

Economics 4848

Applied Econometrics

Fall 2026

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Office Hours: Mondays 12:30-2:00pm in Econ 11 Virtual Office Hours by appointment.	
Website: Canvas	

Course Description

Applied Econometrics provides an overview of econometric techniques commonly used in applied research in microeconomics. Methods and topics covered in this course will help students develop a deeper understanding of econometrics as well as learn to use STATA, a statistical software package commonly used in economics. Learning to use STATA will take a significant amount of time and effort but will be extremely valuable as it is much more powerful than what you can do in Excel, EViews, etc. Students will apply econometric tools to data from various sources. In addition, students will be able to apply these skills to a research topic of their choosing. Each week we will discuss the theory for the current topic and then spend some time working with data to apply the theory in STATA.

This class requires previous completion of Econ 3070, Intermediate Micro, and Econ 3818, Intro to Statistics, or the equivalent.

Course Materials

There is no required text but you may find the following resources helpful:

- Introductory Econometrics: A Modern Approach by Jeffery M. Wooldridge
- Using Econometrics: A Practical Guide by A.H. Studenmund

Software: We will be learning to use a statistical software program called STATA in class. For all assignments, projects, and exams you will be required to complete all analysis using STATA. Students can receive a discount on the software through the University's GradPlan. Information is available at: <https://www.stata.com/order/new/edu/profplus/student-pricing/>. I would suggest Stata/BE license which is \$48 for 6 months.

Grade Breakdown

- Class Participation (5% total)
- Stata Practice Assignments (5% total)
- Data project (20%)
- 2 Midterm Exams (20% each)
- Final Exam (30%)

Final grades will be determined by your cumulative performance at the end of the semester, and this may or may not correspond to the typical ten-point grading scale (A's are 90-100, B's are 80-89, etc.)

Class Participation (5% total): We will be using CUClickers to facilitate practice questions and attendance in class. There will be one point for each question asked during class, graded for completion, not correctness. Students not in attendance or not answering any questions receive a 0 for the day, no exceptions. You can answer the questions in the CU Clicker app on your phone. An account is free through the university. Four days of attendance are dropped.

Stata Practice Assignments (5% total): One assignment is due before each exam, to be completed on Canvas. Each has a 10% grade penalty each day if submitted late, and they will not be accepted once the assignment closes and the answers are posted.

Midterm Exams (20% each): Midterm exams will be held on **September 22** and **October 27**. The exams will be taken on paper and include a combination of theory questions and Stata-based questions. For the Stata questions, you will be given print out from Stata code and asked to answer questions. Exams may not be taken early/late and no make ups are given. At the end of the semester, I will replace your lowest midterm with your final exam score. This will cover any emergency absence or poor testing day you might have.

Final Exam (30%): The final exam is taken in person on **Thursday, December 10th at 7:30pm**. This exam cannot be skipped or taken at another time so plan accordingly.

Data Project and Paper (20%): Students will work in groups of 3-4 on a data analysis project applying what you've learned in the course. Your written project is due on **Sunday, November 29th**. With the change to our academic schedule, this ends up being the Sunday at the end of Fall Break, so plan accordingly. Your project should pose a testable economic question that can be answered using one of the techniques we discuss in applied econometrics and using individual level data.

As part of your grade for the project, your chosen research question will be due on **Sept 27**, your cleaned data set will be due on **Oct 18**, and your preliminary analysis will be due on **Nov 8**. In addition, each group will have a Q&A session with me during the **last week of classes**. Due dates for these portions of your project appear in blue in the schedule.

Your overall grade for the final project will be determined as follows: Research Question (10 points), Data set submission (15 points), Preliminary Data Analysis (15 points), Final Paper (20 points), Q&A performance, Corrections to Assignments (10 points), Collaboration Grade (15 points). Each of these grade items will be scored as a group, except for the Q&A and the Collaboration Grade.

Additional Policies

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 of 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 Student Conduct & Conflict Resolution and will be subject to academic sanctions from the faculty member. Visit [Honor Code](#) for more information on the academic integrity policy.

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.

Religious Holidays

Instructional faculty members must make every reasonable effort to accommodate all students who have conflicts with scheduled exams, assignment deadlines or required attendance due to a religious observance. Whenever possible, students must notify the instructional faculty member at least two weeks in advance of the expected exam, assignment deadline, or attendance conflict to request an accommodation for religious observance. If the start date of the course is less than two weeks before the date of requested accommodation, students must notify the instructional faculty member on the start date of the course. [See the Student Academic Accommodations for Religious Observances Policy](#) for more information.

