University of Boulder
Department of Economics

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Economics 4848-002: Applied Econometrics, Fall 2013
Syllabus and Schedule
Office Hours: TTh 1:00-3:00
Economics 14A
Other times by appointment

Course Description:

This course will teach you to be comfortable with the essential aspects of performing economic analysis on real-world data. In doing so, we will spend a substantial amount of time mastering STATA, a statistical computer software package designed especially for empirical economic analysis. While you will spend some time doing textbook-style examples, you will also learn to create custom datasets from the US Census Bureau and Bureau of Labor Statistics for original analysis. Students who successfully complete this course will be qualified to do applied data work for the government, in industry, or in other research/advocacy/policy contexts. The course meets in Humanities 1B45, each TTh (8/27-12/12) from 3:30 PM – 4:45 PM, with the exceptions of a week of individual meetings (11/11, 11/13) and Fall Break (11/26, 11/28).

Prerequisites:

To enroll in this course, you must have completed Economics 3070 and at least one of Economics 1088, Math 1081 or Math 1300. Economics 3818 or an equivalent course is also required. This course provides practical hands-on training in using statistical software to analyze economic data. To succeed, students will need a basic command of algebra, as well as a basic understanding of the mechanics of a statistical test. We will review hypothesis testing, but our treatment will assume prior exposure. Students with a continuing interest in econometrics will find complementary material in Economics 4818 as it provides more depth at the theoretical level.

Course Materials:

There is no required textbook for this course. The material to be mastered will be covered in lecture notes and problem sets, all of which will be available on the D2L website. A course pack is available at the Bookstore that contains all   of the lecture notes. In addition, there are several electronic resources available for the newcomer to STATA. These are also posted on the course website.

Students are not required to purchase their own copies of STATA, although those desiring to do so qualify for a substantial discount through the University's GradPlan. More information is available through a link posted on the D2L website. I recommend Stata/IC. Prices are $69 for a six-month license, $98 for a one-year license, and $189 for a perpetual license.

Note: SMALL STATA WILL BE INSUFFICIENT FOR THIS COURSE.

You will receive full STATA documentation in PDF format if you choose to purchase the software. If you expect to use STATA beyond this course, you can feel free to purchase a more

advanced copy, but the Intercooled version will allow you to complete all the requirements of this course. Otherwise, you may access STATA on lab computers where it is installed. I have provided a link on the course website showing the labs with the software installed. Note that the Economics building is closed on weekends, but it remains open until 10 PM on weekdays.

You may find it useful to bring a USB memory stick to copy programs and data from our work in class. It is unlikely that you will need more than 4 GB of storage; so you should be able to find one that is relatively inexpensive (< $20) if you do not currently have one.

Requirements and Grading:

Your grade will depend on your performance on a number of assignments, according to the chart below:

Assignment	Weight	Due Date
Midterms (2)	40% (20% each)	9/26, 11/7 (Tentative Dates)
Problem Sets	5%	Various dates throughout the semester (total of 4 or 5)
Research Paper & Presentation	25%	12/3 Hard Copy First Draft, 5 PM 12/5, 12/10, 12/12 (Presentations) 12/13, 5 PM (Final Draft)
Final Exam	30%	Wednesday 12/18 1:30-4:00 PM

The first **Midterm Exam** will take place during a full class period. It will cover material prior to bivariate regression (through Chapter 4 in the coursepack), and it is tentatively scheduled for Thursday, 9/26. The second **Midterm Exam** will also take place during a full class period, and it will cover material through interaction models (through section 6.4 in the coursepack). It is tentatively scheduled for Thursday, 11/7. Midterm questions will be similar to the problem sets and in-class exercises, but you will work alone. Although the midterm will be administered through D2L, you must attend class on the day of the midterm in order to receive credit.

