

**Economics 4848- Applied Econometrics
Fall 2016, T/Th 11:00-12:15, Humanities 1B45**

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Course Materials

On Desire2Learn

Office Hours

T 9:30-10:30 W 9:30-11:30

It is very easy to schedule appointments outside of office hours with me—I am almost always in my office during normal business hours. The best way to set up an appointment is by email.

Course Prerequisite

This class requires previous completion of Economics 3818, Intro to Statistics, or the equivalent.

Course Description

The goal of this course is to teach you how to analyze data in order to obtain meaningful inferences, in other words, to use data to say something informative about interesting questions. Because these are skills that are best learned by doing, this requires that students develop facility with a statistical software package. In this course, we will use STATA, a

Purchasing your own copy of STATA will provide the convenience of working on class material outside of university computer labs. If you chose to purchase your own copy of STATA, you qualify for a substantial discount through the University's GradPlan. Information is available at: <http://www.stata.com/order/new/edu/gradplans/student-pricing/>

Please note that **Small Stata is insufficient for this course**. Current price for Stata/IC license for 6 months is \$75.

Hardware:

You will need a USB memory device to store copies of data and log files from our work in class.

Grades

Grades will be based on:

20% Midterm 1 (Tues Sept 27)

20% Midterm 2 (Thurs Oct 27)

30% Final Research Project (Due Fri, Dec 9)

30% Final Exam (Tues, Dec 13, 4:30-7)

Letter grade standards: I evaluate work in this course from the perspective of an employer. An A on an exam or on the final project means that an employer would consider the student a desirable hire. Standards for other letter grades are based on degree of departure from this standard.

Some Additional Notes/Policies

Material from a Missed Class If you miss class, you are responsible for obtaining the material you missed. There is sufficient overlap with the course pack that reviewing the relevant material there will help, but you should arrange to obtain log file/programs/notes from a classmate (not from the professor), and work through these on your own to catch back up with the class. Students will frequently work on ungraded in-class exercises, and these will be posted on the course website for students who miss class to complete on their own. You are always welcome to ask questions in office hours once you have reviewed the notes and completed any missed in-class exercises on your own.

Missed Exams: Make-up exams for the midterms will not be given. Midterm exam absences will only be excused for compelling circumstances (generally family emergencies or documented illness), in which case the other course material will be re-weighted. Students anticipating conflict with an exam date due to religious observance or over-scheduling (3 or more exams on the same day) should bring these to my attention within the first 3 weeks of class.

Special Accommodations: Students with documented disabilities who may need academic accommodations should speak with me during first three weeks of the class. Also contact the Disability Services Office, Willard 322 (phone 303-492-8671).

Class Disruptions Computers should not be used for non-class activities during class time and cell phones should be stored away during class time.

Academic Integrity: All students are responsible for knowing and adhering to the academic integrity policy of the University of Colorado at Boulder (www.colorado.edu/policies/honor.html and www.colorado.edu/academics/honorcode/). All incidents of academic misconduct will be reported to the Honor Code Council. I particularly encourage students to avoid plagiarism (portrayal of another's work or ideas as one's own) and therefore to conscientiously identify and cite all ideas or language borrowed from any other work.

How Can I Do Better?

Every semester, I have some students who show up in office hours to discuss the fact that they are dissatisfied with their performance in the class so far and to ask advice about how to improve. My answer is always the same. So I am putting that advice here so that everyone has it from the first day of class!

1) **Mentally engage in class.** There is a big difference between passively typing in commands and writing down what I say vs mentally engaging in class to really understand the material. Can you answer the questions I am asking in class? Are you thinking about what is being done and why, or are you simply writing things down so you can memorize them later?

2) **Review class material before the next class.** Material in this course is highly cumulative. You will learn much better in class if you have already mastered the material from the previous lecture. Review previous material so that it is fresh in your mind for the next lecture. It is particularly crucial that you review the previous material before an in-class exercise, as you will get a lot more out of the in-class exercises when you don't have to spend class time reading over your notes to remember the topic.

3) **Redo material from lecture on your own in STATA.** Use your log file and the course data sets to re-do the analysis conducted during lecture and reinforce your understanding of the relevant concepts. First try to interpret the output on your own before reading the answer from your notes.

4) **But don't just redo lecture material in lecture, make up your own exercises in STATA.** One of the advantages of having the data sets is that you can use them to extend the methods taught in class to new examples. For example, when we learn to create variables, think up some other variables to create and check to see that you have done them correctly. When we learn to do t-tests, pick your own variables from the data set and conduct a different t-test than the ones done in class. When we estimate regressions, use the other variables in the data set to run your own regressions and interpret them.

5) **Use in class exercises to test your understanding.**

In-class exercises are an excellent opportunity to test your understanding of the material. Review the lecture material before class, and then treat in-class exercises like a mini practice exam. See how much of the in-class exercise you can complete correctly without prolonged consultation of your notes. If you spend most of the in-

Course Schedule

Week 1 (Aug 22-26): Introduction and Getting Started in STATA

Week 2 (Aug 29-Sept 2): Summarizing Continuous Data

Week 3 (Sept 5-19): Categorical Data

Week 4 (Sept 12-16): Hypothesis Testing

Week 5 (Sept 19-23): Simple Regression

Week 6: (Sept 26-Sept 30) **Tues, Sept 27- 1st Midterm**
Non-linear Models

Week 7 (Oct 3-7): Categorical Variables, Multiple Regression

Week 8 (Oct 10-14): Interaction Models

Week 9 (Oct 17-21): Omitted Variable Bias, Standard errors and Multicollinearity

Week 10 (Oct 24-28) **Thurs, Oct 27- 2nd Midterm**

Week 11 (Oct 31-Nov 4): IPUMS