Econometrics III  (E670)

Jisong Wu
Cavanaugh 526
Phone: 278-8053
E-mail: @iupui.

Class meeting: CA323A 2:00-4:30pm
Office Hours: Tuesday 12:30-2:30pm
and by appointment.

Course objectives:
This course covers advanced topics in the estimation and inference in econometric models and is
designed for students with basic knowledge of econometrics at the first year Ph.D. level. The
central part of the course is a theoretical developments and applications of the generalized method
of moments (GMM) and its related estimators. In addition to GMM, some basic nonparametric
estimation methods will be also covered in this course. All students are required to submit term
papers related to their research agenda using some of the methodologies taught in class.

Prerequisites:
The equivalent of Econ 571, 573 or above is required. Students should be familiar with basic
concepts of econometrics including probability theory, linear algebra, OLS, GLS and maximum
likelihood. Students who wish to submit an empirical paper need some knowledge of a statistical
software or a programming language. (Participants will be introduced to Matlab during the
course.)

Required text:

Recommended texts:
University Press)


Grading:
Assignments  30 points
Class presentation  30 points
Term paper  40 points

Academic Integrity:
Indiana University-Purdue University Indianapolis has a Code of Student Conduct, administered
by the office of the Dean of Students. This Code sets standards for academic integrity at IUPUI for
all undergraduate and graduate students. As a student you are responsible for upholding these
standards for this course. It is very important for you to be aware of the consequences of cheating,
fabrication, facilitation, and plagiarism.
**Course Outline:**

Lecture 1-4  Limit theorems, OLS, IV, 2SLS, GMM  
- Hayashi, chap 2  
Lecture 5-6  Single equation GMM, efficient GMM  
- Hayashi, chap 3  
Lecture 7-9  Multiple equation GMM  
- Hayashi, chap 4  
Lecture 10-12  Panel data  
- Hayashi, chap 5  
Lecture 13-15  GMM trinity test, HAC  
- Hayashi, chap 6  
Lecture 16-19  nonlinear GMM, extremum estimator  
- Hayashi, chap 7  
Lecture 20-24  kernel estimation and bandwidth selection  
- Pagan&Ullah chap 1-3  

2 Lectures left for paper presentations