ECN 140: Econometrics

Course Syllabus

Summer Section II 2018

Instructor: Peter Zhixian Lin

Email: zxlin@ucdavis.edu

Lecture Time / Location: 2:10 pm – 3:50 pm, MTW / Olson Hall 118

Office Hours / Location: 4:00 pm – 6:00 pm, Wednesday / SSH 145

TA & Discussion Sessions:

> Teaching Assistant: Ezgi Kurt
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> Email: ekurt@ucdavis.edu
>
> Office Hours: TBA
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> Discussion Sessions: Sciences Lab 2020; Thursday 2:10 pm – 3:50 pm / 4:10 pm – 5:50 pm

Course Description

Objectives: This course introduces the basic econometric theories and their applications in empirical economic studies. Specifically, the focus is on the estimation and hypothesis tests of the classical linear models. We will also cover some advanced topics such as the dummy variables, functional forms, binary outcome variables, and panel data. The goal of this class is to make you be able to understand the basic econometric theories, and more importantly, to interpret and implement some practical empirical studies. The class also assists you to gain some programming skills on STATA.

Pre-requisites: The pre-requisites of ECN 140 include some basic economics courses (ECN 100; 101; 102), and mathematical courses (MAT 16A & 16B or 21A & 21B, STA 13). Calculus and linear algebra are massively used. Some basic knowledge in the theory of statistics and probability are also pre-required.

Textbook

Introductory Econometrics: A Modern Approach (5ᵗʰ Edition) by Jeffery Wooldridge

I don't require the textbook for everyone, though I think it is very helpful for you to get more practice and details about this class. The lecture will follow the same framework of this book and the most important information will be included in the lecture slides. There are many editions (the most recent is the 6ᵗʰ edition) of this book, and I think any edition later than 3th edition is fine. I will not assign homework directly out of the book.

Software

Students are required to use the statistical package **<u>Stata</u>** in this course. Stata is one of the most commonly used package in economics and very easy to learn and program with. Students are required to use Stata for the data exercises in the problem sets. The discussion sections also cover some basic programing skills of Stata. To get access to Stata, you can use the computers on campus, https://computerrooms.ucdavis.edu/available/ . You can also purchase your personal license through the website https://www.stata.com/order/new/edu/gradplans/student-pricing/; the six-month license of Stata/IC costs $45.

Assignments & Grading

Problem Sets: Problem sets will account for <u>**15%**</u> of your final score. There will be <u>3 problem sets, which are due on each Monday</u>. I will assign the problems in advance and you should turn in the answers at the beginning of class on the day it is due. Problem sets will be graded based on having the correct answer, as well as some process of arriving at the answer. <u>No credit will be given for late submitted homework</u>. You can contact the T.A. for submitting the answer online.

Midterms: We have only one midterm and that will account for <u>**35%**</u> of your final score. The midterm is scheduled in the class on **<u>August 22, Wednesday</u>**. The exam will last 90 minutes. There will be multiple choices questions, short-answer questions, and data analysis questions. A practice midterm will be posted before the exam.

Finals: The final exam will be in the class on **<u>September 12, Wednesday</u>**. It will account for <u>**50%**</u> of your final score. The exam format is same with the midterm. And the final exam will be cumulative, though more weight will be put on the new things. A practice final will be posted before the exam

Other Policies:

a. <u>Grade Letter Curve</u>: I will curve based on the final scores, which are weighted sum of your problem sets scores, midterm, and the final. I would guarantee that you will get at least the grade from a standard distribution. A suggestive letter-scores mapping is as follow: A = 91, A- = 90, B+ = 88, B = 82, B- = 80, C+ = 78, C = 72, C- = 70, D+ = 68, D = 62, D- = 60, F = <60.

b. <u>Make-up Exam</u>: There are no make-up exam, except for some unforeseeable situations, which you should provide documented proof. All exams are not optional, and I will not replace your midterm scores with final exam scores if you miss the midterms.

c. <u>Formula sheet and Calculator</u>: You can bring a 4*6 index card (double-side) with formulas in the midterm, and two index cards in the final. You can only use you own card during the exams and cannot share your card with others. We will provide the calculators for the exam and your own calculators are not allowed.

d. Re-grading: If you request a regrade of any question on an exam, you should submit your request within 1 weeks of the exam being returned. We will review the entire exam, not just that question and your scores might go up or down finally.

Academic Honesty

In fairness to students who put in an honest effort, cheating will be taken extremely seriously. Suspected incidents will be referred automatically to the appropriate administrative place. No cell phones or electronic devices are allowed during exams.

You should also **finish the problem set independently**. You are encouraged to discuss the questions and study in groups, but you should submit your own homework. Identical or highly similar answers will be seriously checked and might be identified as cheating.

Anticipated Course Schedule

Week of …	Monday	Tuesday	Wednesday	Chapters[+]
8/6	Lecture	Lecture	Lecture	Chapter 1, 2, 3
8/13	Lecture/HW 1 Due	Lecture	Lecture	Chapter 4, 5
8/20	Lecture/HW 2 Due	Lecture	Midterm	Chapter 6, 7
8/27	Lecture	Lecture	Lecture	Chapter 8, 9
9/3	Labor Day	Lecture	Lecture	Chapter 13
9/10	Lecture/HW 3 Due	Lecture	Final	Chapter 15

[+] the chapter sequence is based on the *Introductory Econometrics: A Modern Approach* 5th Edition.

Chapter 1   The Nature of Econometrics and Economic Data

Chapter 2   The Simple Regression Model

Chapter 3   Multiple Regression Analysis: Estimation

Chapter 4   Multiple Regression Analysis: Inference

Chapter 6   Multiple Regression Analysis: Further Issues

Chapter 7   Multiple Regression Analysis with Binary (or Dummy) Variables

Chapter 8   Heteroskedasticity

Chapter 9   More on Specification and Data Issues

Chapter 13   Pooling Cross Sections Across Time: Simple Panel Data Methods

Chapter 15   Instrumental Variables Estimation and Two Stage Least Square