Problem Sets will be assigned throughout the course, and must be submitted by 5 PM on their due dates. You are strongly encouraged to work on problem sets in groups of up to three students. You may work with students in the other section of 4848, but your combined group must still total two or three students. Experience has shown that students who work in groups on these assignments fare much better in the course overall. To eliminate the temptation to free ride, each student must submit his/her own copy of the problem set (via D2L), and you should indicate each of your collaborators on each problem set. I will not grade the content of the problem sets, but I will provide solutions. I will check each submission to make sure it is complete, and your grade for this portion of the course will be determined based on whether you complete and submit the assignments on time.

Research Paper and Presentation: The goal of this course is to train you to be able to perform original analyses of economic data. To that end, you will complete one independent research project, using the skills you learn throughout the course. You may work with a partner, but no more than two people may work together.

This project has two components. First, you will write a paper (approximately 6-8 pages, including figures and tables) on a topic of interest to you, focusing on original analysis using

data from the US Census or another data source. I can provide some help with the census data and, to a lesser extent, support for work with alternative data sets. The first draft of the paper will be due December 3 at 5 PM (Hard Copy in my office). Any student/group failing to submit a draft of the project will receive a 25% penalty on their project grade.

Second, during the final three course meetings, each group will give an approximately 15 minute presentation of their work (on average, five per class meeting). In order to maintain fairness, each group will need to send me their slides prior to class on 12/5. You are encouraged to revise your slides if you complete additional work between 12/5 and the day you present. The presentations are *required*, but I will not be grading your presentation style. Rather, you should use these presentations as an opportunity to get feedback from me and from your classmates so that you can improve your paper before submitting your final draft. Failing to make a class presentation will result in a 25% penalty on the project grade. The final draft is due on Friday, December 12 at 5 PM (Hard Copy in my office).

As we progress through the material, be thinking of the type of project you are interested in. I will schedule appointments to meet with each student/group individually during the week of 11/11 to make sure you have found an appropriate topic and to provide individual guidance on your projects.

NOTE TO STUDENTS WRITING HONORS THESES: *I will accept preliminary work on your thesis for this assignment, but the paper and presentation must conform to the requirements of the project. You must work alone if the work you are doing will become part of your thesis.*

The Final Exam will cover all of the material learned in the course, and will be similar in format to the midterm and problem sets. Our assigned time from the Registrar is 1:30-4:00 PM on Wednesday, 12/18/2013. University policy provides students with three or more exams on the same day the right to reschedule exams following the first two.[1] Any student wishing to invoke this right should notify me as soon as possible and no later than September 30. I will ask for a copy of your schedule to verify your eligibility.

Final Letter Grades will be determined based on your cumulative performance relative to the scores a good student at this level could reasonably be expected to attain. Individual components (problem sets, exams, the project) will be curved separately prior to taking the weighted average outlined above. Economics department guidelines suggest a median grade of roughly B-/C+.

Attendance Requirement: Attendance for this course is required. Classes are interactive, and you will get the most out of this course by attending each class meeting. However, I understand that occasionally circumstances necessitate missing a lecture. Thus, students will be allowed up to five absences without penalty. Students with more than 5 absences throughout the semester will fail the course. You are always responsible for the material covered in class, so you are strongly encouraged to attend every class possible. Note that there are no additional absences available for standard "excused" reasons (illness, family emergency, etc.).

I will take attendance prior to the start of every class period. Because there is often confusion about who is enrolled during the first week of the semester, I will begin counting absences

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[1] http://www.colorado.edu/policies/final_exam.html

toward this policy in the second week of the semester. Students in the past have found it useful to continue working on the same lab computer throughout the semester, so I will ask that you sit at the same computer every meeting. That will allow for quick and efficient attendance taking.

Waitlist:

I will use the university's administrative drop policy as a means of clearing the waitlist.[2] *If you fail to attend any class meeting in the first two weeks, I will have you dropped from the course*. If you are administratively dropped, you may attempt to re-register, but you will be subject to standard waitlist procedures.

