

Economics 4848 Applied Econometrics
Spring 2021
Jennifer Klein. Ph.D.

Email: jennifer.klein@colorado.edu

Office Hours: T 11am-noon, F 1:45-2:45pm

Zoom ID for OH: 985 9634 1125

Website: Canvas

TA:

Office Hours:

Email:

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

If you choose to purchase your own copy of STATA, it will allow you to work on assignments and your project outside the computer labs. Students can receive a discount on the software through the University's GradPlan. Information is available at: <http://www.stata.com/order/new/edu/gradplans/student-pricing/>. I would suggest Stata/IC license which is \$48 for 6 months.

Grade Breakdown

Grades for this course will be based on the following criteria:

- Class Participation (5% total)
- Assignments (10% total)
- Data project and presentation (20%)
- 2 Midterm Exams (20% each)
- Final Exam (25%)

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): Each day will be worth up to 5 points for attending and participating in class. Students who are late or leave early will receive only partial points for the day. Students not in attendance or not answering any questions receive a 0 for the day. We

Data Project and Presentation (20%): Students may work alone or with **one** other student on a data analysis project applying what you've learned in the course. Assignments are due at 11:00pm unless otherwise noted. Your written project is due by **11:00pm on Monday, December 7th**. You should start thinking about your topic as soon as possible at the beginning of the semester. 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. A sample outline of what to include in your project: Introduce your research question and why it is an important topic to study, citing any relevant sources. Describe the data and empirical technique(s) you use. Conduct one or more types of empirical analysis on your data using techniques from the course. Discuss and interpret your empirical findings.

As part of your grade for the project, your chosen research question will be due on **Feb 24**, a project proposal will be due on **March 8**, your cleaned data set will be due on **March 29**, and your preliminary analysis will be due on **April 12**. Individual meetings will be scheduled the week of April 12-16, in lieu of regular class. In addition, each student/group will give a presentation the week of April 26th discussing their research question, data, methods, and results. Both students must present part of their project if working in a group. 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 (5 points) Question (5

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](#).

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 and unable to join class remotely, please let me know so we can make a plan to keep you on track.

Disability Accommodations: 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 or injury, see [Temporary Medical Conditions](#) on the Disability Services website.

Religious Observances: 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.

Honor Code: All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the academic integrity policy. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, resubmission, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273) and will result in a failing grade for the course. Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code Council as well as academic sanctions from the faculty member. Additional information regarding the academic integrity policy can be found at the [Honor Code Office website](#). This misconduct

includes, but is not limited to: Represent the work of others as their own, Use or obtain unauthorized assistance in any academic assignment, Give unauthorized assistance to other students, Modify, without instructor approval, an examination, paper, record, or report for the purpose of obtaining additional credit, Misrepresent the content of submitted work.

Sexual Misconduct, Discrimination, Harassment, and/or Related Retaliation: 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

Tentative Class Schedule

Week	Content	Assignments
Week 1	January 14 Course Information, types of data	
Week 2	January 18-22 Statistics and Sampling Introduction to STATA	
Week 3	January 25-29 Creating Variables Exploring Continuous Data	Homework 1 Due 1/29
Week 4	February 1-5 Exploring Categorical Data Bivariate Regression	
Week 5	February 8-12 Distribution of $\hat{\beta}$ Hypothesis Testing	Homework 2 Due 2/12
Week 6	February 15-19 Goodness of Fit Measures Multivariate Regression, Project Overview	Homework 3 Due 2/19
Week 7	Tues, February 23: Exam 1 Thurs, February 25: Non-linear Models	Research Q due 2/24
Week 8	March 1-5 Categorical Variables in Regressions	Homework 4 Due 3/1
Week 9	Tues, March 9: Limited Dependent Variables Thurs, March 11: Practice on own	Homework 5 Due 3/8 Proposal Due 3/12
Week 10	Tues, March 16: ACS/CPS Tutorial Thurs, March 18: Exam 2	Homework 6 Due 3/15
Week 11	Tues, March 23: Omitted Variable Bias Thurs, March 25: No Class - Wellness Day	
Week 12	Tues, March 30: Multicollinearity, Heteroskedasticity Thurs, April 1: Practice on own	Data Set Due 3/29
Week 13	April 5-9 Time Series Data Serial Correlation	Homework 7 Due 4/5
Week 14	April 12-16 Individual Meetings, Schedule TBD	Prelim. Analysis Due 4/12
Week 15	April 19-23 Panel Data	
Week 16	April 26-30 Project Presentations, Schedule TBD	Presentation Due 4/26
Week 17	Final Exam Monday, May 3rd	Paper due 5/5