

Course Outline

EE426 Econometrics 2

Semester 2/2013 (January 13 – May 3, 2014):

Number of credits	3 credits
Lecture Time	Tuesdays and Thursday, 11:00 AM – 12:30 PM
Lecture Venue	Room 204 Faculty of Economics, Thammasat University, Tha Prachan campus
Instructor	Ajarn Chayanee Chawanote Office: Room 6, 4 th floor 60 th year building (computer lab) Email: chayanee@econ.tu.ac.th Office hours: Tuesday & Thursday, 9:30-10:30 AM (or by appointment)

Course Description:

This course covers more advanced topics in econometrics for undergraduate level and focuses on both theoretical framework (basic concept) and empirical applications. The first parts introduce panel data models, and further discuss instrumental variables and two stage least squares. We then cover system of regressions and seemingly unrelated regression (SUR). This topic will also link to the topic of simultaneous equation system and its parameter estimation. Then, we turn our attention to exploring qualitative response models using maximum likelihood technique, and conclude by studying time series model.

Prerequisites: ST217 (or ST212) and EE425

Course Objectives:

Since this course is more advanced econometrics, it requires the understanding of topics covered in EE425, a good command of calculus and matrix algebra. We will also review these skills when it is needed. Students will learn theory and data issue underlying each econometric method covered in this course, as well as how to apply these methods in empirical studies. To understand each topic and be able to analyze data, problem sets will cover both deriving simple theoretical results and using a standard software such as STATA.

Recommended Textbooks:

1. ** (W) - Wooldridge, J. M. Introductory Econometrics: A Modern Approach. 3rd ed. Thompson: South-Western, 2006.
2. (GP) - Gujarati, D.N., and D.C. Porter, Basic Econometrics. 5th ed., NY, McGraw-Hill, 2009.
3. (AP) - Angrist, J.D., and Pischke, J-S, Mostly Harmless Econometrics: An Empiricist's Companion, Princeton University Press, 2006.

- If there is any handout or additional reading, it will be posted on Moodle. Students are responsible to review the topic ahead of the class for more effective learning.

Teaching Plan:

Date	Topic	Textbook/ Reading list	Problem Set Due Date
Week 1 Jan 14 & 16	- Review - Finite Sample Properties & Asymptotic Properties - General Approaches to Parameter Estimation - Hypothesis Testing	- Appendix C, (W) - Ch.3, (AP)	
Week 2 Jan 21 & 22	Topic 1: Panel Data - Data Introduction & Pooling Cross Section - Two-period Panel Data Analysis and Policy Analysis (Differences-in-differences)	- Ch.13, (W) - Ch 5.2, (AP)	
Week 3 Jan 28 & 30	- Advanced Panel Data Methods • Fixed Effects Estimation • Random Effects Estimation - Other Applications of Panel Data Methods	- Ch.14, (W) - Ch 5.1, (AP)	
Week 4-5 Feb 4 & 6 Feb 11 & 13	Topic 2: Instrumental Variables (IV) Estimation and Two Stage Least Squares - Problem of Endogenous Variables - Basic IV Estimation - Two Stage Least Squares - IV Approach to Measurement Error - Testing for Endogeneity and Testing for Overidentifying Restrictions	- Ch. 15, (W) - Ch 4.1, (AP)	PS1 (Topic 1) Due Feb 6

Week 6-7 Feb 18 & 20 Feb 25 Feb 27	Topic 3: System of Regressions & Seemingly Unrelated Regression (SUR) - Matrix Algebra (Basic) - Estimating Systems of Equations by OLS and GLS (General Least Squares) - SUR Estimators and Feasible GLS - Review before Midterm Exam	Additional handouts	PS2 (Topic 2) Due Feb 18
Week 8 Mar 4 & 6	Midterm Exam on March 4 No class on March 6		
Week 9-10 Mar 11 & 13 Mar 18 & 20	Topic 4: Simultaneous Equations Models - The Nature of Simultaneous Equations Models - Identifying and Estimating a Structural Equation - Simultaneous Equations Models with Panel Data	Ch. 16, (W) Ch. 18, (GP)	
Week 11-13 Mar 25 & 27 Apr 1 Apr 3 & 8 Apr 10	Topic 5: Maximum Likelihood Estimation and Qualitative Response Models - Basic Concept of Maximum Likelihood Estimation - Binary Response Model - Linear Probability Model (LPM) - Logit Model - Probit Model - Multiple Response Model - Multinomial Logit Model - Ordered Probit/Logit Model - Other Limited Dependent Variable Models - Tobit Model - Censored and Truncated Regression Models - Selection Bias and Sample Selection Corrections	Ch. 17, (W) Ch. 15, (GP)	PS3 (Topic 3-4) Due Mar 27
Week 14-16 Apr 15: Songkran Holiday Apr 17 & 22	Topic 6: Time Series Topics - Basic Regression Analysis with Time Series Data - Infinite Distributed Lag Models - Testing for Unit Roots	Ch. 10-11, 18 (W) Ch. 21, (GP)	PS4 (Topic 5) Due Apr 17

Apr 24 & 29	- Spurious Regression - Cointegration and Error Correction Models		
May 1	Review before Final Exam		
May 6	Final Exam		

Grading:

4 problem sets	20% (5% each)
Paper replication	10%
Midterm exam	30%
Final exam	40%

*Problem sets are due at the end of the class on the due date. Late problem set submission counts as 50% of your actual marks. Besides answering questions completely, students have to submit STATA code used in each problem set. Discussion on the problem set in a group is allowed, but hand-in assignment has to be written individually without copying. Problem set solutions will be posted on Moodle after each problem set deadline. Further information on paper replication will be updated in class.

Important dates:

Class begins	January 14, 2014
Adding and dropping courses without record	January 13-27, 2014
Midterm exam	March 4, 2014: 11.00AM – 12.30PM
Course withdrawal with “W”	March 19-24, 2014
Class ends	May 1, 2014
Final exam	May 6, 2014: 9.00AM - noon