

Economics 627 (L01) (Energy Economics)

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Lecture Location: SS 423
Lecture Days/Time: TR 12:30 - 13:45

Office: SS 410
Office Hours: By appointment

Winter 2020

Course Description:

Applies the tools of microeconomics, institutional economics, and econometrics to energy markets and policies. Focuses on empirical studies of the energy business including markets for natural gas, crude oil, gasoline, and electricity.

Course Outcomes:

The objective of this course is to provide the economist's perspective on a broad range of topics surrounding energy supply and demand. Course goals are to understand: how markets work; the consequences of environmental externalities and other market failures; and how the characteristics of markets impact effective policy. Topics include: pricing non-renewable resources, transportation policies, and electricity markets.

Course Outline:

January 14-21 Upstream oil and gas

Nathaniel O. Keohane and Sheila M. Olmstead, Markets and the Environment (Chapter 6)

<http://ebookcentral.proquest.com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=3317638&ppg=97>

Quentin Grafton, Wiktor Adamowicz, Diane Dupont, Harry Nelson, Robert J. Hill, Steven Renzetti The Economics of the Environment and Natural Resources 25-33; 194-196

Griffin, James, David Teece, OPEC Behavior and World Oil Prices (pages 14-17)

Anderson, Soren, Ryan Kellogg, and Steve Salant, "Hotelling Under Pressure," *Journal of Political Economy*.

Newell, Richard and Brian C. Prest, "Informing SPR Policy through Oil Futures and Inventory Dynamics" RFF Discussion Paper

Newell, Richard G., Brian C. Prest, and Ashley B. Vissing. "Trophy Hunting versus Manufacturing Energy: The Price Responsiveness of Shale Gas." *Journal of the Association of Environmental and Resource Economists* 6, no. 2 (2019): 391-431.

Nordhaus, William D. "The economics of an integrated world oil market." In *International Energy Workshop*, pp. 17-19. 2009.

Baumeister, Christiane, and Lutz Kilian. "40 Years of Oil Price Fluctuations: Why the Price of Oil May Still Surprise Us." *Journal of Economic Perspectives*, 2016.

Kilian, Lutz. "Oil Price Shocks: Causes and Consequences." *Annu. Rev. Resour. Econ.* 6, no. 1 (2014): 133-154.

Hamilton JD. "Understanding crude oil prices." *Energy Journal*. 2009 Apr 1;30(2):179-207.

Jacobsen, Grant D. and Dominic P. Parker "The Economic Aftermath of Resource Booms: Evidence from Boomtowns in the American West" *Economic Journal* (2014)

Feyrer, James, Erin T. Mansur and Bruce Sacerdote. 2017. "Geographic Dispersion of Economic Shocks: Evidence from the Fracking Revolution." *American Economic Review*, 107(4):1313-34.

Beine, Michel, Serge Coulombe, and Wessel N. Vermeulen. "Dutch disease and the mitigation effect of migration: evidence from Canadian provinces." *The Economic Journal* 125, no. 589 (2015): 1574-1615.

Allcott, Hunt and Daniel Keniston, "Dutch Disease or Agglomeration? The Local Economic Effects of Natural Resource Booms in Modern America"

January 23: Environmental regulation of oil and gas extraction

Lade, Gabriel, and Ivan Rudik, "Costs of Inefficient Regulation: Evidence from the Bakken," Working Paper

Muehlenbachs, L., "A Dynamic Model of Cleanup: Estimating Sunk Costs in Oil and Gas Production," *International Economic Review* (2015)

Muehlenbachs, L., E. Spiller, and C. Timmins, "The Housing Market Impacts of Shale Gas Development," *American Economic Review*, 2015.

Mason, Charles, Lucija Muehlenbachs, and Sheila M. Olmstead "The Economics of Shale Gas Development," *Annual Review of Resource Economics*, 2015.

Refining

"Canada's first refinery in 30 years could rescue battered oil producers," *Financial Post*, December 25, 2017

"'Sport to make fun of': New refinery in Alberta eager to prove the doubters wrong," *Financial Post*, October 19, 2017

Tombe, Trevor. "Better Off Dead: 'Value Added' in Economic Policy Debates." (2015), SPP Research Paper.

Muehlegger, Erich, and Richard L. Sweeney. "Pass-Through of Input Cost Shocks Under Imperfect Competition: Evidence from the US Fracking Boom." No. w24025. National Bureau of Economic Research, 2017

Borenstein, Severin, and Ryan Kellogg. "The Incidence of an Oil Glut: Who Benefits from Cheap Crude Oil in the Midwest?" *The Energy Journal* 35, no. 1 (2014).

McRae, Shaun, "Vertical Integration and Price Differentials in the U.S. Crude Oil Market," 2015

January 28—GeoSCOUT crash course

January 30—R and Stata crash course

February 4 Oil transport—Pipelines and rail

McRae, Shaun, "Crude Oil Price Differentials and Pipeline Infrastructure," NBER Working Paper No. 24170. 2017.

National Energy Board "Canada's Pipeline Transportation System 2016"

Clay, Karen, Akshaya Jha, Nicholas Muller, and Randall Walsh "The External Costs of Transporting Petroleum Products by Pipelines and Rail: Evidence from Shipments of Crude Oil from North Dakota" NBER Working Paper No. 23852 September 2017

Covert, Thomas and Ryan Kellogg "Crude by Rail, Option Value, and Pipeline Investment," NBER Working Paper No. 23855 September 2017

Gasoline

Wang, Zhongmin. "(Mixed) strategy in oligopoly pricing: evidence from gasoline price cycles before and under a timing regulation." *Journal of Political Economy* 117, no. 6 (2009): 987-1030.

