersim.co.uk/demonstrations-tutorials.htm>))

February 3. Begin Friedman's Book/Discussion

Readings, Friedman, Part 1 (pp 1 – 52)
HW: Participate in Discussion Board

February 5. Powersim.

HW #1 Due Thursday

February 10. Friedman discussion, How we got here

Readings: Friedman, Part II, chapters 3 – 5

February 12. Friedman discussion, How we got here.

Readings: Friedman, Part II, chapters 6 - 8

February 17. Friedman discussion, How we move forward.

Readings: Friedman, Part III, chapters 9 – 11

February 19. Powersim.

HW #2 Due.

Week of February 24 – 26. Drennen in Singapore. Finish reading Friedman

March 3. Final thoughts on Friedman

March 5. Powersim

March 10. Review

March 12. Test

March 17 – 19. Spring Break.

Additional readings will be assigned as we move forward.