

Econ 613: Applied Econometrics in Microeconomics

Spring 2017

TTH - 10:05AM to 11:20AM

Instructor: Daniel Yi Xu

Old Chemistry 116

This course is designed to provide applied econometric techniques, commonly used in Development, Industrial Organization, Labor, and Public Economics, to Master students in Economics, Public Policy, and Business. Students are expected to have taken at least one or more econometrics/statistics courses at the level of Econ 608D (Introduction to Econometrics).

The main aim of this course is not only to cover basic topics in cross section and panel data econometrics, but also to familiarize students with applications of these econometric techniques to real-world economic questions. The course instruction is divided between theoretical development in textbook and case studies, which are taken from academic publications.

The students will have hands-on experience using STATA to solve 4-5 empirical problem sets.

Course Textbook

Econometric Analysis of Cross Section and Panel Data, Jeffrey Wooldridge, MIT Press

Supplemental Reading

Mostly Harmless Econometrics, Angrist and Pischke, Princeton Press

Teaching Assistant and Office Hour

Tiancheng Chen and Sherry Wu are the teaching assistants for this course. They are available to help you with course material and empirical problem sets.

I will also hold additional office hours during periods of midterm and final exams.

Grading

Your course grade will depend on your performance on problem sets, mid-term exam, and a final exam in the following way:

Class Participation **10%**

Midterm Exam 1: 25%

Midterm Exam 2: 25%

Problem Sets: 20%

Take-Home Final: 20%

There will be no makeup exams. If you miss one of the midterm, the weight of the missed exam will be placed on the other, with a penalty of 30% of your midterm grade. If you miss both midterms, you will automatically fail the course.

Take-home exam will be distributed in class on April 18 and due at the end of day April 21 (Friday).

Preliminary Course Outline (We will update as course proceeds)

1/12-1/24:

Instrumental Variables Estimation of Single-Equation Linear Models

Application: Returns to Schooling

System OLS

Application: U.S. Electricity Generating Plants and Regulation

System Estimation by Instrumental Variables

Application: Demand for Broiler Chicken with time-series data

Problem Set 1

1/26 - 2/9:

Linear GMM

Application: Almost Ideal Demand System

Panel Data Model I: Fixed Effect vs. Random Effect

Application: Competition and Airfare, Returns to Schooling of Twins

Panel Data Model II: Dynamic Panel Data

Application: Production Function Estimation

Problem Set 2

2/14: Midterm Exam I

2/16:

M-Estimation and Numerical Optimization

Brief Review of Maximum Likelihood Method

2/21-2/28:

Discrete Response Model I

Application: Workplace Smoking Ban, Female Labor Force Participation

Discrete Response Model II

Application: Choices of Energy for Heating

Problem Set 3

3/2 – 3/7:

Sample Selection

Application: Heckman Selection Model and its application

3/9: Midterm Exam II

3/14 – 3/16: Spring Recess

3/21 – 3/28:

Program Evaluation

Randomization and Average Treatment Effects

Matching Methods

Application: Job Training Program

Problem Set 4

3/30 - 4/11:

Dif-in-Dif

Application: Minimum Wage, Health Insurance, Disability Benefits

Regression Discontinuity Design

Application: Voting and Policy

Problem Set 5

4/13:

Optional Topics and Final Review

4/18: Final Exam