Instructor:	Genevieve Peters
Office:	Economics Building 110B
Office Hours:	Tuesdays: <i>Noon – 1:00 p.m. and 2:00 – 4:00 p.m.</i>
Office Phone:	(858) 534-7974
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Classroom:	Pepper Canyon Hall, room 106
Class Time:	MWF Noon – 12:50 p.m.
Class Web Page:	http://webct.ucsd.edu/

## **COURSE DESCRIPTION**

Each and every day, you are an energy consumer. Maybe your morning shower is heated by natural gas. The milk for your cereal is kept cold in your electric refrigerator. The car or bus you use to get to school probably requires gasoline.

In this class you will be introduced to the way that economists view energy choices by examining some of the more pressing energy issues faced by nations around the world. In particular, we will discuss recent trends in fossil fuel production and consumption, the importance of energy for economic development, strategies for energy pricing, and the reform of electricity markets.

## PREREQUISITES

The prerequisites for this class are Economics 1 and Economics 2.

## **COURSE READINGS**

The required readings (listed below) have been provided on the course WebCT website. Topics covered in each lecture will be listed on the calendar resource on WebCT. Additional recommended readings are in *Introduction to Energy: Resources, Technology, and Society, 2<sup>nd</sup> Edition* by Edward S. Cassedy and Peter Z. Grossman. The pace of the discussion will be rapid, so you are strongly encouraged to read the required materials ahead of each lecture.

# QUIZZES

There will be two online quizzes to be completed on the course WebCT website this quarter. The quizzes will be due at 7:00 p.m. on Monday, October 23<sup>rd</sup> and Monday, November 27<sup>th</sup>.

### **EXAMINATIONS**

One midterm exam and one final exam will be given in this section. The midterm exam will be given in class on Wednesday, October  $25^{th}$ . The final exam will be held on Thursday, December  $7^{th}$  from 11:30 a.m. – 1:30 p.m.

All exams must be taken at the scheduled time and place; they will not be given "early". Students who arrive late will not receive extra time to complete their exam. Once a student completes the exam and leaves the exam room, no other student will be permitted to start the exam.

No study aids, notes, books, or electronic devices will be allowed in the exams.

Any student suspected of cheating on an exam will be brought to the attention of the Dean.

# MAKE UP EXAMINATIONS

No make-up exams will be given in this class. Students who miss the midterm exam without a university accepted excuse will receive a grade of zero (0) for that exam. Students who miss the midterm with a university accepted excuse will have the weight of the final exam increased accordingly. You must take the final exam to receive a grade in this course.

Excuses for missed exams must be **pre-approved** by the instructor (except when this is not possible in an emergency situation). Students who make initial contact after the exam will have to document why they could not make contact prior to the exam. In addition, any student who misses an exam due to physical illness will be required to provide documentation from a health care professional indicating why the student was physically unable to take the exam. All documentation and an additional signed written statement explaining the relevant circumstances of the absence must be provided to the instructor within two working days of the student's return to campus. Failure to comply with any of the above in the specified manner will result in a grade of zero (0) for the exam.

## ATTENDANCE

Class attendance is an individual student responsibility. Although daily attendance is not recorded, the lectures will cover more material than the readings, and I will frequently provide analysis during lectures that don't appear in the readings but are fair game for examination. Thus frequent absences may adversely affect your performance in this course.

## GRADING

Your raw numerical score will be determined as follows:

WebCT Quiz 1	= 5%
Midterm Exam 1	= 35%
WebCT Quiz 2	= 5%
Final Exam	= 55%
Total Raw Score	= 100%

Your final letter grade will be determined by the distribution of raw numerical scores in the class.

### **IMPORTANT DATES**

Monday, October 23 <sup>rd</sup>	WebCT Quiz 1 due at 7:00 p.m.
Wednesday, October 25 <sup>th</sup>	Midterm Exam (In class)
Friday, November 10 <sup>th</sup>	University Holiday – Lecture Cancelled
Friday, November 24 <sup>th</sup>	University Holiday – Lecture Cancelled
Monday, November 27 <sup>th</sup>	WebCT Quiz 2 due at 7:00 p.m.
Thursday, December 7 <sup>th</sup>	Final Exam (11:30 a.m. – 1:30 p.m.)

### READINGS

#### **Introduction – Types of Energy Inputs**

- Fouquet, R. and P.J.G. Pearson. A Thousand Years of Energy Use in the United Kingdom. *The Energy Journal* Vol. 19, No. 4 (1998): 1-41.
- OPEC Secretariat. Energy Indicators. OPEC Review Vol. 29, No. 4 (Dec. 2005): 295-313.
- Rosenberg, N. The Role of Electricity in Industrial Development. *The Energy Journal* Vol. 19 No. 2 (1998): 7-24.

Recommended: Cassedy & Grossman, Chapter 1

#### **Units of Energy Measurement**

• Barrels of Oil Equivalent

Recommended: Cassedy & Grossman, pages 324-327.

