Statistics 521: Applied Econometrics II

Professor: Paul Shaman
Email: shaman@wharton.upenn.edu
Office: 431.1 JMHH
Telephone: 8-8749

Office hours: MTuTh, 4:30–6, and by appointment

Class hours and location: MW 1:30–2:50, G86 JMHH

Teaching Assistant: Yao Zhang, zhangyao@wharton.upenn.edu, 427.2 JMHH

Course web site

Statistics 521 is using webCafe. You can gain access by going to http://webcafe.wharton.upenn.edu and following the link to the Department of Statistics. All materials for the course will be distributed and managed via the website.

Note for non-Wharton students: If you do not have a Wharton computing account, you will need to establish one to access the website. The account also provides access to the computing labs in Wharton and to the intranet. To get an account, go to http://apps.wharton.upenn.edu/accounts/class

After you have requested your account, allow some time for activation.

Wharton students and students who have recently taken a Wharton course have existing accounts.

Materials

Class notes. As noted above, these will be available on webCafe.


Software

The R package will be used in lectures and for homework. R is free software and is available at www.r-project.org.
I expect to use JMP 8 software occasionally in class for illustration. JMP has excellent graphics.

**Course overview**

The aims of this course are to study basic econometric techniques. The emphasis will be upon the understanding and use of econometric methodology, and the written communication of the results of data analysis. Topics we will cover include advanced methods in ordinary least squares estimation, instrumental variables estimation, systems of equations, panel data models, M-estimation, maximum likelihood, the generalized method of moments, discrete response models, and some issues in time series analysis. We will explore mathematical and statistical foundations, as well as the application of statistical methodology. This will include frequent use of results from linear algebra.

**Course requirements**

There will be about six homework assignments. These will include theoretical exercises and the analysis of data and interpretation of the findings, and the presentation of a well-organized and clearly written report. The homework is designed to teach and to give experience in the use of econometric methodology. You are encouraged to consult with each other in doing the homework, and also to contact me and/or the teaching assistant for help. You must submit your own writeup. Homework must be submitted by the due date specified for the assignment.

Students will submit a final project. This will involve replicating the analysis presented in an empirical paper, and also presenting further analyses of the data set used in the paper. As an alternative, you may use a data set of your own choosing and carry out an original analysis. A major goal of this exercise is organization and presentation of a carefully written report. Prior to starting the project, you should submit a brief (not more than one page) project proposal for my review.

There are no examinations. The course grade will be calculated as 80 per cent homework and 20 per cent final project.

**Calendar**

There are 27 classes (Monday–Wednesday schedule).
The first class is Wednesday, 12 January.
There is no class Monday, 17 January (Martin Luther King, Jr. holiday).
The drop period ends 18 February.
There are no classes 7 March and 9 March (Spring break).
The withdrawal deadline is 1 April.
The last class is Monday, 25 April.