Applied Econometrics – Econ 4395
Fall Semester – 2019
Tuesday-Thursday: 10:00 AM - 11:30 PM
McElhinney, Room 115

Contact information

Instructor:
Prof. Andrea Szabo   E-mail: aszabo2@uh.edu
Office: 209 B McElhinney Hall   Office hours: By appointment only.
                                        You can schedule an appointment at
                                        http://www.uh.edu/~aszabo2/appointments.htm

Teaching Assistant:
TBD   E-mail: TBD
Office: TBD   Office hours: TBD

Course Description

Econ 4395 is a continuation of Econ 3370 (previously Econ 4365) and introduces students to several extensions of multiple regression methods for analyzing data in economics and related disciplines. Topics include regression with panel data, instrumental variables regression, and the analysis of randomized experiments. The objective of the course is for the student to learn how to conduct – and how to critique – empirical studies in economics and related fields. Accordingly, the emphasis of the course is on empirical applications. The mathematics of econometrics will be introduced only as needed and will not be a central focus.

The class includes three replication projects where students will study three research papers in depth and replicate their empirical results with the provided data. These projects include papers from the field of economic history / economic growth, industrial organization, and development economics.

Prerequisites

Students are expected to have taken an introductory course in probability and statistics (Econ 2370) and Introduction to Econometrics (Econ 3370). Students are also expected to know how to run OLS regressions in STATA. Homework 1 provides a review of these skills.

Textbook

James H. Stock and Mark W. Watson (SW): Introduction to Econometrics, 3rd edition or higher, Pearson Addison-Wesley, 2011, ISBN-10: 0138009007. Besides the textbook

we are going to discuss a number of journal articles which will be posted in Blackboard or can be accessed through the UH Library website using EconLit.

Course Requirements
There will be 8 homework assignments, 3 midterm exams and a short in-class presentation of some of the homework questions. Each student is required to sign up for a presentation at the beginning of the semester.

All homework assignments will be done online through the University of Houston Blackboard Learn website. Each student is required to enroll. All Problem Sets are due on the day listed below by 8.30 am.

Midterms will be given in class on the dates listed in the calendar.

All exams are open book and open notes; bring a calculator. No computers of any kind, cell phones or programmable calculators. No cooperation is allowed during the tests. Academic misconduct will not be tolerated and any instances of it will be dealt with according to the appropriate University channels.
If you disagree with the grading of a midterm, submit it for further review. You must submit a written argument for why you deserve more points for the specific question(s) you would like re-graded. If you do not specify this, the entire test will be re-graded and it is possible that you may lose points. You must submit these arguments within one week after the midterm has been returned.

Class Website
All assignments and handouts will be posted on the class website in Blackboard Learn. Go to http://www.uh.edu/blackboard and click the white "Blackboard Learn" button. Log in with your CougarNet ID and password.

There is a mobile version of the class website through the Blackboard App, which is available for Apple, Android and Blackberry devices.

All technical and login help for Blackboard is provided by UH IT.
Email: support@uh.edu
Phone: 713-743-1411, every day 8 am to 8 pm (except University holidays)
In person: 58 MD Anderson Library - Technology Commons, every day 8 am to 8 pm (except University holidays); 1st floor MD Anderson Library and Welcome Center, first two weeks of semester only
Live chat: http://www.uh.edu/infotech/livechat Monday-Friday 8 am to 8 pm (not available Saturday-Sunday and on university holidays)

For more Blackboard resources, see Blackboard Student Help
http://www.uh.edu/blackboard/help/

Statistical software package

You will be required to use *Stata*, a statistical software package. Public versions of *Stata* are available at selected locations on UH campus. Students registered for the class may use the six computers in the Economics Department Undergraduate Computer Lab in room 208 E McElhinney (hours: M-Th, 8am-4:30pm, F 9am-2pm). You also can access *Stata* via the Libraries' Virtual Learning Commons. Please see: http://ask.lib.uh.edu/faq/169186 and https://vcon.lib.uh.edu/portal/webclient/index.html, for more details.

UH has an agreement called "GradPlan" with *Stata* that allows students to purchase various products at much reduced rates directly from *Stata*. The current version is *Stata 15*. I suggest that you buy *Stata/IC* which will be able to handle all of the problems that I will assign in the course. The current pricing for a 6 month license is $45 for *Stata/IC*. For more detail and to order *Stata* online see the GradPlan website indicted below.
http://www.stata.com/order/new/edu/gradplans/student-pricing/

Grading

Course Component	Percentage from the final grade
Problem Sets	35
In-class presentation	5
Midterm 1	20
Midterm 2	20
Midterm 3	20
Total	100

I will drop your lowest homework score to allow for some flexibility. Thus you will have 7 problem sets that count towards your final grade.

The numerical course grade will be converted to a letter grade according to the following scale:

92%-100%	A
90%-91%	A-
88%-89%	B+
82%-87%	B
80%-81%	B-
70%-79%	C+
50%-69%	C
40%-49%	C-
38%-39%	D+
33%-37%	D
30%-32%	D-
-29%	F

There is no curve for the class. This means that you are not competing with other students, and you will always know exactly where you stand in the class based on your performance.

Students with Disabilities

The University of Houston System complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for students with a disability. In accordance with Section 504 and ADA guidelines, the University of Houston strives to provide reasonable academic adjustments/auxiliary aids to students who request and require them. Students seeking accommodation in this course should contact the instructor after obtaining the appropriate documentation through the UH Center for Students with Disabilities.

