

## Economics 493(L01) (Empirical Energy Economics) REVISED

Instructor: Professor Daniel Gordon

Lecture Location: Zoom

Lecture: Zoom meetings

Email: dgordon@ucalgary.ca

Office Hours: Email

(Winter 2020)

---

**Course Description:** This is the capstone course for the Applied Energy Economics program. Students will study and learn how to apply methods of data analysis that are particularly useful in the context of energy economics. The course will discuss current econometric techniques commonly used in energy economics research, and critically review some of the top research papers in energy economics. Students will write and present a serious energy research project.

### Course Learning Outcomes:

Students who successfully complete this course will:

- a) be familiar with sources of energy data and have the ability and knowledge to collect, collate, and analyze energy data for the purpose of empirically investigating energy markets and evaluating public policy alternatives.
- b) be able to work with large data sets, preparing data for computer imputation and reading data into standard computer econometric programs.
- c) be knowledgeable with standard econometric skills in setting up and evaluating econometric equations.
- d) understand the statistical theory used to support and build econometric models.
- e) be familiar with econometric procedures for estimating econometric equations using least squares and maximum likelihood estimators.
- f) be familiar with identification issues in econometric modelling and the construction and use of Instrumental Variables
- g) be knowledgeable with price forecasting techniques.
- h) be familiar with measuring price relationships and defining relevant markets.
- i) be knowledgeable with techniques for building and interpreting elasticities.
- j) have the ability to report empirical results and research presentation skills.

### Course Outline:

Students develop and demonstrate the course learning outcomes through class room participation, exercises, completion of a major research paper and presentation of research findings. Students are required to read and study a number of important empirical energy economic papers, and be able to provide critical review and discussion. Exercises require

computer application of empirical energy economic problems. Students are required to demonstrate proficiency in computer coding, application of econometric skills and critical interpretation of econometric results. The research paper is a major undertaking that brings together students understanding of energy markets, statistical and econometric techniques, presentation of research findings in a proper reporting manner and presentation of research findings. The presentation requires the student to not only present the findings but to be able to argue and support the policy results presented.

**Tutorials:** A number of econometric software-oriented tutorials will be organized and led by the Teaching Assistant.

**Prerequisites/corequisites:** Economics 357, 395 and 427

**Required Readings:** Journal Articles and other readings will be assigned during the semester.

**Books on Reserve:**

1. Angrist, J.D. and Pischke, J.,	Mostly Harmless Econometrics: An Empiricist's Companion
2. Wooldridge, J.M.	Introductory Econometrics: A Modern Approach
3. Keppler J.H., Bourbonnais, R. & J-M Chevalier	The econometrics of energy systems
4. Islam, J.S., Islam, M.R., Islam, M. & Mughal, M.A.H.	Economics of sustainable energy
5. Menegaki, A. (Ed)	The economics and econometrics of the energy-growth nexus
6. Zweifel, A., Praktijnjo, & G. Erdmann	Energy Economics, theory and applications
7. Yergin, D.	The Quest
8. Prentiss, M.	Energy Revolution
9. Bhattacharyya, S	Energy Economics
10. Dahl, C.	International energy markets: Understanding pricing, Policies and profits

**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:**

<b>Exercises (2 assignments @ 5%)</b>	<b>10% Completed</b>
<b>Presentations (2 presentations @10%)</b>	<b>20% Completed</b>
<b>Research Paper (2 sections @10%)</b>	<b>20% Completed</b>
<b>Zoom presentation</b>	<b>15%</b>
<b>Final paper (week 12/13)</b>	
<b><u>Research paper Hand-in email only</u></b>	
<b>Econometric model and results (March 31)</b>	<b>15%</b>
<b>Final paper (April 20)</b>	<b>20%</b>

The official grading system will be used. See <http://www.ucalgary.ca/pubs/calendar/current/f-1-1.html>

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

As per the Writing Across the Curriculum Statement in the Calendar, writing and grading thereof will be a factor in the evaluation of student work.

Any student work which remains undistributed after the last day of classes will be available to students through the instructor's office during the instructor's office hours.

**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](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](http://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 Arts Students' Association (F.A.S.A.):

Economics Department Representative

Office: SS 803, E-mail: [econrep@fasaucalgary.ca](mailto:econrep@fasaucalgary.ca) and Web: [www.fasaucalgary.ca](http://www.fasaucalgary.ca).

Society of Undergraduates in Economics:

<https://www.ucalgarysue.com/>.

Society of Undergraduates in Economics is a student run organization whose main purpose is to assist undergraduate economics students to succeed both academically and socially at the University of Calgary. Services include access to the exam bank, career events such as Industry Night and information sessions, mentorship programs, and social events for members. They invite you to join by contacting SUE at [societyofundergradsineconomics@gmail.com](mailto:societyofundergradsineconomics@gmail.com).

**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](mailto: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>.

**Notes:**

1. 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.
2. Because of the participatory nature of the course, class attendance is mandatory.

DVG

2020-03-22