

Economics 395 (Use of Statistics in Economics)

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Lecture Location: SA 247
Lecture Days/Time: TR 12:00 – 14:45

Office: SS 443
Office Hours: WF 11:00 – 13:00

(Summer 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.

Course Objectives/Learning 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:

Section 1:

1. Introduction to Econometrics: *Why study econometrics and why it is useful for understanding economic problems and issues of measurement.* Chapter 1
2. Review of basic probability and statistics. Appendices A, B, C

Section 2:

1. Simple Regression Model: *Fundamental characteristics and mechanics of regression analysis, the importance of the residual error term.* Chapter 2
2. Multiple Regression Models – Estimation: *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.* Chapter 3
3. Multiple Regression Models – Inference: *Testing the statistical accuracy of the model and parameter estimates.* Chapter 4
4. Multiple Regression Models – Further Issues: *Issues of functional form for specifying the regression model, selection of regressors, and using the estimated regression model for prediction.* Chapter 6
5. Qualitative Information in the Regression: *The importance and use of binary (dummy) variables as regressors and choice variables. The linear probability model in economics is introduced.* Chapter 7

Section 3:

1. Heteroskedasticity: *The variance of the regression equation and the importance of constant variance (homoscedasticity) in economic inference and model valuation, tests and corrections.* Chapter 8
2. Model Specification: *Issues arising in empirical application of regression models, testing functional specification, proxy variables and measurement error.* Chapter 9

Section 4: Course Review and Final Exam Preparation**Prerequisites/corequisites:**

Economics 201 and 203 and Statistics 205, 211 or 213

Required Textbook(s):

Jeffrey M. Wooldridge. 2016. *Introductory Econometrics, A Modern Approach*. 6th Edition, South-Western.

Recommended Textbook(s):

Hill, Griffith, Lim. *Principles of Econometrics*, 5th Edition.

Joshua D. Angrist and Jörn-Steffen Pischke. 2105. *Mastering 'Metrics, The Path from Cause to Effect*. Princeton University 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.

Grade Determination, Dates and Final Examination Details:

| | | |
|-----------------|--|------------|
| Assignments (3) | Due dates: July 11, July 25, August 15 | 30% |
| Midterm Exam | Date: August 1 | 30% |
| Final Exam | Date to be scheduled by registrar | <u>40%</u> |
| | | 100% |

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

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.

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 WILL/WILL NOT be allowed during the writing of tests or final examinations.

The exact date for the in-class midterm will be announced at least one week in advance. The midterms will be written during class time. The final exam will be comprehensive, scheduled by the Registrar, held in a classroom, lasting 2 hours.

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:

The student accommodation policy can be found at: ucalgary.ca/access/accommodations/policy.

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities ucalgary.ca/policies/files/policies/student-accommodation-policy.

Students needing an Accommodation based on a Protected Ground other than disability should communicate this need, preferably in writing, to the course instructor.

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.
- Online writing resources are available at <http://www.ucalgary.ca/ssc/resources/writing-support>.

Evacuation Assembly Point:

In case of an emergency evacuation during class, students must gather at the designated assembly point nearest to the classroom. The assembly point for this classroom is Social Science – Food Court.

Safewalk:

The Safewalk program provides volunteers to walk students safely to their destination anywhere on campus. This service is free and available 24 hrs/day, 365 days a year. **Call 403-220-5333.**

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

Personal information is collected in accordance with FOIP. For more information, see <http://www.ucalgary.ca/legalservices/foip/foip-hia>.

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.

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