Counseling and Psychological Services

Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (www.uh.edu/caps) by calling 713-743-5454 during and after business hours for routine appointments or if you or somebody you know is in crisis. No appointment is necessary for the "Let's Talk" program, a drop-in consultation service at convenient locations and hours around campus. http://www.uh.edu/caps/outreach/lets_talk.html

Other Course Policies

Don't fall behind and make sure to ask me for help when you don't understand a concept. I am here to help!

You may work on problem sets with other students in a study group, but each student must submit their own answers. If you work in a study group, you must also write the names of the other students in your group at the beginning of your answers.

Answers to both homework and exam questions will be graded not only on the correctness of the answer, but also on the clarity of the explanation. Answers with a correct answer alone will not receive full credit. Complete and logically consistent answers are needed to receive full credit.

I don't negotiate about grades - ever.

Come prepared - do the readings before class.

Adhere to the university's academic honesty policy (it is described in the Student Handbook at http://www.uh.edu/academics/catalog/policies/academ-reg/academic-honesty/).

If you have special learning needs, please contact me in the first two weeks of classes.

If you need to contact me, I prefer office hours to emails.

Tentative Course Schedule:

Class #	Date/Day			Topic	SW Ch. #	Problem Sets
1	Aug	20	T	Welcome to Applied Econometrics! Syllabus, introduction		
2		22	Th	Review of the Linear Regression Model I *The linear regression model, The Least Squares Assumptions, Hypothesis Tests, Confidence Intervals, Regression when X is Binary, Heteroskedasticity, Homoskedacity,*	Ch. 1-8	
3		27	T	Review of the Linear Regression Model II *Omitted Variable Bias, Measure of Fit Multicollinearity, Nonlinear Functions of Single Independent Variables, Interactions Between Independent Variables*	Ch. 1-8	
4		29	Th	Assessing Studies Based on Multiple Regression I. *Internal and External Validity*	Ch 9 p. 326-343	PS 1 Due
5	Sept	3	T	Assessing Studies Based on Multiple Regression II. *Example: Test Scores and Class Size*	Ch 9 p. 343-362	
6		5	Th	Regression with Panel Data I. *Fixed Effects*	Ch 10 p.363-374	PS 2 Due
7		10	T	Regression with Panel Data II. *Time Fixed Effects, Standard Errors*	Ch 10 p.374-381	
8		12	Th	Regression with Panel Data III. *Example: Drunk Driving Laws and Traffic Deaths* Cohen, A. and L. Einav (2003): "The Effect of Mandatory Seat Belt Laws on Driving Behavior and Traffic Fatalities, *The Review of Economics and Statistics*, 85(4), 828-843.	Ch 10 p. 381-396	
9		17	T	Replication study 1: Lewis, G. (2011): "Asymmetric Information, Adverse Selection and Online Disclosure: The Case of eBay Motors", *American Economic Review*, 101(4), 1535–1546.		PS 3 Due
10		19	Th	Replication study 1: *Limited Information, Subsamples, More on clustered standard errors.*		
11		24	T	Replication study 1: *Presentations of related homework assignment*		PS 4 Due

12		26	Th	**Midterm I**		
13	October	1	T	Instrumental Variables Regression I. *IV Estimator with a Single Regressor and a Single Instrument, General IV Regression Model*	Ch 11 p. 397-415	
14		3	Th	Instrumental Variables Regression II. *Instrument Validity*	Ch 11 p.415-421	
15		8	T	Instrumental Variables Regression III. *Example: Demand for Cigarettes* J. Gruber (2001): "Tobacco at the Crossroads: The Past and Future of Smoking Regulation in the United States, *The Journal of Economic Perspectives*, 15(2), 193-212.	Ch 11 p. 421-438	
16		10	Th	Replication study 2: Nunn, N. (2008): "The Long-Term Effects of Africa's Slave Traders", *The Quarterly Journal of Economics,* 123(1), 139-176.		PS 5 Due
17		15	T	Replication study 2: *Choosing a valid instrument, Data collection techniques, Hausman test, Sargent test*		
18		17	Th	Replication study 2: *Presentations of related homework assignment*		PS 6 Due
19		22	T	Replication study 2: *Presentations of related homework assignment*		
20		24	Th	**Midterm II**		
21		29	T	Experiments I. *Potential Problems with Experiments in Practice*	Ch 12 p.447-456	
22		31	Th	Experiments II. *The Differences-in-Differences Estimator*	Ch 12 p.465-472	
23	November	5	T	Experiments III. *Example: The Tennessee Class Size Reduction Experiment* J. A. List (2003): "Does Market Experience Eliminate Market Anomalies? " *The Quarterly Journal of Economics,* 118(1), 41-71.	Ch 12 p.456-465	
24		7	Th	Replication study 3: A. Szabo and G. Ujhelyi (2015): "Reducing Nonpayment for Public Utilities:		PS 7 Due

				Experimental Evidence from South Africa", *Journal of Development Economics*, 117, 20–31.		
25		12	T	Replication study 3: *Effect of information / asymmetric information in economics, How to organize randomized experiment: Practical advice*		
26		14	Th	Replication study 3: *Presentations of related homework assignment*		P8 Due
27		19	T	Replication study 3: *Presentations of related homework assignment*		
28		21	Th	Closing, review, advice on how to start and conduct an empirical project		
29		26	T	**Midterm III**		