Economics 4848- Applied Econometrics
Spring 2026, MWF 11:15-12:05, Econ 119

Prof. McKinnish
Econ 208B
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Office Hours
M 1:15-2:45, F 9:30-11
Email to set up an appt outside of office hours

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 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. While in the first few weeks, students will spend time learning STATA, this is only a means to an end, and the key focus of this course is developing skills in econometric analysis and interpretation.

Course Materials

Software:
Students must install STATA on their laptop for this course:
http://www.stata.com/order/new/edu/gradplans/student-pricing/
Stata/BE is sufficient for this course and the current price for 6 months is $48.

Reference Text:
A course pack developed by Prof. Brian Cadena serves as an informal resource text. It is available in electronic form on Canvas

Course Requirements

Attendance: Attendance is crucial to success in this class because of the highly cumulative nature of the course material. Therefore:
a) **Attendance will be taken each class and any student missing more than 9 class meetings will have their final grade reduced by a full letter grade.** Note that 9 class meetings is 23% of the 39 scheduled non-exam class meetings scheduled for this semester.
b) It is the responsibility of each student to confirm each class that they have recorded their attendance using the iClicker app or to sign the available notepad at the front of the classroom. Do not email the instructor after class asking to have attendance recorded.
c) There is no distinction between excused and unexcused absences, with absences for all reasons, including illnesses and emergencies, counting towards this 9-class limit.

d) Students should therefore not email me regarding their absences except in the case of very extenuating circumstances that will cause a multiple week absence. Instead, students missing a class should remain aware of the attendance policy and follow the missed-class guidance below.
e) I reserve the right to record an absence for students who spend substantial class time on non-class activities.

In-Class Exercises: Students will regularly work on ungraded exercises during class time to practice course material.

Exam review problem sets: Review problem sets will be due prior to each midterm exam **by 11:15 am** on **Wed Feb 4, Wed Feb 25, and Mon Mar 23**.   Problem sets that are at least 50% correct will receive a score of 100. Those less than 50% correct will receive a 60. These review sets act merely as a starting point for appropriate exam preparation and are not intended to serve as the totality of material review.

Exams: Three midterms and a final exam. **Midterm 1: Fri Feb 6; Midterm 2: Fri Feb 27; Midterm 3: Wed Mar 25; Final: Tues Apr 28 1:30-4.**

Research Project: The goal of this course is to train you to perform and interpret original analyses of economic data. To that end, you will complete one independent research project, using the skills taught in this course.   You will write a paper (roughly 8 pages, double-spaced, including figures and tables) on a topic of interest to you, focusing on original analysis of relevant data. Students will be taught to download and analyze U.S. Census data in class but are free to pursue other data sources on topics of interest.
Project description due Mon Apr 6.
Data download confirmation due Fri Apr 10.
Variable creation program and summary due Wed Apr 15.
Research paper due 11:59 pm Fri Apr 24.

Grades
17% Midterm 1 (Fri Feb 6)
17% Midterm 2 (Fri Feb 27)
17% Midterm 3 (Wed Mar 25)
4% Midterm review problem sets
4% Project description, data download, variable summary (equally weighted, 100% if on
       time, 60% if late but turned in by Mon Apr 20)
20% Final Research Project (Due 11:59 pm Fri Apr 24, 7 point deduction each day late)
21% Final Exam (Tues Apr 28 1:30-4)

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 employers should consider the student a valuable hire. Standards for other letter grades are based on degree of departure from this standard.

Course Specific Policies

Material from a Missed Class: If you miss class, you should obtain the log file for the missed class from Canvas, obtain notes from classmates, and work any missed in-class exercise. You are welcome and encouraged to ask questions in office hours once you have reviewed the log file and notes and attempted any missed in-class exercises on your own.

Missed Exams: Make-up exams for the midterms are not given. Midterm exam absences will only be excused for compelling circumstances (generally family emergencies or illness) in which case the other exams will be re-weighted.

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

How Can I Do Better?

When students come to office hours to express dissatisfaction with their performance in the class and ask advice about how to improve, my answer is always the same. I provide this advice here, so everyone has it from the first day of class!

