



## Department of Economics Course Outline

		<b>Term:</b>	Fall 2009
<b>Course:</b>	Economics 427 [Energy Economics & Policy]	<b>Section:</b>	01
<b>Time:</b>	MWF 0800 – 0850	<b>Place:</b>	KNB 133 (subject to change)
<b>Instructor:</b>	Dr. W. D. Walls		
<b>Office:</b>	SS 536	<b>Telephone:</b>	220-6761
<b>Office Hours:</b>	MF 0900-0950 or by appointment	<b>E-mail:</b>	<a href="mailto:wdwalls@ucalgary.ca">wdwalls@ucalgary.ca</a>

### Textbook(s):

There is no textbook for this course. The course draws heavily on journal articles. Students will not be held responsible for the more sophisticated mathematical and statistical material in some of the articles. The reading list will be posted on the course website located at <http://pareto.ucalgary.ca/courses>.

### Reserve Readings:

Adelman, M.A., *The Economics of Petroleum Supply*, MIT Press 1993.

A. Kneese and J. Sweeney (eds.), *Handbook of Natural Resource and Energy Economics*, vol. 1, 2, & 3, North-Holland, 1985, 1985, and 1993.

Stevens, Paul (ed.) *The Economics of Energy*, vols. I and II, Edward Elgar, 2000.

Cleveland, Cutler (ed.) *Encyclopedia of Energy*, Elsevier, 2004.

### Other Reference Materials:

The US Department of Energy, Energy Information Administration (EIA) is an excellent source of current information on energy economics. Students should be familiar with its website ([www.eia.doe.gov](http://www.eia.doe.gov)).

There are many articles in economic journals that may be of particular interest to this class, such as those published in *Annual Review of Energy*, *Journal of Energy and Development*, *The Energy Journal*, *Energy Economics*, *ENERGY---The International Journal*, and *Energy Policy*. For reference to other recent articles on the economics of the oil industry see the relevant sections (Q4) in the *Journal of Economic Literature*, the *Journal of Energy Literature*, and draw on ECONLIT as a journal search engine.

Governments also publish useful material on the energy industries. In Alberta, material from the Energy and Utilities Board and Alberta Department of Energy are of particular interest. For the Canadian federal government, see the National Energy Board, the Science Council of Canada, the Geologic Survey of Canada and Department of Natural Resources. For the US see the Department of Energy (especially the Energy Information Administration), and Federal Energy Regulatory Commission. The OECD also has a number of interesting recent publications on energy, including publications of the International Energy Agency (IEA). The Canadian Energy Research Institute (CERI) also publishes several sector-specific reports that provide up-to-date information.

### **Course Objectives:**

This course covers both theoretical and empirical analysis of individual and industrial demand for energy, energy supply, energy markets, and public policies affecting energy markets. The course will cover applications to oil, natural gas, coal, electricity, and nuclear power. Topics will include energy taxation, price regulation, deregulation, energy efficiency and emissions.

### **Course Outline**

- Introduction and Background
- Review of the Basics of Supply, Demand and Price Formation in Competitive Markets
- Energy Demand: Short Run and Long Run Price and Income Elasticities; review of Multivariate Regression Analysis
- Energy Supply and the Economics of Depletable Resources
- World Oil Markets and Energy Security
- Natural Gas Price Regulation, Deregulation and Markets
- Electricity
- Risk Management, Futures Markets and Derivatives
- Energy and Climate Change
- Internalizing Environmental Externalities with a Focus on Cap and Trade Mechanisms
- Coal
- Nuclear Power
- Energy Efficiency Policies
- Renewable Energy Policies

Note: The course objectives, outline and readings have drawn upon the Energy Economics course materials of the MIT OpenCourseWare project.

### **Grade Determination and Final Examination Details:**

The grade will be based upon three in-class quizzes and the final exam as follows:

In-class Quizzes (3 @ 20% each)	60%
Final Examination (comprehensive)	40%

The final exam will be scheduled by the Registrar and held in a classroom. It will be of two hours duration.

The final course grade will be obtained by weighting the numerical values (rather than letter grades) on the various exams and translating the numerical result back into a final letter grade for the course.

The overall numerical score will be rounded off the nearest whole number. The numerical-letter grade cut-off values will be as follows:

A+	99-100	B	82-87	C-	70-71
A	92-98	B-	80-81	D+	68-69
A-	90-91	C+	78-79	D	60-67
B+	88-89	C	72-77	F	0-59

Deviations from the conversion chart listed above will only be made if it *improves student grades*.

Non-programmable calculators *will be allowed* during the writing of quizzes and the final examination.

**Notes:**

- Students seeking reappraisal of a piece of graded term work (term paper, essay, etc.) should discuss their work with the Instructor *within fifteen* days of the work being returned to the class.
- Students' papers will be returned during regular class time or at the time of the final exam. Papers may also be picked up by students during regular Office Hours. Uncollected term work will be discarded.
- **THERE WILL BE NO MAKEUP OR DEFERRED QUIZZES** under any circumstances, nor may the quizzes be written early. Students unable to write the quizzes because of *documented* illness, family emergency or religious observance will have the weight shifted to the final examination; otherwise a grade of zero will be assigned.
- It is the student's responsibility to request academic accommodations. If you are a student with a documented physical, psychological, emotional or social disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than fourteen (14) days after the start of this course.

Students' Union Vice-President Academic:

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Society of Undergraduates in Economics (S.U.E.):

[www.ucalgary.ca/sue/](http://www.ucalgary.ca/sue/)

Safewalk / Campus Security: 220-5333

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