

Economics 4818-002: Introduction to Econometrics

Fall 2022

TTh 11:00am – 12:15pm

Economics – Room 117

Professor: Adam McCloskey

Office: Economics 216A

E-mail: adam.mccloskey@colorado.edu

Office Hours: W 10:45am – 12:00pm, Th 3:15 – 4:00pm

Course Description

The goal of this course is to learn the basics of the theory and practice of analyzing relationships in economic (and other) data. This course serves as an introduction to multiple regression techniques with a focus on economic applications. It includes extensions to discrete response and panel data, as well as concepts such as omitted variables, missing data, sample selection and randomized and quasi-experiments. The course also develops the ability to apply econometric and statistical methods using the computer package STATA.

Prerequisites

ECON 3818 – Introduction to Statistics with Computer Applications (or equivalent).

Course Materials

The required textbook is *Introduction to Econometrics* by James Stock and Mark Watson (SW). Course material will mostly be based upon the 3rd edition but other editions are very similar and fine to study from. Lecture notes, STATA exercises and other material will be posted on CU's Canvas website which can be accessed at <https://canvas.colorado.edu/>. Homework and exam questions will be based upon both lectures given in class and required textbook readings.

We will use *MyEconLab* for online homework assignments. There are also many other studying resources, as well as a STATA software tutorial, available to you through MyEconLab. MyEconLab is an online product associated with our course that is available for purchase bundled with the textbook (bundle available at the CU bookstore) or can be purchased directly from Pearson.com. Instructions for registration to our course ID will be provided on Canvas. Free temporary 14-day access to MyEconLab can be requested via [MyEconLab.com](https://myeconlab.com). If your payment is not received by the end of the temporary 14-day period, you will lose access to the site.

I will periodically ask problems to be answered via CUClickers in class. All students are required to set up an iClicker account and to obtain a CUClicker remote to bring to every class. Please visit [OIT's CUClicker student resources page](#) for details on how to obtain a CUClicker remote and set up your iClicker student account.

There will be two STATA homework assignments. Students are not required to purchase their own copies of STATA. It is available in economics department computer labs (and maybe others). The computer labs in ECON 6 and 7 have been converted to “virtual labs” during the COVID-19 pandemic and are also available in person at limited capacity. This allows students to access the STATA software remotely. Remote access instructions can be found on the Economics Department's website. Students who wish to purchase STATA for the convenience

of working on their own devices should purchase the software through the University Grad Plan to obtain a substantial discount. Note that you should purchase STATA/BE (currently priced at \$48 for a 6 month license). You can find details at

<https://www.stata.com/order/new/edu/gradplans/student-pricing/>

Grades

Midterm 1	September 22nd (in class)	20%
Midterm 2	October 27th (in class)	20%
Final Exam (cumulative)	December 13th 1:30-4pm	30%
Homework	Around Once per Week	10%
Take-Home STATA	Two Total	10%
Participation Quizzes	Periodically in Class	10%

In computing your total homework grade, the lowest weekly homework (not STATA assignment!) will be dropped. I will also drop your lowest participation quiz score. If you wish to dispute a grade, this must be done *within one week* of receiving graded material.

Missed Coursework Policy

If you miss an exam due to illness or a family emergency, AND if you notify me of this prior to the exam, I will drop the exam from your final grade and re-weight the other exams accordingly. Any missed exams without prior notice will automatically receive a grade of zero. If you miss any other assignments due to illness or a family emergency that you have notified me of before the due date, you will be able to make up that work once you are able.

Homework

Weekly homework will be based on the textbook and material given in class. Weekly homework will be assigned and completed in our course's MyEconLab site. The website will not let you complete these homeworks after the due date. We will also have two take-home STATA assignments that will be posted on our course's Canvas site. Please submit these assignments electronically by the date and time they are due. Late assignments will not be accepted. Please append your STATA "log" files to the STATA assignments when you turn them in.

Clickers

To encourage attendance and attention in lectures, short participation quizzes, covering about 10 minutes, will be given periodically using CUClickers without prior notice. These may occur at the beginning of lecture, at the end of lecture, or in the middle of lecture. There are three possible grades on these participation quizzes:

- 0 – not completed
- 1 – completed, but incorrect
- 2 – completed correctly

E-Mail Policy

Please do not send technical questions about course material over e-mail. The concepts of the course are mathematical in nature and much easier to communicate in office hours and in class. I highly encourage you to participate and ask question in class and to use office hours for questions on course content, homework, etc.

Tentative Course Outline

The course readings (based upon the 3rd edition of SW) and outline are provided below. The material we will cover may be adjusted somewhat towards the end of the semester.

I. Introduction

Readings: Chapter 1

II. Review of Probability and Statistics

Readings: Chapters 2 and 3

III. Linear Regression with One Regressor

Readings: Chapters 4, 5 and 17.1-17.4

IV. Linear Regression with Multiple Regressors

Readings: Chapters 6, 7 and 18.1-18.5

V. Nonlinear Regression

Readings: Chapter 8

VI. Assessing Regression Studies

Readings: Chapter 9

VII. Panel Data

Readings: Chapter 10

VIII. Binary Dependent Variables

Readings: Chapter 11

Tutoring

The Economics Department provides a free drop-in tutorial office which offers assistance on all core courses in the major, and occasionally on other undergraduate courses in the Department. Its website is <https://www.colorado.edu/economics/node/513/attachment>.

The Economics Department also maintains a list of tutors who are available for private hire. Its website is <https://www.colorado.edu/economics/node/515/attachment>.

University Policies

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 [classroom behavior](#) policy, the [Student Code of Conduct](#), and the [Office of Institutional Equity and Compliance](#).

Requirements for COVID-19

As a matter of public health and safety, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements and all public health orders in place to reduce the risk of spreading infectious disease. CU Boulder currently requires COVID-19 vaccination and boosters for all faculty, staff and students. Students, faculty and staff must upload proof of vaccination and boosters or file for an exemption based on medical, ethical or moral grounds through the MyCUHealth portal.

The CU Boulder campus is currently mask-optional. However, if public health conditions change and masks are again required in classrooms, students who fail to adhere to masking 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 policy on classroom behavior and the Student Code of Conduct. If you require accommodation because a disability prevents you from fulfilling these safety measures, please follow the steps in the “Accommodation for Disabilities” statement on this syllabus.

If you feel ill and think you might have COVID-19, if you have tested positive for COVID-19, or if you are unvaccinated or partially vaccinated and have been in close contact with someone who has COVID-19, you should stay home and follow the further guidance of the Public Health Office (contacttracing@colorado.edu). If you are fully vaccinated and have been in close contact with someone who has COVID-19, you do not need to stay home; rather, you should self-monitor for symptoms and follow the further guidance of the Public Health Office (contacttracing@colorado.edu).

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 Honor Code may include, but are not limited to: 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 Student Conduct & Conflict Resolution (honor@colorado.edu); 303-492-5550). 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. Additional information regarding the Honor Code academic integrity policy can be found on the [Honor Code website](#).

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 sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, protected-class discrimination and harassment, and related retaliation by or against members of our community on- and off-campus. These behaviors harm individuals and our community. The Office of Institutional Equity and Compliance (OIEC) addresses these policies, and individuals who believe they 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 can be found on the [OIEC website](#).

Please know that faculty and graduate instructors have a responsibility to inform OIEC when they are made aware of any issues related to these policies regardless of when or where they occurred to ensure that individuals impacted receive information about their rights, support resources, and resolution options. To learn more about reporting and support options for a variety of concerns, visit [Don't Ignore It](#).

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.