Material in this class is advanced and highly cumulative. Material must be practiced multiple times to master. Mastering one week's material is crucial to understanding the next week's material.

1) Attend every day. Put your cell phone away. Only have class material open on your computer.

2) Mentally engage in class. Take excellent notes. Material is not learned by passively typing in commands and writing without thinking. Are you concentrating on following and understanding the material? Can you answer the questions I am asking in class?

3) Review previous class material before each class. Course material 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.

4) Focused effort during in-class exercises is crucial. Review class material before coming to class so you are prepared for in-class exercises. Focus on the exercise without distraction and refer to your class notes and log files rather than just answering off the top of your head. After completing the exercise, check over your work carefully while referring to your course notes and log files.

5) Practicing for exams must include working problems, not just reading over old answers. Simply reading over in-class exercises before an exam **will not** be sufficient! It is important to re-work examples from class and the class exercises. It is even more effective to practice the skills by applying them to new variables. For example, using the class data sets, conduct a different t-test, a different nonlinear regression, a different categorical variable regression, etc than the ones already done in class. You only truly master the material by working new problems you have not already seen.

Course Schedule

Week 1: Introduction and Getting Started in STATA
Week 2: Summarizing Continuous Data
Week 3: Categorical Data
Week 4: Hypothesis Testing

Wed Feb 4: Review PS 1 due
Fri Feb 7: Midterm 1

Week 5: Simple Regression
Week 6: Non-linear Models
Week 7: Categorical Variables

Wed Feb 25: Review PS 2 due
Fri Feb 27: Midterm 2

Week 8: Multiple Regression
Week 9: Interaction Models
Week 10: Omitted Variable Bias

Mon Mar 23: Review PS 3 due
Wed Mar 25: Midterm 3

Week 11: How to do the Project/IPUMS Tutorial

Mon Apr 6: Project description due
Fri Apr 10: Data download confirmation due
Wed Apr 15: Variable creation program and summary due

Week 12: Advanced topics: Multicollinearity, Logit Model
Week 13: Advanced Topics: Fixed-Effects Models
Week 14: Advanced Topics: Difference-in-Differences Models

Fri Apr 24: Final Project Due 11:59 pm
Tues Apr 28 1:30-4: Final Exam

Classroom Behavior

Students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote, or online. Failure 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, marital status, political affiliation, or political philosophy.

For more information, see the classroom behavior policy, the Student Code of Conduct, and the Office of Institutional Equity and Compliance.

Accommodation for Disabilities, Temporary Medical Conditions, and Medical Isolation

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. If you have a temporary illness, injury or required medical isolation for which you require adjustment, refer to the syllabus policies on attendance, missed classes, and missed exams.

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 Honor Code may include but are not limited to: plagiarism (including use of paper writing services or technology [such as essay bots]), 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. Understanding the course's syllabus is a vital part in adhering to the Honor Code. All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution: StudentConduct@colorado.edu. Students found responsible for violating the Honor Code will be assigned resolution outcomes from the Student Conduct & Conflict Resolution as well as be subject to academic sanctions from the faculty member. Visit Honor Code for more information on the academic integrity policy.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation

CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. University policy prohibits protected-class discrimination and harassment, sexual

misconduct (harassment, exploitation, and assault), intimate partner abuse (dating or domestic violence), stalking, and related retaliation by or against members of our community on- and off-campus. The Office of Institutional Equity and Compliance (OIEC) addresses these concerns, and individuals who have been subjected to misconduct can contact OIEC at 303-492-2127 or email CUreport@colorado.edu. Information about university policies, reporting options, and support resources including confidential services can be found on the OIEC website.

Please know that faculty and graduate instructors must inform OIEC when they are made aware of incidents related to these policies regardless of when or where something occurred. This is to ensure that individuals impacted receive outreach from OIEC about resolution options and support resources. To learn more about reporting and support for a variety of concerns, visit the Don't Ignore It page.

Religious Accommodations

Campus policy requires faculty to provide reasonable accommodations for students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Please communicate the need for a religious accommodation in a timely manner. Refer to the class policies on attendance, missed classes, and missed midterm exams.

See the campus policy regarding religious observances for full details.