



**UNIVERSITY OF
CALGARY**

Department of Economics

Faculty of Arts

Economics 493 (L01) (Empirical Energy Economics)

Instructor: WALLS, W. D.
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Lecture Location: EDC 280
Lecture Days/Time: TR 9:30AM–10:45AM

Office: SS 332
Office Hours: TR 11:00AM–12:00PM or by appt. only (Winter 2022)
(Office Hours by Zoom Only through link on D2L)

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 develop and present a serious energy research project.

Course Learning Outcomes:

- 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) understand the statistical theory used to support and build econometric models.
- d) be knowledgeable with standard econometric skills in setting up and evaluating econometric equations.
- 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.
- g) be familiar with the construction and use of Instrumental Variables in econometric application.
- h) be knowledgeable with price forecasting techniques.
- i) be knowledgeable with techniques for building and interpreting elasticities.
- j) be proficient with econometric procedures for estimating single and multi-equation econometric models.
- k) have the ability to critically read the applied energy literature.

l) be able to produce a serious research paper on an applied energy topic that combines knowledge of energy markets, statistical theory, econometric application and policy evaluation.

m) be able to present and defend the findings of the research in a business setting.

Course Outline:

- a) Energy data and statistics.
- b) Collecting, preparing and presenting energy data for evaluation.
- c) Econometric software used in applications.
- d) Estimating energy demand models.
- e) Estimating energy supply models.
- f) Measuring scale economies and productivity in energy markets.
- g) Interpreting and applying energy elasticities.
- h) Measuring price relationships and defining relevant markets.
- i) Empirical skills for testing linkages across markets.
- j) Report empirical results and research presentation skills.

Prerequisites/corequisites:

Econ 357, 359 (n.b. useless), 395.

Required Textbook(s):

None.

Recommended Textbook(s):

[Jacques Girod](#), [Regis Bourbonnais](#) and [Jan Horst Keppler](#), editors. *The Econometrics of Energy Systems*. Palgrave Macmillan.

Books on Reserve:

1. E. Berndt. *The Practice of Econometrics*. Addison Wesley, 1996.
2. W. Enders. *Applied Econometric Time Series*. Wiley, 2nd edition, 2003.
3. D. Gujarati. *Basic Econometrics*. Addison Wesley, 1996.
4. A. H. Studenmund. *Using Econometrics: A Practical Guide*. Addison Wesley, 5th edition, 2005.
5. J. Wooldridge. *Econometric Analysis of Cross Section and Panel Data*. MIT Press, 2001.
6. J. Girod, R. Bourbonnais & J.H. Keppler (eds.) *The Econometrics of Energy Systems*, Palgrave Macmillan
7. D. Huff *How to lie with Statistics*, Norton

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.

The Written Term Paper must be uploaded by the student to the D2L Dropbox by 11:59PM on Tuesday April 19th (one week after the last day of instruction for the Winter 2022 term).

Grade Determination and Final Examination Details:

<u>Component</u>	<u>Weight</u>
Assignments (3@15% each)	45%
Presentation of Written Term Paper	05%
Written Term Paper	50%

There will be no final examination for this course. As the capstone course for the Concentration in Applied Energy Economics, this course emphasizes research writing skills and presentation skills. For this reason, the Written Term Paper and Presentation constitute, in aggregate, 55% of the overall grade.

The final version of the Written Term Paper must be uploaded by the student to the D2L Dropbox by 11:59PM on Tuesday April 19th (one week after the last day of instruction for the Winter 2022 term).

The Presentation of the Written Term Paper will take place during scheduled class time. All students shall be present for all student presentations.

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

Students must receive a passing grade on the Written Term Project and the Term Project Presentation to pass the course.

If a student's letter grade on the final written project exceeds their assignment(s) letter grade, the weight of the assignment(s) is (are) transferred to the written term project at the discretion of the instructor. The student must have written the assignment(s) or provided supporting documentation for the absence(s) such as a medical note or statutory declaration.

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. See <https://www.ucalgary.ca/pubs/calendar/current/e-2.html>.

Course material dealing with a particular assignment will typically be covered in class at least 2 days before the assignment is due; thus, assignments can be completed at any time up to and including the due date. Given these factors, only situations where someone can document illness or domestic affliction for an extended period (i.e., the entire 2 days prior to the due date) would possibly warrant shifting the assignment weight to the final exam. Furthermore, technical problems can be expected to occur with computer systems (and internet availability) so it may be a good idea to not wait until the last minute to submit your assignment.

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 for a period of one month.

Reappraisal of Grades:

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 for the course.

For information on the Student Academic Misconduct Policy, Procedure and Academic Integrity, please visit: <https://www.ucalgary.ca/pubs/calendar/current/k-3.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

<https://www.ucalgary.ca/legal-services/university-policies-procedures/accommodation-students-disabilities-procedure>

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 <https://www.ucalgary.ca/legal-services/access-information-privacy>

Copyright Legislation:

See the University of Calgary policy on Acceptable Use of Material Protected by Copyright at <https://www.ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy> Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

Course materials created by instructors (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may NOT be reproduced, redistributed or copied without the explicit consent of the instructor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

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
E-mail: econrep@fasaucalgary.ca
Website: 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.

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 Tower.

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>.

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. All of the above information pertains to all students, except none of the above.

WDW

2021-11-16