

Economics 395 (L02) (Use of Statistics in Economics)

Instructor: Heidi Esau
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Lecture Location: EDC 284
Lecture Days/Time: T/R 15:30-16:45

Office: SS 344
Office Hours: T/R 11:00 – 1:00

(Fall 2019)

Course Description:

Introduction to the use of statistical principles in economics. Topics include gathering economic data, basic data manipulation, hypothesis testing, and statistical estimation of economic relationships. The core of this course is based on the principles from random variables, expectation theory, and probability theory. The two-variable and multivariate linear regression models are introduced, developed and evaluated.

Laboratory:

Quantitative analysis using standard statistical software; Stata and Excel.

Course Outcomes:

Building on the fundamental mechanics of statistics and probability as presented in Stats 205, 211 or 213, Econ 395 students will become familiar with the empirical application of statistical principles to problems of measurement in economics. The course focuses on the intuition and application of statistical reasoning, the gathering and manipulation of economic data, and the use of standard econometric software. Students completing this course successfully will have a fundamental working knowledge of statistics and econometrics as applied to solving current economic problems and measurement.

Course Outline:

Week	Topic	Readings	Notes
1,2	Introduction: Why study econometrics? Why it is useful for understanding economic problems and issues of measurement.	Wooldridge Ch. 1	Classes begin Sept 5
2, 3	Review of basic probability and statistics: Opportunity to review important elements in Statistics useful	Wooldridge Appendices A, B, C; Review Stats 213	
<u>** 4</u>	<u>Assignment #1 due</u>		<u>Sept 24</u>
4	Simple Regression model: Fundamental characteristics and mechanics of regression analysis, the importance of the residual error term.	Wooldridge Ch. 2	

** 5	<u>Assignment #2 due</u>		<u>Oct. 3</u>
5, 6,7	Multi-regression Model: A detailed understanding of why and what restrictions are required for a regression equation to generate empirically accurate information on the relationships among economic variables.	Wooldridge Ch. 3	
**6	<u>MIDTERM 1</u>	<u>Wooldridge Chapters 1 – 2, Appendix A, B, C</u>	<u>Oct. 10</u>
7, 8	Multi-regression inference: Testing the statistical accuracy of the model and parameter estimates.	Wooldridge Ch. 4	
** 9	<u>Assignment #3 due</u>		<u>Oct. 29</u>
9	Multi-regression further issues: Issues of functional form for specifying the regression model, selection of regressors, and using the estimated regression model for prediction.	Wooldridge Ch. 6	
**10	<u>MIDTERM 2</u>	<u>Wooldridge Chapters 3 - 6</u>	<u>Nov 7</u>
11	Mid-term Break		<u>Nov 10-16</u>
10,12	Qualitative information: The importance and use of binary (dummy) variables as regressors and choice variables. The linear probability model in economics is introduced.	Wooldridge Ch. 7	
12,13	Heteroskedasticity: The variance of the regression equation and the importance of constant variance (homoscedasticity) in economic inference and model valuation, tests and corrections.	Wooldridge Ch. 8	
13,14	Model Specification: Issues arising in empirical application of regression models, testing functional specification, proxy variables and measurement error.	Wooldridge Ch. 9	
14	Course Review and Final Examination Preparation		
** 14	<u>Assignment #4 due</u>		<u>Dec. 3</u>
	A cumulative final examination scheduled by the Registrar's Office	<u>Wooldridge Chapters 1 – 4, 6– 9, Appendix A, B, C</u>	

Prerequisites/corequisites:

Economics 201, Economics 203, Statistics 205, 211 or 213

Required Textbook(s):Jeffrey M. Wooldridge Introductory Econometrics, A modern approach. 7th Edition, South-Western

Books on Reserve:

Adkins and Hill. *Using Stata for Principles of Econometrics*, 3rd Edition.

A. Colin Cameron & Pravin K. Trivedi, *Microeconometrics using Stata*, Revised Edition, Stata Press

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.

Tutorials:

Students are expected to attend the weekly tutorial section to which they have been assigned. During the tutorials, the TA will discuss pre-assigned questions and additional material relevant to the course that is not covered in lectures.

Grade Determination and Final Examination Details:

MIDTERM EXAMS (2)	40%	20% Each
FINAL EXAMINATION	40%	
ASSIGNMENTS (4)	20%	5% Each
	100%	

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.

The format of the assignments and the midterms will be discussed during the first week of lectures. Assignments are due at the beginning of class. **Late assignments will not be accepted.**

If a student's letter grade on the final exam exceeds their midterm(s) letter grade, the weight of the midterm(s) is (are) transferred to the final exam. The student must have written the midterm(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>.

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.

The final examination will be comprehensive, scheduled by the Registrar, held in a classroom, and last 2 hours. If a student cannot write their final exam on the date assigned by the Registrar's Office, they need to apply for a deferred exam www.ucalgary.ca/registrar/exams/deferred_final. Under no circumstance will this be accommodated by the Department.

Tests and exams WILL NOT involve multiple choice questions

Non programmable- calculators, cellphones, tablets or laptops are allowed in any midterm or final exam. Students are reminded that simply being able to access their cellphone during an exam is academic misconduct.

The midterms will be written during class time on the dates specified in the above course outline.

THERE WILL BE NO MAKEUP OR DEFERRED QUIZZES/TESTS/EXAMS under any circumstances, nor may the quizzes/tests/exams be written early. Students unable to write the quizzes/tests/exams 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.

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 Arts Students' Association (F.A.S.A.):

Economics Department Representative

Office: SS 803, E-mail: econrep@fasaucalgary.ca and Web: 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 Library Block.

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.

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2019-08-14