

**University of Colorado Boulder**

**Econ 4848-004 – Applied Econometrics  
Fall 2019**

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**Lectures:** Tuesday and Thursday 11:00-12:15 HUMN 1B45

**Office hours:** Wednesday 9:00-11:00, Thursday 12:30-1:30

**Course Description:** This course will develop your ability to organize, analyze and interpret real-world data – skills that are growing increasingly important and valuable in industry, government, and academic settings. We will be using a very hands-on learning approach with Stata as our tool for empirical analysis; however, this is not a how-to course on Stata. Rather, the objective of the course is to learn how to conduct rigorous econometric analysis and interpretation using modern statistical software. Course enrollment is contingent on Econ 3818 (or equivalent) as a prerequisite. Students interested in more theoretical foundations of econometrics should consider Econ 4818 as a complementary course.

**Course Organization:** The delivery of course material will consist of lectures and hands-on lab work with Stata. The typical class day will consist of lecture, followed by in-class work on Stata and then discussion to tie the lecture to the hands-on work. There will be one midterm exam covering material from the first half of the class, along with a comprehensive final exam. Canvas will be the main point of communication.

**Textbooks:** There is no required textbook, however the coursepack developed by Prof. Brian Cadena will prove to be a very useful reference. One nice aspect of using Stata is that there is a wealth of online material. For example, see <http://data.princeton.edu/stata/> or <https://stats.idre.ucla.edu/stata/modules/>. While I'm happy to meet and discuss issues related to Stata use, you'll often find that a quick internet search will get you the answer faster than trying to track me down. For any question you might have, someone else has asked and had it answered. If you stop by my office and I say LMGTFY, you're doing it wrong.

**Software:** You are not required to purchase your own copy of Stata, however, you may find it useful to do so. Stata is available in the Department of Economics basement computer lab, though the department closes at 10PM on weekdays and is closed weekends. If you choose to purchase your own version of Stata, I recommend Stata IC which is available through CU GradPlan for \$48 dollars for a six-month license (see <https://w>

30 bucks cheaper than in years past!). You should also plan on having a USB memory device for storing data and files, or be familiar with e.g. Google Drive.

**Teaching Assistant:** Lauren Schechter (Lauren.Schechter@colorado.edu) will be the Teaching Assistant for our course (she will be the TA for all sections of 4848 this fall). You should view her as an excellent resource for help on homework, the research project, and general assistance with Stata. Office hours will be posted on Canvas and noted the first day of class.

**Grading:**

Class Participation	10%
Problem Sets	10%
Midterm Exam	20%
Final Exam	30%
Research Project	30%

**Class Participation and Attendance:** Because the best way to learn applied econometrics is to actually do it, it will be assumed that all students will be in attendance every day. That said, I will be enforcing the administrative drop rule for the first week of class, so be there or get booted. Participation in class discussion will constitute 10% of your final grade. To facilitate and track participation and attendance, we will be using the Top Hat ([www.tophat.com](http://www.tophat.com)) classroom response system in class. You will be able to submit answers to in-class questions and discussion via your computer.

You can visit <https://support.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide> for the Student Quick Start Guide which outlines how you will

**Research Project:** A key objective of this course is to train you to be able to conduct rigorous econometric analysis. As such, the research project will consist of original econometric analysis on a topic of the student's choosing. You may work with up to two other students. In early November, we will use a week of class-time for individual meetings to discuss your research topic. The final week of class will consist of roughly 15 minute presentations by each team and will account for 25% of the research project grade. The final research paper will be roughly 8 pages in length, and is due the last day of class, Thursday December 12th.

### **Tentative Schedule**

Topics subject to change depending on interest and time constraints

Week 1 8/26-8/30:	Introduction to applied econometrics
Week 2 9/2-9/6:	Hello Stata
Week 3 9/9-9/13:	Getting to know your data
Week 4 9/16-9/20:	Summary statistics
Week 5 9/23-9/27:	Categorical data
Week 6 9/30-10/4:	Hypothesis Testing
Week 7 10/7-10/11:	Bivariate Regression
Week 8 10/14-10/18:	Bivariate Regression (Midterm ~10/17)
Week 9 10/21-10/25:	Multivariate Regression
Week 10 10/28-11/1:	Dummy Variables and Interactions
Week 11 11/4-11/8:	Omitted Variable Bias and Research Design
Week 12 11/11-11/15:	Individual research project meetings
Week 13 11/18-11/22:	Binary dependent variables
Week 14 11/25-11/29:	Fall Break
Week 15 12/2-12/6:	Fixed effects, differfeff.15 Tm(F)582.66 350.35 Tm{norous)-71 0 0 1 193.7 584.74 Tm

