



## Department of Economics Course Outline

<b>Course:</b>	Economics 395 [Use of Statistics in Economics]	<b>Term:</b>	Winter 2008
<b>Section:</b>		<b>Section:</b>	02
<b>Time:</b>	MWF 14:00 – 14:50	<b>Place:</b>	ST 126
<b>Instructor:</b>	Marian Miles		
<b>Office:</b>	SS 447	<b>Telephone:</b>	220-6550
<b>Office Hours:</b>	M 13:00 – 13:50 W 15:00 – 15:50	<b>E-Mail:</b>	<a href="mailto:mamiles@ucalgary.ca">mamiles@ucalgary.ca</a>

### **Textbook(s):**

Doane D.P. and Seward L.E., Applied Statistics in Business and Economics, McGraw-Hill.  
[Required Text]

Lyryx Online. [Required]

**Book(s) on Reserve:** none

### **Blackboard:**

This course will make use of blackboard – students who are registered in the course can log on at <http://blackboard.ucalgary.ca/webapps/login>

### **Course Outline:**

Prerequisites; Econ 201, 203 and Stats 211 or 213.

Building on the fundamental mechanics of statistics and probability as presented in Stats 211 or 213, Econ 395 familiarizes students with the practical application of the statistical principles to problems of measurement in economics. The course focuses on the intuition and use of statistical reasoning to answer questions of interest to an economist, the gathering and manipulation of economic data, and the practical use of standard econometric software. The core of this course comprises both the theoretical foundations and practical applications of Random Variables, Expectation, Probability Distributions, Hypothesis Testing and the Two-Variable Linear Regression Model.

Topics Covered

*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 and elsewhere; 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 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 and hypothesis testing.

*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 methods.

***Students MUST attend lab presentations (Starts Jan.21 offered in the Tri-Faculty Lab SS Rm. 018). Each week the two lab presentations will be identical and you do not need to attend on the same day from week to week.***

***The labs are on Mondays at 4:00 – 5:00 pm***

***Tuesdays at 9:00 – 10:00 am***

***The course will use the software Excel and STATA.***

**Grade Determination and Final Examination Details:**

Assignments and Labs	8	30%	
Midterms	2	30%	Feb. 11, Mar. 24
Final Examination (2 Hours)	1	40%	As scheduled by the Registrar.

There will be a Registrar scheduled **final examination**, lasting 2 hours and held in a gym. The FULL COURSE will be covered. **A student must pass the final exam to pass the course as a whole.**

Programmable calculators are NOT allowed during the writing of tests or final examinations. Non-programmable calculators WILL be allowed during the writing of tests or final examinations, but cell-phones are strictly forbidden during the writing of examinations.

No deferred midterm will be given. In case of documented illness or family emergency, the extra weight will be shifted to the final examination. The Instructor should be *notified in advance* if a student will be unable to write a midterm. In any case, documentation must be provided as soon as possible (within a day or so of the missed midterm).

The format and dates of these tests and assignments will be discussed during the first week of classes. Each assignment is due on the date and time stated on the assignment. **Late assignments will not be accepted.** The assignments in Lyryx will be individual assignments done online. You are welcome to work with a small group (2 or 3 students) on the paper portion of any assignment, and a group assignment is to be handed in. All students in the group will receive the same mark for that assignment. The last two paper assignments will be larger group assignments, with no less than 4 students, and no more than 6 students, in each group.

Tests and final exams are marked on a numerical (percentage) basis, and then converted to letter grades. The course grade is then calculated using the weights indicated above. As a guide to determining standing, these letter grade equivalences will generally apply:

A+	97 – 100	B+	81 – 85	C+	66– 69	D+	53 – 56
A	90 – 96	B	75 – 80	C	61 - 65	D	49 – 52
A-	86 - 89	B-	70 - 74	C-	57 - 60	F	0 - 48

If, for some reason, the distribution of grades determined using the aforementioned conversion chart appears to be abnormal the instructor reserves the right to change the grade conversion chart if the instructor, *at the instructor's discretion*, feels it is necessary to more fairly represent student achievement.

Students' Union Vice President Academic:

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Society of Undergraduates in Economics (S.U.E.)

[www.ucalgary.ca/sue/](http://www.ucalgary.ca/sue/)

**Notes:**

- Students seeking reappraisal of a piece of graded term work (term paper, essay, etc.) should discuss their work with the Instructor *within fifteen* days of the work being returned to the class.
- Make-up midterm tests/assignments and deferred midterm tests/assignments **will not be given**. In cases of documented illness, documented family emergency, or documented religious observance, extra weight will be given to the final examination.
- Midterm tests and the final examination will only be given on the indicated dates, not before.
- It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than fourteen (14) days after the start of this course.

Safewalk / Campus Security: 220-5333

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