Student Names and Pronouns

CU Boulder recognizes that students' legal information does not always align with how they identify. If you wish to have a name other than your legal name appear on your instructors' class rosters and in Canvas, or if you wish to choose pronouns to appear on your instructors' class rosters and in Canvas, visit the [Registrar's website](#) for instructions on how to change your personal information in university systems.

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.

Additional classroom behavior information

- [Student Classroom and Course-Related Behavior Policy](#).
- [Student Code of Conduct](#).

- [Office of Institutional Equity and Compliance](#).

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation

CU Boulder is committed to fostering a productive 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- or off-campus. Denial of an approved accommodation for disability, religious observance, or pregnancy or pregnancy related medical conditions may be discriminatory.

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 OIEC@colorado.edu. Information about university policies, [OIEC reporting options](#), and [OIEC support resources](#) including confidential services can be found on the [OIEC website](#).

Faculty and graduate instructors are required to inform OIEC when someone discloses misconduct regardless of when or where it occurred. This is to ensure that those impacted receive outreach from OIEC about resolution options and support resources. To learn more about reporting and support options for a variety of concerns, visit the [Don't Ignore It page](#).

Mental Health and Wellness

The University of Colorado Boulder is committed to supporting students' mental health and overall wellbeing. If personal, academic, or emotional challenges are affecting your wellbeing or success, [Counseling and Psychiatric Services \(CAPS\)](#), is here to help. CAPS offers counseling, referrals, psychiatric care, crisis support, and much more. Visit CAPS in the C4C, or call (303) 492-2277, 24/7.

Attendance

Attendance is a necessity in this course. It is where I can guide you in learning STATA and completing a project, and you can get feedback on where improvement is needed. In-line with department policy, if a student does not attend class for the first three class periods he/she/they will be administratively dropped from the course to make room for others on the waitlist.

Acceptable use of AI in this Class

The use of AI tools is not prohibited in this class. However, most of the high value assessments are conducted such that it cannot be used. So, taking short cuts on assignments or portions of your data project by using AI will only hurt your scores on these other grade items. For instance, all exams will be completed on paper, so you need to have a thorough understanding of the econometric theory, coding, and interpretation of results to succeed. In your data project, a significant portion of your grade will be determined by a Q&A session. If you do not understand what your project is doing, you will not be able to answer questions about it.

Tentative Class Schedule

	Topic	Due Dates
Week 1 August 16 - 22	Course Information	None
Week 2 August 23 - 29	Stats Review Introduction to Stata	None
Week 3 Aug 30 – Sept 5	Creating Variables Data Exploration	None
Week 4 September 6 - 12	Bivariate Regression Distribution of Beta-hat	None
Week 5 September 13 - 19	Hypothesis Testing Goodness of Fit	Stata Practice #1 on 9/18
Week 6 September 20 - 26	Tuesday, September 22: Exam 1 Thursday, Sept 24: Multivariate Regression & Data Project	None
Week 7 Sept 27 – Oct 3	Non-linear Models ACS/CPS tutorial	Research Question on 9/27
Week 8 October 4 - 10	Tues, Oct 6: Categorical Variables Thurs, Oct 8: No Class, Reading Day	None
Week 9 October 11 - 17	Tues, Oct 13: Categorical Variables Thurs, Oct 15: work on data sets	None
Week 10 October 18 - 24	Limited Dependent Variables	Project Data Set on 10/18 Stata Practice #2 on 10/23
Week 11 October 25 – 31	Tues, October 27: Exam 2 Thurs, Oct 29: Omitted Variable Bias	None
Week 12 November 1 - 7	Multicollinearity Heteroskedasticity	None
Week 13 November 8 - 14	Panel Data	Preliminary Project Analysis on 11/8
Week 14 November 15 - 21	Time Series Data Serial Correlation	Stata Practice #3 on 11/20
Week 15 November 22 - 28	No Class: Fall Break	None
Week 16 Nov 29 – Dec 5	Q&A sessions (individual groups)	Final Paper on 11/29
Week 17 December 6 - 12	Thursday, Dec 10 at 7:30pm: Final Exam	None