University of Colorado Boulder

Econ 4848-003 – Applied Econometrics
Fall 2020

Professor: Daniel Kaffine
Office: Economics 208C
Phone: (303) 492-6652
Email: daniel.kaffine@colorado.edu

Lectures: Tuesday and Thursday 11:10-12:25 CASE E340 (in-person)

Office hours: Tuesday and Thursday 12:30-2:00 (remote)

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 remotely and discuss issues related to Stata syntax and coding, 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 drop into zoom office hours and I say LMGTFY, you're doing it wrong.

Software: You will need to purchase your own copy of Stata (ordinarily, Stata is available in the lab classroom and the Department of Economics basement computer lab, but given the circumstances, you'll want your own copy). The recommended version is Stata IC which is available through CU GradPlan for $48 dollars for a six-month license (see https://www.stata.com/order/new/edu/gradplans/student-pricing/ for more detail - this is 30 bucks cheaper than in years past!).

Teaching Assistant: Brian Marein (brian.marein@colorado.edu) will be the Teaching Assistant for our course (he will be the TA for all sections of 4848 this fall). You should view Brian 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, either in-person or remotely. That said, I will be enforcing the administrative drop rule for the first week of class, so be there in one way, shape, or form, 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) classroom response system (which I've used for several years now). 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 register for a Top Hat account, as well as providing a brief overview to get you up and running on the system. An email invitation will also be sent to your email account. Top Hat will require a subscription. There are three options to choose from (if you're not using it for other CU classes, just go with the 4 month/1 semester option):
- $30 for 4 months of unlimited access
- $48 for 12 months of unlimited access
- $96 for 4 years of unlimited access

Problem Sets: There will be a total of 5 problem sets assigned during the semester. You should anticipate working with a partner and turn in a single document. The problem sets will be a mix of analysis in Stata and interpretation.

Midterm and Final Exams: The midterm will occur in-class roughly mid-October (tentatively October 15), with the final taking place remotely on finals week on Friday December 11 at 4:30-7:00PM. 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 remote week of class post-Fall break 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 classes, Monday December 7th.

Tentative Schedule
Topics subject to change depending on interest and time constraints

Week 1 8/24-8/28:	Introduction to applied econometrics
Week 2 8/31-9/4:	Hello Stata
Week 3 9/7-9/11:	Getting to know your data
Week 4 9/14-9/18:	Summary statistics
Week 5 9/21-9/25:	Categorical data
Week 6 9/28-10/2:	Hypothesis Testing
Week 7 10/5-10/9:	Bivariate Regression
Week 8 10/12-10/16:	Bivariate Regression (Midterm ~10/15 in class)
Week 9 10/19-10/23:	Multivariate Regression
Week 10 10/26-10/30:	Dummy Variables and Interactions
Week 11 11/2-11/6:	Omitted Variable Bias and Research Design
Week 12 11/9-11/13:	Individual research project meetings
Week 13 11/16-11/20:	Binary dependent variables, Fixed effects
Week 14 11/23-11/27:	DiD, Fall Break
Week 15 11/30-12/4:	Remote presentations of research project
Final Exam 12/11:	4:30-7:00PM remote

Important Stuff

Classroom Behavior

Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. 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 race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the policies on classroom behavior and the Student Code of Conduct.

Requirements for COVID-19

As a matter of public health and safety due to the pandemic, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements, and public health orders in place to reduce the risk of spreading infectious disease. Required safety measures at CU Boulder relevant to the classroom setting include:

- maintain 6-foot distancing when possible,

- wear a face covering in public indoor spaces and outdoors while on campus consistent with state and county health orders,
- clean local work area,
- practice hand hygiene,
- follow public health orders, and
- if sick and you live off campus, do not come onto campus (unless instructed by a CU Healthcare professional), or if you live on-campus, please alert CU Boulder Medical Services.

Students who fail to adhere to these requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct and Conflict Resolution. For more information, see the policies on COVID-19 Health and Safety and classroom behavior and the Student Code of Conduct. If you require accommodation because a disability prevents you from fulfilling these safety measures, please see the "Accommodation for Disabilities" statement on this syllabus.
Before returning to campus, all students must complete the COVID-19 Student Health and Expectations Course. Before coming on to campus each day, all students are required to complete a Daily Health Form. *In this class, you may be reminded of the responsibility to complete the Daily Health Form and given time during class to complete it.*

Students who have tested positive for COVID-19, have symptoms of COVID-19, or have had close contact with someone who has tested positive for or had symptoms of COVID-19 must stay home and complete the Health Questionnaire and Illness Reporting Form remotely. In this class, if you are sick or quarantined**,** a simple email to me will suffice.

Accommodation for Disabilities

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition, see Temporary Medical Conditions on the Disability Services website.

Preferred Student Names and Pronouns

CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

Honor Code

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code (honor@colorado.edu); 303-492-5550). Students found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the Honor Code Office website.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation

The University of Colorado Boulder (CU Boulder) is committed to fostering an inclusive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, or protected-class discrimination or harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or cureport@colorado.edu. Information about the OIEC, university policies, anonymous reporting, and the campus resources can be found on the OIEC website.
Please know that faculty and instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, dating and domestic violence, stalking, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.

Religious Holidays

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 the campus policy regarding religious observances for full details.