I will also enforce prerequisites. Please provide me with a copy of your unofficial transcript as soon as possible, and by the end of the third class meeting at the latest, with the prerequisites highlighted or circled. *If you do not provide me with proof that you have passed the prerequisites, I will have you administratively dropped*.

Late Assignments/ Missed Examinations Policy:

Problem sets and exams will be submitted through the D2L website. Problem Sets will be due by 5:00 PM on their due dates. Following a 5-minute grace period, you will receive no credit for completing the assignment if it is received late. There will be additional incentives to complete the exams on time. NOTE: You *must* attend class on the day of the exam to receive credit.

If you miss the midterm or the final exam you will receive no credit unless you provide documentation of a medical or family emergency. In the case of a legitimate emergency, I will treat the score on the missed exam as a missing data point, i.e. I will give no weight to the exam in the calculation of the final grade, and other assignments will be reweighted accordingly. There will be no make-up exams. If you foresee any conflict that will prevent you from taking an exam, please let me know as soon as possible and at least two weeks beforehand.

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[2] More information on this policy is available here:
http://registrar.colorado.edu/students/registration/registration_packet/drop_add.html#administrative

Covered Topics and Tentative Schedule

Topic	Tentative Dates
Introduction and Research Design	8/26, 8/28(Read Mortgage Paper)
STATA Tutorial	9/3, 9/5, 9/10
Descriptive Analysis	9/12, 9/14
Dealing with Categorical Data	9/19
Review of Hypothesis Testing	9/19
Bivariate Regression	9/24
MIDTERM #1	9/26
Bivariate Regression (con't)	10/1, 10/3, 10/8
Multiple Regression Basics	10/10
Omitted Variable Bias	10/15, 10/17
Categorical Variables in Regression	10/22
NO CLASS (Prof. Cadena research travel)	10/24
Interaction Models	10/29
IPUMS Tutorial	10/31, 11/5
MIDTERM #2	11/7
Individual Project Meetings	11/11-11/13
NO CLASS	11/12, 11/14
Advanced Data Management	11/19
Difference-in-Differences Estimators	11/21
Binary Dependent Variables	12/3 (Paper Draft Due 12/3, 5 PM)
Class Presentations	12/5, 12/10, 12/12 (Draft Slides Due 12/5, Final Paper Due 12/13, 5 PM)
Final Exam	12/18 1:30-4:00 PM

Other University Policies:

Disability Accommodation

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Center for Community N200, and http://www.colorado.edu/disabilityservices.

If you have a temporary medical condition or injury, see Temporary Injuries under Quick Links at Disability Services website (http://disabilityservices.colorado.edu/) and discuss your needs with me.

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. In this course, please inform me no later than two weeks prior to any conflict you foresee, sooner if possible, so that we may find an alternative arrangement for you to complete the requirements of the course. See full details at http://www.colorado.edu/policies/fac_relig.html

Classroom Behavior

Students and faculty each have responsibility for maintaining an appropriate learning environment. 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 differences of race, color, culture, religion, creed, politics, veteran's status, sexual orientation, gender, gender identity and gender expression, age, disability, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at:

http://www.colorado.edu/policies/classbehavior.html and

http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code

Discrimination and Harassment

The University of Boulder (Boulder) is committed to maintaining a positive learning, working, and living environment. The University of does not discriminate on the basis of race, color, national origin, sex, age, disability, creed, religion, sexual orientation, or veteran status in admission and access to, and treatment and employment in, its educational programs and activities. (Regent Law, Article 10, amended 11/8/2001). C -Boulder will not tolerate acts of discrimination or harassment based upon Protected Classes or related retaliation against or by any employee or student. For purposes of this C -Boulder policy, "Protected

Classes" refers to race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, or veteran status. Individuals who believe they have been discriminated against should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Student Conduct (OSC) at 303-492-5550. Information about the ODH, the above referenced policies, and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at http://hr.colorado.edu/dh/

Academic Integrity

All students of the University of ⬛ Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at

http://www.colorado.edu/policies/honor.html and at

http://honorcode.colorado.edu