Economics 627 (L01) Energy Economics

Instructor: Lucija Muehlenbachs
Email: Imuehlen@ucalgary.ca
Lecture Location: ZOOM Delivery
Lecture Days/Time: TR 12:30 - 13:45
Office: ZOOM Delivery
Office Hours: R 15:00 – 16:00
Winter 2021

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:
Upstream oil and gas
Jennifer Winter, "Buying Anonymity: An Investigation of Petroleum and Natural Gas Lease Auctions" 
Newell, Richard and Brian C. Prest, "Informing SPR Policy through Oil Futures and Inventory Dynamics" 
RFF Discussion Paper
Allcott, Hunt and Daniel Keniston, "Dutch Disease or Agglomeration? The Local Economic Effects of Natural Resource Booms in Modern America"

**Environmental regulation of oil and gas extraction**

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


**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


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

**Oil, gas, coal transport—Pipelines and rail**


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**


**OPEC**

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


**Natural gas demand**


Muehlegger, Erich; Davis, Lucas W "Do Americans consume too little natural gas? An empirical test of marginal cost pricing" The RAND Journal of Economics 2010


**Transportation**


**Electricity Demand**


McRae, Shaun "Efficiency and Equity Effects of Electricity Metering: Evidence from Colombia," Working Paper


**Electricity Supply**


David P. Brown Derek E. H. Olmstead, "Measuring market power and the efficiency of Alberta’s restructured electricity market: An energy-only market design," *Canadian Journal of Economics*


**Electricity Supply in Developing Country Context**


**Energy Efficiency**


**Solar**


**Innovation**

**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.

**Online Delivery:**
This course will be delivered online. Students are expected to be able to participate online in accordance with this Course Outline. Lectures, assignments, office hours, exams, readings and other course material, etc. all require online access and this access is the responsibility of the student. The instructor will make an effort to provide reasonable accommodations and flexibility as circumstances require. Students are expected to raise with the instructor at the beginning of the semester any potential concerns that require such accommodations.

In order to remotely participate in online courses, students will need to have: computer with a current and updated operating system (macOS or Windows will work with all university-supported online learning technologies), a current and updated web browser installed – the latest versions of Firefox, Safari, Chrome or Edge will help to avoid compatibility issues, secure and reliable internet, microphone / headphones, webcam (optional), scanner (or camera to scan your work).

**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](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.

**Lectures:**
Lectures will be delivered online at the Registrar scheduled times and delivered using ZOOM. The lectures will be recorded and subsequently posted to D2L.

**Grade Determination/Assessment:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Class Participation</td>
<td>5%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>20%</td>
</tr>
<tr>
<td>Questions on Readings</td>
<td>25%</td>
</tr>
<tr>
<td>Presentation of Article</td>
<td>10%</td>
</tr>
<tr>
<td>Empirical Project</td>
<td>40%</td>
</tr>
</tbody>
</table>

100%

- **5% Class participation**
  Class participation is determined based on attendance and engagement during student presentations.

- **20% Quizzes**
  There will be two short quizzes on material from the reading list.

- **25% Questions on readings**
  At the beginning of class on days in which papers are presented, each non-presenting student will submit a written response to pre-specified questions on each paper (~ ½ page).

- **10% Presentation of a journal article**
Each student will give a 15-20-minute presentation (depending on class size) summarizing the findings in a recently published paper.

**40% 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:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Point Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.00</td>
<td>Outstanding</td>
</tr>
<tr>
<td>A</td>
<td>4.00</td>
<td>Excellent-superior performance, showing-comprehensive understanding of subject matter</td>
</tr>
<tr>
<td>A-</td>
<td>3.70</td>
<td>Very good performance</td>
</tr>
<tr>
<td>B+</td>
<td>3.30</td>
<td>Good performance</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
<td>Satisfactory performance</td>
</tr>
<tr>
<td>B-</td>
<td>2.70</td>
<td>Minimum pass for students in the Faculty of Graduate Studies</td>
</tr>
<tr>
<td>C+</td>
<td>2.30</td>
<td>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.</td>
</tr>
</tbody>
</table>

Students must receive a passing grade on the final exam to pass the course.

The exact date of the quizzes will be announced at least one week in advance. The final examination will be take-home, comprehensive, and scheduled by the Registrar. The exams will be available on D2L via D2L Quiz. At a time of the student's choosing within a 24-hour period, students will start the exam. The timer starts when the exam is started. There is no stop time. Students should plan ahead and are responsible for a reliable internet connection during the period they choose to write the exam. D2L will not let the student start the exam after the beginning of the last window within the 24-hour exam period. The exam will be open book.

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
ACADEMIC MISCONDUCT
Academic Misconduct refers to student behavior that compromises proper assessment of students’ academic activities and includes: cheating; fabrication; falsification; plagiarism; unauthorized assistance; failure to comply with an instructor’s expectations regarding conduct required of students completing academic assessments in their courses; and failure to comply with exam regulations applied by the Registrar.

Student committing academic misconduct during the final exam will not receive a passing grade on the course.

For information on the Student Academic Misconduct Policy and Procedure please visit:

Additional information is available on the Academic Integrity Website at https://ucalgary.ca/student-services/student-success/learning/academic-integrity.

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.

Recording of Lectures:
Recording of lectures is prohibited, except for audio recordings authorized as an accommodation by SAS or an audio recording for individual private study and only with the written permission of the instructor. Any unauthorized electronic or mechanical recording of lectures, their transcription, copying, or distribution, constitutes academic misconduct. See https://www.ucalgary.ca/pubs/calendar/current/e-6.html.
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.

LM
2020-12-06