



## Department of Economics Course Outline

		<b>Term:</b>	Winter 2004
<b>Course:</b>	Economics 323 [Natural Gas Markets]	<b>Section:</b>	91
<b>Time:</b>	R 18:30 ? 21:20	<b>Place:</b>	A 140 (subject to change)
<b>Instructor:</b>	R. C. Schlenker		
<b>Office:</b>	SS 447	<b>Telephone:</b>	220-6550
<b>Office Hours:</b>	TR 11:00 ? 12:15	<b>E-Mail:</b>	<a href="mailto:rschlenk@ucalgary.ca">rschlenk@ucalgary.ca</a>

### Textbook(s):

**[Required]** Class Handout ? This can be purchased from the instructor at the start of the term.

**[Required]** Canadian Energy Research Institute (CERI) ? Natural Gas in Canada and the United States from Wellhead to Burner Tip, January 2004.

### Book(s) on Reserve:

Arlon Tussing & Bob Tipee (eds.) *The Natural Gas Industry: Evolution, Structure, Economics*, Pennwell Books, 1995, 2nd edition.

Arthur DeVany and W. David Walls, *The Emerging New Order on Natural Gas: Markets versus Regulation*, Quorum Books, 1995.

Sturm, F., *Trading Natural Gas*, Pennwell, 1997.

Susan Cullen, *Natural Gas in Canada and United States from Wellhead to Burner Tip*, CERI, 1993, 3rd edition.

James Bonbright, *Principles of Public Utility Rates*, Public Utility Reports, 1988 1st edition

Mansell, R. and J. Church, *Traditional and Incentive Regulations: Applications to Natural Gas Pipelines in Canada*, Van Horne Institute ? 1995 or latest edition.

## Course Objective:

The main objective of this course is to provide the student with an understanding of the economics of natural gas markets. The course will cover the chain of activities that bring natural gas from an undiscovered resource to a commodity available for sale, providing both historical context and economic analysis of each activity. The incentives and economic decisions behind gas finding and production, pipeline transportation and storage, and distribution and consumption will be explored. Students will also gain an understanding of regulations that have influenced the development of the natural gas market.

## Course Outline

1. Introduction and Overview of Gas Market
2. Exploration, Development and Operations
3. Transportation
4. Regulation and Deregulation
5. Consumption
6. Production
7. Pricing and Trading
8. Processing, Natural Gas Liquids and Petrochemicals (no readings)

## Readings:

- Class Handout Part A
- Class Handout Part B, CERI Chapter 1
- Mansell and Church, CERI Chapter 2
- CERI Chapter 4
- CERI Chapter 3
- Class Handout Parts C1, C2, C3
- CERI Chapter 4

## Websites

The following institutional websites provide significant amounts of information with respect to the natural gas industry:

- National Energy Board (NEB) ? [www.neb.gc.ca](http://www.neb.gc.ca)
- Alberta Energy and Utilities Board (AEUB) ? [www.eub.gov.ab.ca](http://www.eub.gov.ab.ca)
- Alberta Department of Energy (ADOE) ? [www.energy.gov.ab.ca](http://www.energy.gov.ab.ca)
- US Department of Energy/Energy Information Administration (DOE/EIA) ? [www.eia.doe.gov](http://www.eia.doe.gov)
- Canadian Association of Petroleum Producers (CAPP) ? [www.capp.ca](http://www.capp.ca)
- International Energy Agency (IEA) ? [www.iea.org](http://www.iea.org)
- Organization of Petroleum Exporting Countries (OPEC) ? [www.opec.org](http://www.opec.org)

## Grade Determination and Final Examination Details:

- |                   |     |                             |
|-------------------|-----|-----------------------------|
| 2 ? 4 Assignments | 20% | (due dates to be announced) |
| Midterm           | 40% | March 18                    |
| Examination       |     |                             |
| Final Examination | 40% | April 20 ? 30               |

Tests and final exams are marked on a numerical (percentage) basis, then converted to letter grades. The course grade is then calculated using the weights indicated above. As a guide to determining standing, these letter grade equivalences will generally apply:

A+	98 - 100	B	75 - 79	C-	60 - 62
A	90 - 97	B-	70 - 74	D+	55 - 59
A-	85 - 89	C+	67 - 69	D	50 - 54
B+	80 - 84	C	63 - 66	F	0 - 49

If, for some reason, the distribution of grades determined using the aforementioned conversion chart appears to be abnormal the instructor reserves the right to change the grade conversion chart if the instructor, *at the instructor's discretion*, feels it is necessary to more fairly represent student achievement.

A non-programmable calculator may be allowed during the writing of tests or final examinations.

There will be a Registrar scheduled final examination, lasting 2 hours and held in a classroom. Tests and exams will not involve multiple choice questions.

Students? Union Vice President Academic:

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

E-Mail: [suecon@ucalgary.ca](mailto:suecon@ucalgary.ca)

### Notes:

Students seeking reappraisal of a piece of graded term work (term paper, essay, etc.) should discuss their work with the Instructor within two weeks of the work being returned to the class.

Make-up examinations and deferred examinations will not be given except in cases of extreme personal emergencies. Also, examinations will not be given before the indicated dates.

Students? exams and assignments will be returned during regular class time. Papers may also be picked up by students during regular Office Hours.

Safewalk / Campus Security: 220-5333

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RCS:pst

2004-01-13

