

ECON 400

Economic Statistics - Summer I 2015

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Meetings: MTWThF 11:30-1:00 in Murphy 0115
Office Hours: MW 3:00-4:00

Materials: Newbold, Carlson, and Thorne: Statistics for Business and Economics, 8th edition
STATA (Version 12 or later)
Laptop for use of STATA during class

Prerequisites: Introductory Economics (101 or Equivalent)
Math Skills Through Basic Calculus (Derivatives and Integrals)

Goals of the Course:

The goal of this course is to provide an understanding of statistical vocabulary and techniques, the ability to apply statistical and probabilistic methods to real-world situations, and the skills to analyze data and draw conclusions. The course covers six general topics:

1. Descriptive Statistics
2. Probability Theory
3. Random Variables
4. Sampling Distributions
5. Hypothesis Testing
6. Regression Analysis

Attendance: Regular attendance is strongly encouraged, but I don't monitor attendance formally. Regardless of whether you attend, I expect that you will submit assignments on time, and that you know any announcements made in class. This is a summer course which means we will be moving at an accelerated pace so that missing a class or multiple classes will likely affect performance.

Assignments: There will be a total of eight homework assignments with the lowest homework grade (out of all eight assignments) dropped. Four will be regular problem sets and

four will be Stata problem sets. One of each type will be due each week at the beginning of class on Monday. Assignments will be graded on a check, check plus, check minus system. Grading criteria is based mainly on completion and less on accuracy. The point of the homework is to encourage the attempt of problems and prepare you for exams. It is fine to work with classmates on these assignments, but each student must turn in his or her own independently written assignment. While group work is encouraged, copying is strictly prohibited. Late homework will not be accepted.

Quizzes: Short quizzes will be given at the beginning of class on Monday, Wednesday, and Friday of each week. These are not intended to be difficult. These will serve to test general concepts and definitions. A total of 12 quizzes will be given with the lowest quiz grade dropped. Quizzes cannot be made up except with a valid excuse. In the event of an excused absence, the quiz will be made up the following day.

Exams: There will be one midterm and a final exam. There are no make-ups permitted for the midterm. If the midterm is missed, its weight will be transferred to the final exam. In order to receive credit for the final examination, a student must take the exam at the Registrar's scheduled time unless the student's Dean's office or Student Health has granted a time for the make-up. An instructor may not grant permission to take the final exam at any time other than that scheduled by the Registrar.

Grading:

- Midterm (35%)
- Final (35%)
- Homework (20%)
- Quizzes (10%)

Grading Scale:

- | | |
|-----------------|-----------------|
| • A (93-100) | • C (73-76.99) |
| • A- (90-92.99) | • C- (70-72.99) |
| • B+ (87-89.99) | • D+ (67-69.99) |
| • B (83-86.99) | • D (60-66.99) |
| • B- (80-82.99) | • F (<60) |
| • C+ (77-79.99) | |

Required Software: STATA is a statistical analysis software that we will use throughout the semester. In class examples will often be completed with STATA. Additionally half of the homework assignments will require the use of STATA. There are three main options for accessing STATA: (i) You may purchase STATA at a discounted price at www.stata.com/order/

new/edu/gradplans/student-pricing. The STATA/IC or STATA/SE option should be selected. It is offered for six-months, one year, and perpetual. You should choose the appropriate options based on your expected future use of STATA. (ii) The second option is free and provided through the university. Visit help.unc.edu/help/how-do-i-log-on-to-virtual-lab/ for instructions on how to access virtual lab. Once downloaded you can access virtual lab on your computer at virtuallab.unc.edu. This is the preferred option, and what I use. (iii) Finally some computers in the undergraduate library have STATA, but remember that we will be doing examples together in class.

Etiquette: Please refrain from using phones, computers, or other electronic devices during class unless instructed otherwise. We will be using Stata which means laptops will be in use, but they should be put away when we are not using Stata.

Accomodations: Please inform me of any unusual circumstances at your earliest convenience so that I can accommodate them in the most appropriate manner.

Academic Integrity: Copying any quiz or exam from an undocumented source constitutes an honor violation. In addition, no aids of any sort are permitted (cell phones, graphing calculators, computers, etc).

Class Schedule:

Date	Subject	Chapters	Assignments
May 13	Definitions, Using STATA	1.1,1.2	
14	Describing Data: Graphical	1.3,1.4,1.5	
15	Describing Data: Numerical	2.1,2.2	Quiz 1
16			
17			
18	Describing Data: Numerical	2.3,2.4	HW1, STATA HW1, Quiz 2
19	Probability	3.1, 3.2	
20	Probability	3.3,3.4	Quiz 3
21	Probability	3.4,3.5	
22	Discrete Random Variables	4.1,4.2,4.3	Quiz 4
23			
24			
25	Holiday		
26	Discrete and Continuous RV	4.4,4.5,4.7,5.1,5.2	HW2, STATA HW2, Quiz 5
27	Continuous RV	5.3,5.4,5.5	
28	Midterm		
29	Sampling Distribution	6.1,6.2,6.3	
30			
31			
June 1	Estimation	7.1,7.2,7.3	HW3, STATA HW3, Quiz 6
2	Estimation	7.4,8.2,8.3	
3	Hypothesis Testing	9.1,9.2,9.3	Quiz 7
4	Hypothesis Testing	9.4,10.1	
5	Hypothesis Testing	10.2,10.3	Quiz 8
6			
7			
8	Simple Regression	11.1,11.2,11.3,11.4	HW4, STATA HW4, Quiz 9
9	Simple and Multiple	11.5,11.6	
10	Multiple Regression	12.1,12.2,12.3	Quiz 10
11	Multiple Regression	12.4,12.5	
12	Open	Open	Quiz 11
13			
14			
15	Open	Open	Quiz 12
16	No Class		
17	Final 11:30-2:30		