

# **Economics 4848- Applied Econometrics Spring 2012, MWF 10-10:50, Humanities 1B45**

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## **Course Website**

CULearn: <https://culearn.colorado.edu>

## **Office Hours**

Tues 2-3, Wed 11-12 and 1-2

It is very easy to schedule appointments outside of office hours with me—I am almost always in my office during normal business hours. Just send email or talk to me before or after class.

## **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 in order 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. In this course, we will use STATA, a package particularly well suited for empirical economics analysis. While students will exert a fair amount of energy mastering STATA in order to follow the lectures and complete the assignments in this course, it is important to remember that learning STATA commands is only a means to an end, and that the key focus of this course is develop skills in econometric analysis and interpretation.

## **Course Materials**

### *Textbook:*

A course pack developed by Prof. Brian Cadena serves as an informal textbook. It is available in electronic form on the CULearn website.

### *Stata Support:*

Websites with additional on-line STATA help guides and training:

[www.ats.ucla.edu/stat/stata](http://www.ats.ucla.edu/stat/stata)

[www.stata.com/links/resources1/html](http://www.stata.com/links/resources1/html)

(these links are also available on the course website)

### *Software:*

Students are not required to purchase their own copies of STATA, as it is available in the computer lab in the basement of the economics building. Note that the economics building is closed on weekends, but remains open until 10pm on weekdays. If you chose to purchase your own copy of STATA, you qualify for a substantial discount through the University's GradPlan. Information is available at: <http://www.stata.com/order/new/edu/gradplans/gp-campus.html>.

Please note that **Small Stata is insufficient for this course**. Current prices for Stata/IC (Intercooled Stata) license are \$98 for 1 year and \$65 for 6 months.

*Hardware:*

You will find it useful to bring a USB memory stick to class to store copies of programs and log files from our work in class.

## Course Requirements

*Attendance:* Attendance is absolutely crucial to success in this class. In order to re-enforce the importance of attendance, it will be factored into final grades. **Attendance will be taken regularly and any student missing more than 20% (3 weeks of class, or 9 class meetings) of the course's scheduled classes will receive a failing grade.** To be clear, these absences are intended to cover both valid (illness, car breaking down) and invalid reasons for missing class. Excused absences will therefore not be granted. I reserve the right to record an absence for students who spend substantial class time on non-class activities.

*Exams:* Two midterms and a final exam. The first midterm is scheduled for **Mon, Feb 13**. The second midterm is scheduled for **Fri, Mar 16**. The final is scheduled for **Tues, May 8 4:30-7:00**.

*Research Paper and Presentation:* 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 (6-8 pages, double-spaced, including figures and tables) on a topic of interest to you, focusing on original analysis of relevant data. Some course time will be spent teaching you how to download and analyze U.S. Census data, and many students will formulate a research question that can be investigated using Census data. Students are, however, free to pursue other data sources on topics of interest. I can provide a certain amount of direction, but ultimately students are responsible for obtaining the data they use, loading it into STATA, and manipulating it into a usable format.

I will hold individual meetings the week of Apr 2-6 to make sure that you have found an appropriate topic and data set and provide some individual guidance (class will be cancelled during the week to allow for individual meetings during class time).

During the final 2 weeks of the course (Apr 23-May 4), each student will give a 10-12 minute presentation of his or her research project. The research paper is due on the last day of class, May 4, by 5 pm. You are also required to provide me with a copy of your data, sufficiently well labeled that I could replicate your results if I desired. For most students, their final project grade will be determined by the quality of the written paper, however, I will adjust the final project grade down or up (up to 10%) for presentations that are substantially below or above reasonable course expectations.

## **Grades**

Grades will be based on:

20% Midterm 1 (Mon, Feb 13)

20% Midterm 2 (Fri, Mar 16)

30% Final Research Project

30% Final Exam (Tues, May 8)

Final letter grades will be based on the cumulative performance I would expect from an intelligent and hardworking student.

## **Some Additional Notes/Policies**

*Material from a Missed Class:* If you miss class, you are responsible for obtaining the material you missed. There is sufficient overlap with the course pack that reviewing the relevant material there will help, but you should arrange to obtain log file/programs/notes from a classmate (not from the professor), and work through these on your own to catch back up with the class.

Students will frequently work on ungraded in-class exercises, and these will be posted on the course website for students who miss class to complete on their own.

*Missed Exams:* Make-up exams for the midterms will not be given. Midterm exam absences will only be excused for compelling circumstances (generally family emergencies or documented illness), in which case the other course material will be re-weighted. Students anticipating conflict with an exam date due to religious observance or over-scheduling (3 or more exams on the same day) must bring these to my attention within the first 3 weeks of class.

*Special Accommodations:* Students with documented disabilities who may need academic accommodations should speak with me during first three weeks of the class. Also contact the Disability Services Office, Willard 322 (phone 303-492-8671), so that such accommodations may be arranged.

*Class Disruptions:* Please set cell phones so that they do not ring during class. Computers should not be used for non-class activities during class time.

*Academic Integrity:* All students are responsible for knowing and adhering to the academic integrity policy of the University of Colorado at Boulder ([www.colorado.edu/policies/honor.html](http://www.colorado.edu/policies/honor.html) and [www.colorado.edu/academics/honorcode/](http://www.colorado.edu/academics/honorcode/)). All incidents of academic misconduct will be reported to the Honor Code Council. I particularly encourage students to avoid plagiarism (portrayal of another's work or ideas as one's own) and therefore to conscientiously identify and cite all ideas or language borrowed from any other work.

## Course Schedule

Week 1 (Jan 18-20): Introduction and Getting Started in STATA

Week 2 (Jan 23-27): Summarizing Continuous Data

Week 3 (Jan 30-Feb 3): Categorical Data

Week 4 (Feb 6-10): Hypothesis Testing

Week 5: **Mon, Feb 13- 1<sup>st</sup> Midterm**

Feb 15-17: Relationship between 2 variables

Week 6 (Feb 20-24): Simple Regression

Week 7 (Feb 27-Mar 2): Multiple Regression

Week 8 (Mar 5-Mar 9): Omitted Variable Bias

Week 9 (Mar 12-Mar 16): Binary Variables and Interaction Models

**Fri, Mar 16- 2<sup>nd</sup> Midterm**

Week 10 (Mar 19-23): IPUMS Tutorial

Week 11 (Mar 26-30): Spring Break

Week 12 (Apr 2-6): Individual meetings during class time to discuss final projects

Weeks 13 and 14 (Apr 9-20): Advanced topics

Weeks 15 and 16 (Apr 23-May 4): Final Project Presentations

**Fri, May 4, 5 pm, Final Papers Due**

**Tues, May 8, 4:30-7, Final Exam**