

## **Economics 4848- Applied Econometrics Fall 2010, MWF 10-10:50, Humanities 1B45**

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### **Course Website**

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

### **Office Hours**

MW 2-3 and Thurs 10:30-11:30

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. Additionally, hard copies are available at the CU Bookstore.

#### *Stata Support:*

Web Links on the course website provide access to additional on-line STATA help guides and training

#### *Software:*

Students are not required to purchase their own copies of STATA. You can access STATA on the computers in this classroom or 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.colorado.edu/its/licenses/stata.html>. Please note that **Small Stata is insufficient for**

**this course.** 2009 prices for Stata/IC (Intercooled Stata) license were \$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, Sept 20. The second midterm is scheduled for Fri, Oct 22. The final is scheduled for Sat, Dec 11 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 first week of November (11/1-11/5) 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 (11/29-12/10), 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, Dec 10, 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.

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## **Course Schedule**

Week 1 (Aug 23-27): Introduction and Getting Started in STATA

Week 2 (Aug 30-Sept 1): Summarizing Continuous Data

Week 3 (Sept 8-10): Categorical Data

Week 4 (Sept 13-17): Hypothesis Testing

Week 5: **Mon, Sept 20- 1<sup>st</sup> Midterm**  
Sept 22-24: Relationship between 2 variables

Week 6 (Sept 27-Oct 1): Simple Regression

Week 7 (Oct 4-8): Multiple Regression

Week 8 (Oct 11-15): Omitted Variable Bias

Week 9 (Oct 18-22): Binary Variables and Interaction Models