Statistics 520: Applied Econometrics I
Fall 2012

Professor: Dylan Small
E-mail: dsmall@wharton.upenn.edu
Office: 464 Huntsman Hall

Class hours: Tuesday and Thursday, 3:00-4:20.
Office hours: Wednesday, 9-10; Thursday, 12:15-1:15, by appointment.

Teaching assistant: Kory Johnson, kord@wharton.upenn.edu , 433 Huntsman Hall.

Recommended Texts:
(1) J.M. Wooldridge, Econometric Analysis of Cross Section and Panel Data, Second Edition (will be the textbook for Stat 521)
(2) C. Kleiber and A. Zeileis, Applied Econometrics with R
(3) J.D. Angrist and J.-S. Pischke, Mostly Harmless Econometrics

Course description: This is a graduate course in econometrics aimed at applied economics Ph.D. students. The goal of the course is to prepare students for empirical research by investigating several important econometric methods.

Course web site: https://wharton.instructure.com/courses/732808

If you do not have a Wharton account, go to http://accounts.wharton.upenn.edu to create one. Choose class accounts. Let me know if you have any problems.

Course Prerequisites: Undergraduate statistics course at the level of Stat 431 at Penn.

Course Requirements: Grades will be based on regular homework assignments and a final project. The final project will consist of replicating the analysis in an empirical paper that uses econometric techniques taught in the course and then considering additional statistical analyses using the data set from the paper. Students can alternatively use a data set of their own and propose an original analysis rather than replicating an existing analysis. The final project will be due on Monday, December 17th at noon.

Software: The R package will be used throughout the lectures and the homework will involve using the R package. R is free software that can be downloaded from http://www.r-project.org/ .

Outline:

1. Observational studies and experiments
   Reference: Mostly Harmless Econometrics, Chapters 2.

2. Simple and multiple regression; quantile regression.

   References:
   (1) Mostly Harmless Econometrics, Chapters 3 and 7.
   (2) Wooldridge, Chapter 4
   (3) Applied Econometrics with R, Chapters 3 and 4

3. Instrumental Variables

   References:
   (1) Mostly Harmless Econometrics, Chapter 4
   (2) Wooldridge, Chapter 5

4. Regression Discontinuity Designs

   Reference:
   (1) Mostly Harmless Econometrics, Chapter 6.

5. Difference-in-Difference Methods and Panel Data

   References:
   (1) Mostly Harmless Econometrics, Chapter 5
   (2) Wooldridge, Chapter 6.5 and Chapter 10

6. Discrete Choice Models

   Reference:
   (1) Wooldridge, Chapters 15 and 16.

Topics to be covered along the way: Bootstrap, Maximum Likelihood.