

Johns Hopkins University, Advanced Economic Programs
Masters in Applied Economics
ECONOMETRICS
440.606.52
Spring 2017

Course Description:

This course focuses on the application of statistical methods to the testing and estimation of economic relationships. After developing the theoretical constructs of classical least squares, common problems encountered when applying this approach, including serial correlation, heteroscedasticity, and multicollinearity, are discussed. Techniques for dealing with these problems are then examined. Models with lagged variables are considered, as is estimation with instrumental variables and two-stage least squares. Prerequisites: 440.605 Statistics.

Instructor:

Utpal Vasavada

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Class Time:

Wednesday, 6 PM - 8:45 PM

January 11 - April 19 (14 class sessions)

Textbook:

Wooldridge, J. Introductory Econometrics: A Modern Approach, 4th Edition. The 5th and 6th editions are also available. You may choose to use later editions, if you want.

Computer Requirements:

Stata is available in computer labs or via personal license. A six-month license of “Small Stata” is adequate for this course. It can be purchased here:

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

A perpetual-license of STATA/IC is a good long-term investment, especially if you plan to work on econometric analysis in the future.

Course Website:

<https://blackboard.jhu.edu> (login using JHU Enterprise Authentication)

Grading:

- a. **Problem Sets: 20%** - Five problem sets, together worth 20 percent of your total grade. Problem sets must be turned in on paper and in class. Electronic submissions are unacceptable. Answer keys are posted online after class on the due date, so late problem sets will not be accepted. Working in a small group setting is allowed, although each

student must turn in their assignment written in your own words. Copying what another classmate has written is unacceptable.

- b. Midterm Exam: 30%** - A midterm exam will be administered roughly midway through the semester. This exam will focus on material covered during the first half of the semester.
- c. Final Exam: 30 %** - A final exam will be administered at the end of the semester. The final exam will focus on material covered in the second half of the semester.
- d. Research Paper: 20%** - Students will develop a short research paper using real world data. This paper is 3-5 pages in length, excluding tables and figures. The report should clearly identify the research question/s, document data used in the empirical analysis, briefly provide a narrative on research methods used in the investigation, and discuss key empirical findings and conclusions.

Course Schedule:

Week	Date	Topic	Readings	Assignments
1	January 11	Math Stat/Econometrics Review	Ch. 1, Appendix A; Appendix C.1-C.4	HW # 1 Posted
2	January 18	Simple Regression of Y on X	Chapter 2	
3	January 25	Simple and Multiple Regression	Chapters 2 and 3	HW # 1 Due; HW # 2 Posted
4	February 1	Multiple Regression: Inference	Chapter 4	Paper Topic Due
5	February 8	Multiple Regression: OLS Asymptotics and Further Issues	Chapter 5 and 6	HW # 2 Due; HW # 3 Posted
6	February 15	Binary and Dummy Variables	Chapter 7	HW # 3 Due
7	February 22	MIDTERM EXAM		
8	March 1	Heteroskedasticity	Chapter 8	HW # 4 Posted
9	March 8	Model Specification	Chapter 9	Paper Outline Due
10	March 15	Time Series Data	Chapter 10	HW #4 Due; HW # 5 Posted
		SPRING BREAK		
11	March 29	Time Series Data- Further Issues	Chapter 11 and 12	Paper Preliminary Results Due
12	April 5	Panel Data Models	Chapters 13	HW # 5 Due
13	April 12	Panel Data Models: Further Issues	Chapter 14	Paper due
14	April 19	FINAL EXAM		