Econ 400: Economic Statistics

Summer II, 2018

<u>**Syllabus**</u>

Instructor:	Alina Malkova
Email:	amalkova@live.unc.edu
Website:	sakai.unc.edu
Office hours:	Gardner Hall 009: Tu, Th 11:30pm – 12:30pm or by appointment
Classroom:	Gardner Hall 106
Time:	Monday through Friday from 9:45am – 11:15am
Materials:	Groebner, Shannon, Fry, and Smith: <u>Business Statistics: A Decision-Making Approach</u>, 9th ed. Intercooled Stata (Version 12 or later)
Background:	ECON 101, STOR 155, and one of MATH 152, 231, STOR 112 or 113

Course Description: The purpose of this course is to explore the foundations of Economic Statistics and Econometrics, focusing on statistical techniques, application of statistical and probabilistic methods to real-world situations, and data analysis.

The course covers five general topics:

1. Descriptive statistics
2. Random variables
3. Sampling distributions
4. Hypothesis testing
5. Regression analysis

Class Attendance: Attendance is strongly encouraged, but I don't monitor attendance formally.

Textbook: The recommended textbook is *Business Statistics: A Decision-Making Approach* by Groebner, Shannon, Fry, and Smith. But you might find additional or alternative textbooks helpful in their treatment of the subject matter and the availability of extra problems.

Poll Everywhere: "In-class polls" will be conducted during each class using Poll Everywhere. Participation requires that you have access to a cell phone texting plan or the internet. You must register with Poll Everywhere prior to our first poll on June 28th . Registration instructions can be found by following this link: http://help.unc.edu/help/poll-everywhere-faq/. If you do not register properly, then your polls will not be counted. Be sure under "How should UNC-CH Admin identify you?" that you enter your PID and onyen using the format PID_onyen. This is case sensitive, so use only lowercase letters for your onyen. In-class polls are to be done in class, and it is a violation of the honor code to answer elsewhere.

Assignments: There will be <u>two</u> kinds of Homework assignments: Problem Sets and Stata Assignments. Problem Sets (PS) and Stata Assignments (SA) would be posted on Sakai and must be turned in on Sakai by <u>midnight</u> on the due date (I will guide you on how to do this when I assign the first SA and PS). There will be a total of <u>eight</u> assignments (4 PS and 4 SA). Only the highest <u>three of each</u> will count towards your final grade (6 total). In order to get your homework graded efficiently, your homework should be submitted <u>on time</u> and <u>in order</u> and written <u>clearly</u> with pages <u>attached</u>. Homeworks turned in within a day after the due date will receive half credit. No homework will be accepted more than a day late without a valid excuse.

Exams: There will be <u>three</u> exams (two midterms and a Final) and a small quiz on Probability Theory. This quiz is designed to assess your retention of basic probability theory which will not be covered during lecture. The material on this quiz will cover topics in GSFS Ch.4. Refer to *Grading* for the dates of the exams. If you have to miss a midterm <u>there is no way to make up that exam</u>. Instead, the grade in the Final will also count for the missed midterm. The final exam is cumulative; however greater emphasis will be placed on later topics. The final exam is <u>obligatory</u> (University policy).

Grading: Your grade is based on two exams, a quiz and the eight valid homework assignments:

> In-class polls (2%)
> Homework assignments (25%)
> Midterm (15%):   Tuesday, July 11
> Midterm (15%):   Monday, July 24
> Quiz (3%):   Thursday, June 29
> Final exam (40%):   Monday, July 31 (8am-11am)

Grades: A (≥ 90)

                B ($\geq 80, < 90$)

                C ($\geq 70, < 80$)

                D ($\geq 60, < 70$)

Accommodations: Please inform me of any unusual circumstances at your earliest convenience, so that I can accommodate them in the best manner possible. For those of you requesting accommodation in the time or location of in-class grading, be sure as well to contact the Office of Accessibility Resources and Services (accessibility.unc.edu) at the beginning of the summer session.

Academic integrity: Copying any assignment 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.). You should consult the instructions at honor.unc.edu for details of your, and my, responsibilities under the Honor Code.

Class Schedule:

Date	Subject	Chapters	Homeworks
June 25	Describing Data	1-2	
26	Describing Data	2-3	
27	Describing Data	3	SA1
28	Discrete Prob. Distributions /Quiz on Probability Theory	5/4	
29	Discrete Prob. Distributions	5	
30			
1			PS1

2	Continuous Distributions	6	
3	Sampling Distributions	7	
4	No class		
5	Sampling Distributions	7	SA2
6	Estimating Means & Proportions	8	
7			
8			PS2
9	Estimating Means & Proportions	8	
10	**Exam I (Covers chapters 1-3, 5-8)**		
11	Testing Hypotheses	9	
12	Testing Hypotheses	9	SA3
13	Testing Hypotheses	10	
14			
15			PS3
16	Testing Hypotheses	10-11	
17	Linear Regression	14	
18	Linear Regression	14	SA4
19	Linear Regression	14	
20	Multiple Regression	15	
21			
22			
23	**Exam II (Covers chapters 9-11, 14)**		
24	Multiple Regression	15	
25	Multiple Regression	15	PS4
26	Topics in Multiple Regression	TBA	

27	No class		
28			
29			
July 30, 8am-11am	**Final (Covers chapters 1-3, 5-11, 14, 15)**		