

**ECONOMICS 132 – SPRING 2007**  
**ENERGY ECONOMICS**

Instructor:	Genevieve Peters
Office:	Economics Building 110B
Office Hours:	Thursdays 1:00 – 4:00 p.m.
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Classroom:	York 2622
Class Time:	MWF 3:00 – 3:50 p.m.
Class Web Page:	<a href="http://webct.ucsd.edu/">http://webct.ucsd.edu/</a>

### **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 energy production and consumption, the issue of energy scarcity, the importance of energy for economic development, and the reform of electricity markets.

### **PREREQUISITES**

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

### **COURSE READINGS**

A custom textbook for this class is available at the UCSD Bookstore. Other required readings (listed below) have been provided on the course website. The pace of the discussion will be rapid, so you are strongly encouraged to read the required materials ahead of each lecture.

### **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 doesn't appear in the readings but will be fair game for examination. Thus frequent absences may adversely affect your performance in this course.

### **STATEMENT OF ACADEMIC INTEGRITY**

Students are expected to do their own work, as outlined in the UCSD policy on Academic Integrity published in the UCSD General Catalog. Cheating will not be tolerated, and any student who engages in suspicious conduct will be confronted and subjected to the disciplinary process. Students found guilty of academic misconduct will receive a failing grade on the exam and/or in the entire course. They may also be suspended from UCSD.

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**EXAMINATIONS**

Two midterm exams and one final exam will be given in this section.

- The midterms will be given during class time on **Monday April 23<sup>rd</sup>** and **Wednesday May 16<sup>th</sup>**.
- The final exam will be given on **Tuesday June 12<sup>th</sup>, from 3:00 p.m. – 5:00 p.m.**

No notes, books, calculators, or other personal electronic devices will be allowed in these exams.

All three 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.

**MISSED 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.

**GRADING**

Your raw numerical score will be determined as follows:

Midterm Exam 1	=	20%
Midterm Exam 2	=	30%
<u>Final Exam</u>	=	<u>50%</u>
Total Raw Score	=	100%

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

**IMPORTANT DATES**

Monday, April 23 <sup>rd</sup>	Midterm Exam 1 (In class)
Wednesday, May 16 <sup>th</sup>	Midterm Exam 2 (In class)
Monday, May 28 <sup>th</sup>	University Holiday – Lecture Cancelled
Tuesday, June 12 <sup>th</sup>	Final Exam (3:00 p.m. – 5:00 p.m.)

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**LECTURE TOPICS AND READING ASSIGNMENTS**

**Introduction to Energy Resources (April 2<sup>nd</sup> – April 9<sup>th</sup>)**

- **Energy Economics Custom Textbook**, pp. 1-23
- **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.
- **Rosenberg, N.** The Role of Electricity in Industrial Development. *The Energy Journal* Vol. 19, No. 2 (1998): 7-24.

**Tools for Economic Analysis of Energy Resources (April 11<sup>th</sup> – April 20<sup>th</sup>)**

- **Energy Economics Custom Textbook**, pp. 173-192
- **Energy Economics Online Handout:** “Energy Units: Conversion and Comparison”
- **Energy Economics Online Handout:** “Template for Analyzing Articles” adapted from *The Miniature Guide to Critical Thinking Concepts and Tools* by R. Paul and L. Elder, 2007.
- **Adelman, M.A. and G.C. Watkins.** Costs of Aggregate Hydrocarbon Additions. *The Energy Journal* Vol. 25, No. 3 (2004): 37-51.
- **Cassedy, E.S. and P.Z. Grossman,** Appendix A. *Introduction to Energy: Resources, Technology, and Society, 2<sup>nd</sup> Edition* (1998): 324-327
- **OPEC Secretariat.** Energy Indicators. *OPEC Review* Vol. 29, No. 4 (Dec. 2005): 295-313.

**Fossil Fuel Supplies (April 25<sup>th</sup> – May 7<sup>th</sup>)**

- **Energy Economics Custom Textbook**, pp. 63-100
- **Bahgat, G.** Russia’s Oil Potential: Prospects and Implications. *OPEC Review* Vol. 28, No. 2 (June 2004): 133-147.
- **Neumayer, E.** Scarce or Abundant? The Economics of Natural Resource Availability. *Journal of Economic Surveys* Vol. 14, No. 3 (2000): 307-329.
- **Porter, E.D.** Are We Running Out of Oil? *Advances in the Economics of Energy and Resources* Vol. 10 (1997): 185-251.
- **Shihab-Eldin, A., Hamel, M., and G. Brennand.** Oil Outlook to 2025. *OPEC Review* Vol. 28, No. 3, (Sept. 2004): 155-205.
- **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.

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**Fossil Fuel Use and Pollution** (May 9<sup>th</sup> – May 14<sup>th</sup>)

- **Energy Economics Custom Textbook**, pp. 125-145
- **Owen, A.D.** Environmental Externalities, Market Distortions and the Economics of Renewable Energy Technologies. *The Energy Journal* Vol. 25, No. 3 (2004): 127-156
- **Radetzki, M.** Coal or Nuclear in New Power Stations: The Political Economy of an Undesirable but Necessary Choice. *The Energy Journal* Vol. 21, No. 1 (2000): 135-147.

**Electricity Market Structure** (May 18<sup>th</sup> – May 30<sup>th</sup>)

- **Energy Economics Custom Textbook**, pp. 101-124
- **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 (2001): 46-52
- **Bushnell, J.** California's Electricity Crisis: A Market Apart? *Energy Policy* Vol. 32, No. 9 (June 2004): 1045-1052
- **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.

**Energy and Economic Development** (June 1<sup>st</sup> – June 8<sup>th</sup>)

- **Energy Economics Custom Textbook**, pp. 146-172
- **Gabriele, A.** Policy Alternatives in Reforming Energy Utilities in Developing Countries. *Energy Policy* Vol. 32, No. 11 (July 2004): 1319-1337.
- **Heltberg, R.** Fuel Switching: Evidence from Eight Developing Countries. *Energy Economics* Vol. 26, No. 5 (Sept. 2004): 869-887.
- **Joskow, P.L.** Electricity Sectors in Transition. *The Energy Journal* Vol. 19, No. 2 (1998): 25-52.
- **Singh, A.** Power Sector Reform in India: Current Issues and Prospects. *Energy Policy* Vol. 34, No. 16 (Nov. 2006): 2480-2490.
- **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.