Econ 532: Applied Econometrics (Session E)

Module 2, 2014

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Teaching Assistant: TBA
Course website: http://cms.pkusz.edu.cn/
Lecture time and location: 1:30-3:20pm, Tuesday and Friday, PHBS Building 229
Office hour: Tuesday 3:30-4:30pm or by appointment, PHBS Building 731, Phone: 26033355

Course description: This is a required course for master students in Economics and related fields. It aims to introduce skills that are useful for applied research and further studies. Students will learn how to use econometric theories and methods to analyze a variety of real world problems in economics, finance and other fields. Topics covered include linear regression, prediction, time series and panel data analysis, nonlinear models and others. Emphasis will be placed on the analysis of empirical questions using actual datasets and statistical packages.

Topic 1: Linear Regression and Ordinary Least Squares
Topic 2: Statistical Inference and Interpretation for Liner Regression
Topic 3: More Topics on Multiple Linear Regression
Topic 4: Endogeneities and Instrumental Variables
Topic 5: Analysis of Time Series
Topic 6: Panel Data
Topic 7: Nonlinear Models

Prerequisites: Students are expected to complete Advanced Econometrics *I* or equivalent. This includes probability distribution, random variable, and theoretical framework of the classical linear regression model. Please see me if you are unsure whether you have the appropriate background.

Class Materials: I will use the course website to distribute all handouts, readings and homework assignments. There is no required textbook for this course. You may consider these books at some point during the course to strengthen your knowledge of econometrics.

Jeffrey M. Wooldridge. *Introductory Econometrics: A Modern Approach*. Tsinghua University Press.
William H. Greene. *Econometric Analysis*. Prentice Hall.
Jeffrey M. Wooldridge. *Econometric Analysis of Cross Section and Panel Data*. MIT Press.
James D. Hamilton. *Time Series Analysis*. Princeton University Press.

Course Management System: We will use CMS (http://cms.pkusz.edu.cn/) to manage the course. The course website will appear as *Econ 532: Applied Econometrics (Session E)* in your CMS Course List. I

will send email announcements through CMS and post all related course materials there. Please check the course website every week.

Statistical Package: One goal of this course is to equip students with the skills of making statistical analysis using packages such as STATA, SAS, MATLAB, R and others. Software analysis is heavily used in advance classes, industries and academia. I will demonstrate examples with STATA in class. Students may choose among the popular packages according to your preference.

To get the package, you can visit the school webpage for the instruction of STATA and SAS installation and MATLAB webpage for a student version. R is downloadable from the official webpage http://www.r-project.org/.

Some recommended tutorials for using the statistical packages are:
Emmanuel Paradis. *R for Beginners*.
Lora D. Delwiche and Susan J. Slaughter. *The Little SAS Book*. SAS Institute.
Stata Tutorial: http://data.princeton.edu/stata/

Grading: Students are expected to attend all lectures and exams, participate in class discussions, read the required class materials, and complete homework and projects. The course grade will be determined by:

10 points- Attendance and class participation.
          Attendance to all lectures is mandatory. Pop quizzes will be arranged randomly during the lectures.

30 points- Homework assignments and presentation.
          There will be five homework assignments. Students are encouraged to form groups to finish homework. Homework will be presented by a random selected group at the beginning of course when the assignment is due. Late homework will not be accepted.

30 points- Midterm exam and referee report.
          The midterm exam will be given in your 5th week of the course. This will be a closed-book individual exam. You will also complete a referee report based on an original empirical paper that I select.

30 points- Final project[*].
          Students will be asked to replicate and extend an empirical paper. Group work is encouraged. Alternatively, based on your own circumstances and subject to my approval, you can write your own paper. Late submission will not be acceptable.

Academic Integrity: Students are responsible for keeping academic integrity standards for this course. For more information on the Code of Academic Integrity or the Student Honor Council, please visit the school website: http://dean.pku.edu.cn/2011xssc/kswgclff_jyb.htm.

[*]Final Project:
The guidance and schedule to submit your approved paper selection, one-page summary statistics table, and completed paper will be announced in the first lecture.