

## Syllabus

### Econ 325S - Economic Analysis of Energy Issues

**Prereq: Econ 201D or equivalent**

**Instructor: Dr. Gale Boyd**

Energy touches every aspect of modern life; energy markets touch every aspect of the modern economy; Monopoly vs. competition; global vs. regional; taxation vs. subsidies; regulation vs. de-regulation - all play a role in one or more energy market(s).

This class will teach the students to apply basic principles of economic analysis ranging from economic price effects in global markets, to supply of energy by regional and global companies, to household and firms' derived demand for energy services, all related to empirical behavior in energy markets. The class will look at both the history of energy as well as the outlook for the future. The class will cover three units 1) coal and electric markets (competition and monopoly) 2) oil and natural gas (global/cartel and regional/competition) and 3) consumer and firm demand. This class is not an energy policy class per se, but provides the economic foundations for policy discussion and evaluation of energy and environmental policy on potential impacts in this ubiquitous sector of the economy.

Objectives of the Course: Students will

- Become familiar with the stylized facts of the various forms of energy and how they are used in the US and global Economy (with slightly more emphasis on the US.)
- Connect the physical details of energy production, use, and distribution to particular market structures and forms of economic analysis.
- Apply these economic models to explain various phenomena of energy market related to supply/demand behaviors and social policy, in particular integrating environmental policy and sustainability into energy market behaviors.
- Synthesize the above into a clear presentation of an energy related issue of their choice.

Text Book: ***International Energy Markets*** by Carol A. Dahl (ISBN-10: **0878147993**)

<u>Week</u>	<u>Topic</u>	<u>Chapters</u>
0	Introductions	
1	Background & Annual Energy Outlook (AEO)	1, 2
2	Coal Markets (competition)	3
3	Electric Markets (monopoly)	4
4	Regulation and Deregulation of Electricity – <b>Exam 1: 2/9</b>	5
5	International Oil Markets (history and modern cartels)	6
6	Oil price shocks, Resource “Trap” / Natural gas Markets	7 (TBD)
7	Natural Gas Markets – <b>Exam 2: 3/2</b>	15
8	Topics in household demand	(TBD)
	Break	
9	Topics in firm demand	(TBD)
10	Energy Efficiency (Conservation supply curves) – <b>Exam 3: 3/30</b>	9 (TBD)
11	in class student presentations	
12	In class student presentations	
13	In class student presentations	
14	Review (LDOC)	

Grading for units 1-3 will include an exam with Unit 4 consisting of student in-class presentations based on a topic of the student’s choice. Pre-approval of topics is required. A comprehensive final will be offered. Equal weight (25%) will be given to the 4 exams (three units and final) plus the presentation, with the lowest of the four exam grades dropped. Since the lowest exam is dropped there will be no makeup exams. Presentation grade will not be dropped. Borderline grades may be adjusted upward based on positive in class involvement, particularly during unit 4. Tests will cover both assigned chapters in the textbook, in-class materials, and other assigned readings TBD.

#### Grading scale

	+		-
A	97%	93%	90%
B	87%	83%	80%
C	77%	73%	70%
D	67%	63%	60%
F	I certainly hope not...		

Office hours are by appointment. I am typically in my office (SSRI, 261 Gross Hall) almost every day but Thursday. [Gale.boyd@duke.edu](mailto:Gale.boyd@duke.edu)