#### **Resource Scarcity and Energy Supplies**

- Neumayer, E. Scarce or Abundant? The Economics of Natural Resource Availability. *Journal* of *Economic Surveys* Vol. 14, No. 3, (2000)
- **Porter, E.D.** Are We Running Out of Oil? *Advances in the Economics of Energy and Resources* Vol. 10 (1997): 185-251.
- Utgikar, V.P. and J.P. Scott. Energy Forecasting: Predictions, Reality and Analysis of Causes of Error. *Energy Policy* Vol. 34, No. 17 (Nov. 2006): 3087-3092.
- Adelman, M.A. and G.C. Watkins. Costs of Aggregate Hydrocarbon Additions. *The Energy Journal* Vol. 25, No. 3 (2004): 37-51.
- **Bahgat, G.** Russia's Oil Potential: Prospects and Implications. *OPEC Review* Vol. 28, No.2 (June 2004): 133-147.
- Shihab-Eldin, A., Hamel, M., and G. Brennand. Oil Outlook to 2025. *OPEC Review* Vol. 28, No. 3 (Sept. 2004): 155-205.

Recommended: Cassedy & Grossman, pages 9-25, 28-32, 103-114, 123-130, 378-379, and 397-401.

#### **Determinants of Fossil Fuel Demand**

- Unruh, G.C. Understanding Carbon Lock-In. *Energy Policy* Vol. 28, No. 12 (Oct. 2000): 817-830.
- Greene, D.L., Jones, D.W., and P.N. Leiby. The Outlook for U.S. Oil Dependence. *Energy Policy* Vol. 26, No. 1 (1998): 55-69.
- Moroney, J.R. Energy, Carbon Dioxide Emissions, and Economic Growth. Climate Change Policy: *Practical Strategies to Promote Economic Growth and Environmental Quality* (May 1999): 41-62.
- Norman, D. Lifestyles of the Energy Rich: Household Energy Consumption in the United States and Conservation Policy. *Advances in the Economics of Energy and Resources* Vol. 10 (1997): 1-29.
- **Kwon, T.** The Determinants of the Changes in Car Fuel Efficiency in Great Britain (1978-2000). *Energy Policy* Vol. 34, No. 15 (Oct. 2006): 2405-2412.

Recommended: Cassedy & Grossman, pages 64-80 and 99-103.

## **Energy Pricing**

- Alhajji, A.F. and D. Huettner. OPEC and World Crude Oil Markets from 1973 to 1994: Cartel, Oligopoly, or Competitive? *The Energy Journal*, Vol. 21, No. 3 (2000): 31-60.
- Rietveld, P. and S. van Woudenberg. Why Fuel Prices Differ. *Energy Economics* Vol. 27, No. 1 (Jan. 2005): 79-92.
- Soligo, R. and A.M. Jaffe. A Note on Saudi Arabian Price Discrimination. *The Energy Journal* Vol. 21, No.1 (2000): 121-133.
- **Owen, A.D.** Environmental Externalities, Market Distortions and the Economics of Renewable Energy Technologies. *The Energy Journal* Vol. 25, No. 3 (2004): 127-156.

### **Energy and Economic Development**

- Adams, F.G., Ichino, Y., and P.A. Prazmowski. Economic Growth and Energy Import Requirements: An Energy Balance Model of Thailand. *Journal of Policy Modeling* Vol. 22, No. 2 (2000): 219-254.
- Bhattacharyya, S.C. and D.N.Q. Thang. The Cogeneration Potential of the Sugar Industry in Vietnam. *OPEC Review* Vol. 28, No. 1 (March 2004): 63-80.
- Heltberg, R. Fuel Switching: Evidence from Eight Developing Countries. *Energy Economics* Vol. 26, No. 5 (Sept. 2004): 869-887.

#### **Electricity Sector Reform in Developing Countries**

- Gabriele, A. Policy Alternatives in Reforming Energy Utilities in Developing Countries. *Energy Policy* Vol. 32, No. 11 (July 2004): 1319-1337.
- Joskow, P.L. Electricity Sectors in Transition. *The Energy Journal* Vol. 19 (1998): 25-52.
- Singh, A. Power Sector Reform in India: Current Issues and Prospects. *Energy Policy* Vol. 34, No. 16 (Nov. 2006): 2480-2490.
- Thomas, S. The Grin of the Cheshire Cat. *Energy Policy* Vol. 34, No. 15 (Oct. 2006): 1974-1983.
- Xu, S. and W. Chen. The Reform of Electricity Power Sector in the PR of China. *Energy Policy* Vol. 34, No. 16 (Nov. 2006): 2455-2465.

Recommended: Cassedy & Grossman pages 25-28, 114-123, 382-384, 386-391, 402-412, and 418-422.

### **Electricity Sector Reform in Developed Economies**

- **Borenstein, S., Bushnell, J., and C.R. Knittel.** Market Power in Electricity Markets: Beyond Concentration Ratios. *The Energy Journal* Vol. 20, No. 4 (1999): 65-88.
- Borenstein, S. and J. Bushnell. Electricity Restructuring: Deregulation or Reregulation? *Regulation* Vol. 23, No. 2 (Summer 2000): 46-52.
- **Bushnell, J.** California's Electricity Crisis: A Market Apart? *Energy Policy* Vol. 32, No. 9 (June 2004): 1045-1052.
- Faruqui, A. and R. Earle. Demand Response and Advanced Metering. *Regulation* Vol. 29, No. 1 (Spring 2006): 24-27.
- Hale, D.R., Overbye, T.J., and T. Leckey. Competition Requires Transmission Capacity: The Case of the U.S. Northeast. *Regulation* Vol. 23, No. 2 (Summer 2000): 40-45..
- Hobbs, B.F., Rijkers, F.A.M. and M.G. Boots. The More Cooperation, The More Competition? A Cournot Analysis of the Benefits of Electric Market Coupling. *The Energy Journal* Vol. 26, No. 4 (2005): 69-97.

Recommended: Cassedy & Grossman, pages 230-245.