

**University of Colorado Boulder**

**Econ 4848-003 – Applied Econometrics  
Spring 2017**

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**Lectures:** Tuesday and Thursday 9:30-10:45 HUMN 1B45

**Office hours:** Monday and Wednesday 2-3:30

**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 research 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. 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. D2L 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 <http://www.ats.ucla.edu/stat/stata/>. 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. If you stop by 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 I/C which is available through CU GradPlan for \$75 dollars for a six-month license (see <http://www.colorado.edu/oit/software-hardware/site-licenses/stata> for more detail). You should also plan on having a USB memory device for storing data and files.

**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.

**Problem Sets:** There will be a total of 5 problem sets assigned during the semester. You may work with a partner, but each student should individually submit their assignment (with both names on it). The problem sets will be a mix of analysis in STATA and interpretation, so plan ahead if you don't own your own copy of STATA.

**Midterm and Final Exams:** The midterm will occur in-class roughly mid-March, with the final taking place on finals week on Wednesday May 10 at 1:30PM. The midterm will cover material up through bivariate regression analysis, while the final will be comprehensive. If the midterm exam is missed due to an excused absence, there will be no make-up – rather the weight for the midterm will be reallocated to the other graded components.

**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 final day of classes, Friday May 5 by 5:00 PM.

### **Tentative Schedule**

Topics subject to change depending on interest and time constraints

Week 1 1/16-1/20:	Introduction to applied econometrics
Week 2 1/23-1/27:	Hello STATA
Week 3 1/30-2/3:	Getting to know your data
Week 4 2/6-2/10:	Summary statistics
Week 5 2/13-2/17:	Categorical data
Week 6 2/20-2/24:	Hypothesis Testing
Week 7 2/27-3/3:	Bivariate Regression
Week 8 3/6-3/10:	Bivariate Regression (Midterm 3/9)
Week 9 3/13-3/17:	Multivariate Regression
Week 10 3/20-3/24:	Dummy Variables and Interactions

Week 11 3/27-3/31:	Fall Break
Week 12 4/3-4/7:	Omitted Variable Bias and Research Design
Week 13 4/10-4/14:	Individual research project meetings
Week 14 4/17-4/21:	Binary dependent variables
Week 15 4/24-4/28:	Fixed effects, difference-in-differences
Week 16 5/1-5/5:	In-class presentations of research project
Final Exam 5/10:	1:30-4:00 in usual classroom

## **Important Stuff**

1) *If you qualify for accommodations because of a disability, please submit to your professor a letter from Disability Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact Disability Services at 303-492-8671 or by e-mail at [dsinfo@colorado.edu](mailto:dsinfo@colorado.edu). If you have a temporary medical condition or injury, see [Temporary Injuries guidelines](#) under the Quick Links at the [Disability Services website](#) and discuss your needs with your professor.*

2) *Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance.*

See full details at [http://www.colorado.edu/policies/fac\\_relig.html](http://www.colorado.edu/policies/fac_relig.html)

3) *Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, color, culture, religion, creed, politics, veteran's status, sexual orientation, gender, gender identity and gender expression, age, disability, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. For more information, see the [policies on classroom behavior](#) and [the student code](#).*

4) *The University of Colorado Boulder (CU-Boulder) is committed to maintaining a positive learning, working, and living environment. CU-Boulder will not tolerate acts of discrimination or harassment based upon Protected Classes or related retaliation against or by any employee or student. For purposes of this CU-Boulder policy, "Protected Classes" refers to race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. Individuals who believe they have been discriminated against should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or the Office of Student Conduct and Conflict Resolution (OSC) at 303-492-*

5550. Information about the OIEC, the above referenced policies, and the campus resources available to assist individuals regarding discrimination or harassment can be found at the [OIEC website](#). The [full policy on discrimination and harassment](#) contains additional information.

5) All students of the University of Colorado at Boulder are responsible for knowing and adhering to [the academic integrity policy](#) of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council ([honor@colorado.edu](mailto:honor@colorado.edu); 303-735-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Additional information regarding the [Honor Code policy can be found online](#) and at the [Honor Code Office](#).