

Economics 4650 // Summer, 2014
MW, M LI 1130 // 6:00 to 7:30 PM
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Office hours by appointment at above email.

Introduction

This class has the potential for being one of the most rewarding classes you can take as an undergraduate. You should learn a lot about statistical modeling and learn to use Excel and other software packages, primarily R, to perform econometric analysis. The will be an applied class and should prepare you for working with data in a job environment or in graduate school. The class builds on Econ 3640 and we will review basic probability and statistics as we move through the material. No experience with computers is assumed. The class is heavily supported online via Canvas. Please check often for course announcements, sample data, code, and assignments.

Goals

- To become familiar with multivariate regression analysis
- To learn about the statistical foundations of ordinary least squares
- To become fluent in using Excel software
- Learn how to use the statistical software package R
- Learn how to detect violations of classical model assumptions (CLRM)
- Learn how to deal with violations of the CLRM
- Learn how to collect, summarize, and analyze cross-sectional, time series, and mixed cross-sectional/time series data
- Learn how to present an applied research project to a statistical audience

Evaluation

- One in-class mid-term examination (30% grade)
- One applied paper & presentation (25% grade)
- Assorted class assignments (20%)
- One take-home examination technical (25% grade)
- Grades based on 90, 80, 65 % cuts (A-, B-, C-).

Book editions

Any of:

- Chapters 1 through 10 of Using Econometrics, A.H. Studenmund (4th), ISBN 0-321-06481-X
- Chapters 1 through 10 of Using Econometrics, A.H. Studenmund (5th), ISBN 0-321-31649-5
- Chapters 1 through 10 of Using Econometrics, A.H. Studenmund (6th), ISBN 0-13-136773-0

Content Modules

Week	Content Module	Studenmund (4 th) & (5 th) Chapter	Studenmund (6 th) Chapter
1	Course Intro		
	Statistical Principles	16	17
	Overview of Regression Analysis	1	1
2	Ordinary Least Squares	2	2
3	Memorial Day Holiday Monday		
	Using Regression Analysis	3	3
	Phase into R		
4	The Classical Model	4	4
5	Hypothesis Testing	5	5
	Midterm Exam in class		
6	Project Prep	11	11
	Model Specification: Independent Variables	6	6
	Model Specification: Functional Form	7	7
7	Multicollinearity	8	8
	Serial Correlation	9	9
8	Heteroskedasticity	10	10
9	Linear Probability Models	13	13
10	Time Series Models	12	12
11	Projects	11	11
12	Projects, Final review		