

Economics 323(L01) Natural Gas Markets

Instructor:	Ron Schlenker	Lecture Location:	ICT116
Phone:	403-220-4096	Lecture Days/Time:	TR 11:00-12:15
Email:	rschlenk@ucalgary.ca		
Office:	SS344		
Office Hours:	T 12:30-13:20	Fall 2015	

Textbook: None – PDF files with graphs, tables, maps, etc. will be in Desire2Learn(D2L).

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.

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

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

Desire2Learn: This course will make use of the Desire2Learn (D2L) platform. Students who are registered in the course can log on at <http://d2l.ucalgary.ca> through their student centre. Please note that D2L features a class e-mail list that may be used to distribute course-related information. These e-mails go to your University of Calgary e-mail addresses only.

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
8. Processing, Natural Gas Liquids and Petrochemicals

References:

- D2L Graphs/Tables/Maps Part A
 D2L Graphs/Tables/Maps Part B , CERI Chapter 1
 Mansell and Church (Ch.1-2), CERI Chapter 2
 CERI Chapter 4
 CERI Chapter 3
 D2L Graphs/Tables/Maps Part C
 D2L Graphs/Tables/Maps Part D, CERI Chapter 4
 D2L Graphs/Tables/Maps Part E

Websites

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

- Alberta Energy Regulator (AER) – www.aer.ca
 Alberta Department of Energy (ADOE) – www.energy.ab.ca
 British Petroleum (BP) - <http://www.bp.com>
 Canadian Association of Petroleum Producers (CAPP) – www.capp.ca
 International Energy Agency (IEA) – www.iea.org
 National Energy Board (NEB) – www.neb-one.gc.ca
 Organization of Petroleum Exporting Countries (OPEC) – www.opec.org
 US Department of Energy/Energy Information Administration (DOE/EIA) – <http://www.eia.gov/>

In addition, the following specific resources from the previous websites will be referred to during the course (in some cases frequently):

Alberta Energy Regulator / Energy Resources Conservation Board (ERCB) – Alberta’s Energy Reserves and Supply Demand Outlook
<https://www.aer.ca/documents/sts/ST98/ST98-2015.pdf>

British Petroleum (BP) – Statistical Review of World Energy –
<http://www.bp.com/en/global/corporate/about-bp/energy-economics/statistical-review-of-world-energy.html>

National Energy Board (NEB) – Canada’s Energy Future : Energy Supply and Demand Projections to 2035
<http://www.neb-one.gc.ca/nrg/ntgrtd/ftr/2013/2013nrgftr-eng.pdf>

National Energy Board (NEB) – Short Term Canadian Natural Gas Deliverability –
<http://www.neb-one.gc.ca/nrg/sttstc/ntrlgs/rprt/ntrlgsvlrbly20152017/ntrlgsvlrbly20152017-eng.pdf>

US Department of Energy/Energy Information Administration (DOE/EIA) – Annual Energy Outlook (AEO)
 - [http://www.eia.gov/forecasts/aeo/pdf/0383\(2015\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2015).pdf)

Grade Determination and Final Examination Details:

Assignment	10% (Due Date : December 1)
Midterm Examination	40% (October 27 in class)
Final Examination	50% (December 11-22)

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. . The following letter grade equivalences will 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

A passing grade on any particular component of the course is not required for a student to pass the course as a whole.

Examinations:

1. Non-programmable calculators **WILL** be allowed during the writing of the final examination. **The use of graphing calculators, cell phones, computers, tablets, or any device with an alphanumeric keyboard is not permitted.**
2. There will be a Registrar scheduled final examination, held in a classroom, lasting 2 hours.
3. The midterm exam may involve multiple choice questions.

Notes:

- All students must comply with the regulations published in the University Calendar concerning “Intellectual Honesty,” “Examinations,” etc.
- 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.
- It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 403-220-8237. 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.

- **Late assignments will not be accepted under any circumstances.**
- Students should be aware that no "make-up" midterms will be given. Any student who finds it necessary to miss the midterm must notify the instructor in advance and produce a valid medical certificate or other required documentation in order to have the weighting moved to the final examination. Also, examinations will not be given before the indicated dates. Deferred final examinations do not have to cover the same material or have the same format as the regular final examination.
- **The use of cell phones for any purpose in class is prohibited. Computers may be used for note-taking purposes only.**
- Please note that the following types of emails will receive no response: emails not addressed to anyone in particular; emails where the recipient's name is not spelled correctly; anonymous emails; emails in which the sender has not identified which course and section he/she is taking; and, emails involving questions that are specifically addressed on the course outline.

Students' Union Vice-President Academic:

Stephan Guscott
 Phone: 403-220-3911
 E-mail suypaca@ucalgary.ca

Students' Union Faculty Representative (Arts)

Phone: 403-220-3913 Office: MSC 251
 E-mail arts1@su.ucalgary.ca arts2@su.ucalgary.ca, arts3@su.ucalgary.ca, arts4@su.ucalgary.ca

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

www.ucalgary.ca/sue

Society of Undergraduates in Economics is a student run organization whose main purpose is to assist undergraduate economics students succeed both academically and socially at the University of Calgary. Services include access to the exam bank, career partnerships with the Career Centre through hosting industry nights and information sessions, recognizing achievements in teaching, and organizing social events for members. They invite you to join by contacting sue@ucalgary.ca.

Faculty of Arts Program Advising and Student Information Resources

- Have a question, but not sure where to start? The Arts Students' Centre is your information resource for everything in Arts! Drop in at SS102, call them at 403-220-3580 or email them at artsads@ucalgary.ca. You can also visit the Faculty of Arts website at <http://arts.ucalgary.ca/undergraduate> which has detailed information on common academic concerns, including program planning and advice.
- For registration (add/drop/swap), paying fees and assistance with your Student Centre, contact Enrolment Services at 403-210-ROCK [7625] or visit them in the MacKimmie Library Block.
- Online writing resources are available at <http://www.ucalgary.ca/ssc/resources/writing-support>

Safewalk/Campus Security: 403 220 5333
Emergency Assembly Point: Social Sciences Food Court

RCS/mi
2015-08-18