Justin Marion and Erich Muehlegger, "Measuring Illegal Activity and the Effects of Regulatory Innovation: Tax Evasion and the Dyeing of Untaxed Diesel" *Journal of Political Economy*, 2014

Byrne, David P., and Nicolas De Roos. "Learning to coordinate: A study in retail gasoline." (2017).

Eckert, Andrew, and Douglas S. West. "Retail gasoline price cycles across spatially dispersed gasoline stations." *The Journal of Law and Economics* 47, no. 1 (2004): 245-273.

Eckert, Andrew. "Empirical studies of gasoline retailing: A guide to the literature." *Journal of Economic Surveys* 27, no. 1 (2013): 140-166.

Borenstein, S., Cameron, C., and Gilbert, R. (1997) "Do Gasoline Prices Respond Asymmetrically to Crude Oil Price Changes?" *Quarterly Journal of Economics*, vol.112, 305-339.

Anderson, S., R. Kellogg, J. Sallee "What do consumers believe about future gasoline prices?" *Journal of Environmental Economics and Management*

February 11 OPEC

Asker, John, Allan Collard-Wexler, and Jan De Loecker. "Market Power and Production (Mis) Allocation. A Study of the World Oil Market." mimeo, 2017.

Viscusi, Harrington, and Vernon (2005), *Economics of Regulation and Antitrust*, Ch. 5, "Oligopoly, Collusion, and Antitrust"

Fattouh, Bassam, and Lavan Mahadeva. "OPEC: What Difference Has It Made?" *Annu. Rev. Resour. Econ.* 5, no. 1 (2013): 427-443.

Bornstein, Gideon, Per Krusell, and Sergio Rebelo. *Lags, Costs, and Shocks: An Equilibrium Model of the Oil Industry*. No. w23423. NBER, 2017.

Smith, James L. "Inscrutable OPEC? Behavioral Tests of the Cartel Hypothesis." *The Energy Journal* 26, no. 1 (2005).

Victor, David G. "National Oil Companies and the Future of the Oil Industry," *Annu. Rev. Resour. Econ.* 5, no. 1 (2013): 445-462.

Data preparation

Paper writing

Prerequisites/corequisites:

None

Required Textbook(s):

There is no required textbook for this course. Required course readings are journal articles and will be made available via D2L.

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.

Grade Determination/Assessment:

EMPIRICAL PROJECT

100%

100% Empirical project

The goal of this assignment is to give you practice conducting research, writing, and analyzing data.

Grade Determination and Final Examination Details

Department of Economics Criteria for Letter Grades. Economics professors use the following criteria when assigning letter grades:

Grade	Grade Point Value	Description
A+	4.00	Outstanding
A	4.00	Excellent-superior performance, showing-comprehensive

		understanding of subject matter
A-	3.70	Very good performance
B+	3.30	Good performance
B	3.00	Satisfactory performance
B-	2.70	Minimum pass for students in the Faculty of Graduate Studies
C+	2.30	All grades below "B-" are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements. Individual programs may require a higher passing grade.

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

Tests and exams **will not** involve multiple choice questions.

Absence from a Test/Exam

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, religious observance, or university-sanctioned event will have the weight shifted to the final examination; otherwise a grade of zero will be assigned. If a student cannot write their final exam on the date assigned by the Department, they need to arrange for a deferred exam with the department.

Reappraisal of Grades and Intellectual Honesty:

For reappraisal of graded term work, see Calendar I.2

<http://www.ucalgary.ca/pubs/calendar/current/i-2.html>

For reappraisal of final grade, see Calendar I.3

<http://www.ucalgary.ca/pubs/calendar/current/i-3.html>

Statement of Intellectual Dishonesty, see Calendar K.4

<http://www.ucalgary.ca/pubs/calendar/current/k-4.html>

Plagiarism and Other Academic Misconduct, see Calendar K.5

<http://www.ucalgary.ca/pubs/calendar/current/k-5.html>

Academic Accommodations:

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor. The full policy on Student Accommodations is available at <http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf>.

Freedom of Information and Protection of Privacy (FOIP) Act:

Personal information is collected in accordance with FOIP. Assignments can only be returned to the student and will be accessible only to authorized faculty and staff. For more information, see

<http://www.ucalgary.ca/legalservices/files/legalservices/faq-students.pdf> and
http://www.ucalgary.ca/legalservices/files/legalservices/faq-faculty_0.pdf.

Internet and Electronic Communication Device information:

The use of cell phones for any purpose in class is prohibited. Computers and tablets may be used for note taking only unless otherwise authorized by the instructor.

Copyright Legislation:

See the University of Calgary policy on Acceptable Use of Material Protected by Copyright at www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf. Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

Important Dates:

Please check: <http://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html>

Student Organizations:

Faculty of Grad Studies website: <http://grad.ucalgary.ca/home>

Graduate Students Association: <http://gsa.ucalgary.ca/>

Professional Development for Grad Students

Workshops and resources can be found at <http://www.ucalgary.ca/mygradskills/>

Economics Graduate Association: <http://econ.ucalgary.ca/ega/>

Student Support and Resources:

- See <https://www.ucalgary.ca/registrar/registration/course-outlines> for information on campus mental health resources, the Student Ombuds' Office, Student Success Centre, Safewalk, and Emergency Evacuation and Assembly.
- Online writing resources are available at <https://ucalgary.ca/student-services/student-success/writing-support>.
- 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.

Notes:

Students are responsible for all assigned material, e.g., supplementary material posted on D2L, regardless of whether or not the material was covered in class.