

## Economics 395 (Use Of Statistics In Economics)

Instructor: Xiaoli Zheng

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Lecture Location: ST 130

Lecture Days/Time: TR 13:00 - 15:45

Lab Days/Time: TR 16:55 - 17:45

Office: SS 445

Office Hours: TR 15:50 – 16:50

Term: Summer 2017

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### Course Description

Econ 395 teaches students with the statistical applications to problems of real-life economics. Student will learn designing projects with econometrics, including how to collect data, choose the suitable models, carefully interpret results and diagnose existing and potential problems. 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. The core of this course comprises Random Variables, Expectation Theory, Probability Distributions, Hypothesis Testing and the Two-Variable and Multi-Variable Linear Regression Model.

### Course Objectives/Learning Outcomes

Random Variables: The role of random variables as the fundamental building block of econometric models; the use of expectation theory including the conditional expectation operator as the main tool for investigating the characteristics of econometric relationships; the role of probability theory in expectations; sampling and sampling distributions; probability density and cumulative distribution functions.

Data Gathering and Manipulation: Instruction on searching for and downloading economic variables from the main economic data sources in Canada; transforming and modifying data to be read into an econometric software package.

Single and Multi-Variate Probability Distributions: Instruction on using and interpreting the Uni-variate and Multi-variate Normal distribution; extensions to the Student -t, Chi-squared and F distributions with empirical applications.

Hypothesis Testing and Inference: Single and joint hypothesis tests, Type I and Type II errors and p-values; choosing the correct test statistic for the measurement problem.

The Least Square Regression Estimator: The two-variable regression model; interpreting the variables, the coefficients and the error term; confidence intervals, goodness-of-fit, hypothesis testing and introduction to multi-variable linear regression models.

Applications of Econometric Software: Instruction on using a standard econometric software package; reading data, descriptive statistics, applying the least squares estimator, interpreting econometric

results, carrying through with and the empirical interpretation of hypothesis testing and other standard econometric tests; graphical method.

### Prerequisites

Econ 201, 203 and Stats 211 or 213.

**Required Textbook(s)** Hill, *Use of Statistics in Economics*, 2009 John Wiley & Sons OR  
Lee C. Adkins, R. Carter Hill, *Using Stata For Principles of Econometrics*, 3<sup>rd</sup> Edition, 2008 John Wiley & Sons

**Reserved Readings** Pedace, *Econometrics for Dummies*, 2013 John Wiley & Sons  
*Statistics for Management and Economics*, 8<sup>th</sup> Edition, Keller.  
*Principles of Econometrics*, 3<sup>rd</sup> Edition, Hill, Griffith, Lim.  
*Using Stata for Principles of Econometrics*, 3<sup>rd</sup> Edition, Adkins, Hill.

### Course Requirements/Assessments:

Students **MUST** attend lab presentations. The course will use software Excel and Stata.

Midterm Examination	1	30%	(on July 27)
Assignments (10% ea)	3	30%	(due on July 18, July 27, Aug 8).
Final Examination	1	40%	

**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 and Final Examination Details

Department of Economics Criteria for Letter Grades. Economics professors use the following criteria when assigning letter grades:

Grade	Grade Point Value	Description	Grade	Grade Point Value	Description
A+	4.00	Outstanding	C+	2.30	
A	4.00	Excellent-superior performance, showing-comprehensive understanding of subject matter	C	2.00	Satisfactory – basic understanding of the subject matter
A-	3.70		C-	1.70	Receipt of a grade point average of 1.70 may not be sufficient for promotion or graduation. (See individual undergraduate faculty regulations.)
B+	3.30		D+	1.00	
B	3.00	Good – clearly above average performance with knowledge of subject matter generally complete.	D	1.00	Minimal pass – marginal performance; generally insufficient preparation for subsequent courses in the same subject.

B-	2.70			F	0	Fail – unsatisfactory performance or failure to meet course requirements
				I	0	Incomplete – unsatisfactory (effective January 2007)

### Grading Scale

A+	95 – 100	B	73 – 76	C-	60 – 62
A	85 – 94	B-	70 – 72	D+	56 – 59
A-	80 – 84	C+	67 – 69	D	50 – 55
B+	77 – 79	C	63 – 66	F	0 – 49

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

### 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>

A student who feels that a piece of graded term work (e.g., term paper, essay, test) has been unfairly graded, may have the work re-graded as follows. The student shall discuss the work with the instructor within 7 days of being notified about the mark or of the item's return to the class; no reappraisal of term work is permitted after the 7 days. If not satisfied, the student shall immediately take the matter to the Head of the department offering the course, who will arrange for a reassessment of the work within the next 7 days. The reappraisal of term work may cause the grade to be raised, lowered, or to remain the same. If the student is not satisfied with the decision and wishes to appeal, the student shall address a letter of appeal to the Dean of the faculty offering the course within 7 days of the unfavourable decision. In the letter, the student must clearly and fully state the decision being appealed, the grounds for appeal, and the remedies being sought, along with any special circumstances that warrant an appeal of the reappraisal. The student should include as much written documentation as possible.

### Plagiarism and Other Academic Misconduct

Intellectual honesty is the cornerstone of the development and acquisition of knowledge and requires that the contribution of others be acknowledged. Consequently, plagiarism or cheating on any assignment is regarded as an extremely serious academic offense. Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Students should examine sections of the University Calendar that present a Statement of Intellectual Honesty and definitions and penalties associated with Plagiarism/Cheating/Other Academic Misconduct,  
<http://www.ucalgary.ca/pubs/calendar/current/k-2.html>

### Academic Accommodation

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. For additional information on support services and accommodations for students with disabilities Visit [www.ucalgary.ca/access/](http://www.ucalgary.ca/access/).

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>

### **Absence from a Quiz/Test/Exam**

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. 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](http://www.ucalgary.ca/registrar/exams/deferred_final) Under no circumstance will this be accommodated by the department.

### **Important Dates**

Please check: <http://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html>

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

Economics Department Representative

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

Society of Undergraduates in Economics

[www.ucalgarysue.com](http://www.ucalgarysue.com)

Society of Undergraduates in Economics is a student run organization whose main purpose is to assist undergraduate economics students succeed both academically and socially at the University of Calgary. Services include access to the exam bank, career partnerships with the Career Centre through hosting industry nights and information sessions, recognizing achievements in teaching, and organizing social events for members. They invite you to join by contacting [sue@ucalgary.ca](mailto:sue@ucalgary.ca).

### *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>

### **Evacuation Assembly Point**

In case of an emergency evacuation during class, students must gather at the designated assembly point nearest to the classroom. The list of assembly points is found at [www.ucalgary.ca/emergencyplan/assemblypoints](http://www.ucalgary.ca/emergencyplan/assemblypoints)

Please check this website and note the nearest assembly point for this course

### **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**