Syllabus

Econ 400 - Statistics for Economics
Summer I 2018

Instructor:	Andrew Hanson
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Website:	sakai.unc.edu
Office Hours:	M W F 8:30 am - 9:30 am
Office Location:	Gardner Hall 416
Classroom:	Gardner Hall 0001
Meeting Times:	M Tu W Th F 9:45 am - 11:15 pm
Prerequisites:	ECON 101, STOR 155, & Any of: {MATH 152, 231, STOR 112, 113}
Materials:	Newbold, Carlson, & Thorne. <u>Statistics for Business and Economics</u>, 8th ed.
	Stata, Version 12 or later (see below)
	Laptop for use of STATA during class suggested

Goals of the Course: The goal of this course is to provide an understanding of the vocabulary and skills used in statistical data analysis. Upon completing this course students will be able to describe data quantitatively and visually, apply statistical methods to ascertain relationships between data, test hypotheses about data, and apply each of these to real world scenarios.

Topics	Approximate Chapters
Descriptive Statistics	1,2
Probability Theory	3
Random Variables	4,5
Sampling Distributions	6
Estimation	7,8
Hypothesis Testing	9,10
Regression Analysis	11,12,13

Attendance: Attendance will not be formally monitored. However, as summer classes move through material very quickly, absences (whether excused or unexcused) can quickly become debilitating. I would advise finding a peer with whom you can share notes and in-class Stata examples as needed.

Be aware, however, of the Provost's expectations regarding your attendance:
http://www.unc.edu/ugradbulletin/procedures1.html#class_attendance

Announcements: Check Sakai for announcements.

Assignments: There will be five weekly homework assignments, consisting of a pencil and paper portion as well as a Stata portion. To the best of my abilities, they will be posted on Monday's to Sakai and will be due in class the following Monday. Exceptions include the first homework, which will be posted May 16th to be turned in the following Monday and which will not have a Stata portion; and the homework due the week of Memorial Day (May 28th), which will be due Tuesday, May 29th instead.

I encourage you to work on these homeworks throughout the week, as they will provide immediate reinforcement for topics covered in class. Late work will not be accepted, excepting an excused absence submitted to me in writing **before** the Monday in question.

Learning is often communal in nature. Thus, I encourage you to work together on assignments. However, freeloading on the group is heavily discouraged, and copying others' work is forbidden. Each student is responsible for submitting their own, unique write-ups. Duplicates will be given a grade of zero, regardless of whose work was the original. In short: work together, but don't copy others' or let anyone copy yours.

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. The final exam is mandatory and will only be given at the scheduled time.[1] The final exam is scheduled for 8:00am-11:00am on June 20th. The final will be cumulative.

Grading:

- Homework (30%)
- Midterm (30%)   in class Friday, June 1st
- Final (40%)   8:00am-11:00am, June 20th

Letter grades are computed from the total points earned during the semester and assigned based on the scale nearby. There is no maximum number of A's nor B's awarded.

A	$x \geq 95\%$
A-	$90 \leq x < 95$
B+	$85 \leq x < 90$
B	$80 \leq x < 85$
B-	$75 \leq x < 80$
C+	$70 \leq x < 75$
C	$65 \leq x < 70$
C-	$60 \leq x < 65$
D+	$50 \leq x < 60$
D	$40 \leq x < 50$
F	$x < 40$

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 each of the homework assignments will require the use of STATA for a subset of questions. There are three main options for accessing STATA:

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[1]The UNC Undergraduate Bulletin provides specific and narrow exceptions to this rule. If you believe you qualify for one of these exceptions, contact the Economics department chair.

(i) You may purchase STATA at a discounted price at http://www.stata.com/order/new/edu/gradplans/student-pricing/. The Stata/IC options 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. Virtual lab can be slower at times, but for our purposes will be just fine.

(iii) Finally, some computers in the undergraduate library have STATA.

Bringing laptops to class with Stata installed is recommended, but not required. You will be able to follow along with the in-class examples, but there will be no graded in-class Stata assignments. Not having a laptop will not adversely affect your grade, but you will need to use the second or third options for Stata homework.

Prof Turchi and Prof Lich have excellent primers for learning Stata. Consider these resources as reference materials for our class.

Etiquette: Please arrive to class on time and stay until class has been dismissed. When you enter a class after it has started or exit before it has ended, you disrupt everyone's focus.

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. If you persist otherwise, I will call you out in class.

Accommodations: 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 material from another student or an undocumented source constitutes an honor violation. In addition, no aids of any sort (cell phones, graphing calculators, computers, etc) are permitted. Academic dishonesty is a serious offense and will be treated accordingly. See honor.unc.edu to learn more about UNC's honor system.

Tentative Course Outline

Week 1	*Describing Data and Probability*
Week 2	*Probability and Probability Distributions*
Week 3	*Probability Distributions and Estimation of Means and Proportions*
Week 4	*Hypothesis Testing and Linear Regression Analysis*
Week 5	*Multiple Regression Analysis and Further Topics*