Econ 120C, Winter 2017

Causal Inference and Time Series Analysis

Lectures: TuTh 8:00 – 9:20 and TuTh 9:30 – 10:50 at Peterson Hall (PETER) 104

Instructor: Dr. Munpyung O

- Office: Economics 109
- Office hours: Th 11:00am – 12:00pm and 1:00 - 3:00pm or by appointment.
  In addition, the TAs hold office hours and you are strongly encouraged to see them.
- e-mail: munpyung@ucsd.edu

  Please include "**Econ 120C**" in the subject line of your email.

Teaching Assistants

- Martinez Iriarte, Julian, SH (Sequoyah Hall) 228, jum024@ucsd.edu
- Lopez Videla Mostajo, Bruno, SH (Sequoyah Hall) 238, brlopezv@ucsd.edu

Discussion sections:

1. 8:00 class: Martinez Iriarte, Julian
   M 4:00 - 4:50pm and 5:00 - 5:50pm at APM 2301

2. 9:30 class: Lopez Videla Mostajo, Bruno
   M 6:00 - 6:50pm and 7:00 - 7:50pm at TM102 1

Lectures and Discussion Sections: It is important to come to every lecture. If you should miss a class, it is your responsibility to get the notes and any information provided in class. There are weekly discussion sections for this course. You are strongly recommended to attend them since the TAs will review material covered in class and go over practice problems, the kind of problems you may encounter on exams. You will also be able to ask the TA any question about the material covered in the lectures during these discussion sections.

Problem Solving and Economics Tutoring Center (PSET): The Economics Department has made a problem solving and tutoring center available to all students in Econometrics (120ABC) on M-Th evenings and on Sunday. The ability to apply the concepts from class to solve problems is the most important skill we want you master in our core classes. PSET is designed to help you learn to tackle problems successfully by having grad and undergrad TAs there to help you think through a problem - right when you get stuck. If you struggle to tackle your homework, we believe that PSET will be an efficient and effective way for you to learn how to think like an economist.

Tutoring hours for Econ 120C: TBA

Course web page: A course webpage is available at `http://tritoned.ucsd.edu`. It will include information relevant to the course, such as syllabus, announcements, homework assignments,

and more. **You should check this page regularly**.

Course description: As the last of the econometrics sequence, this course is mainly designed to provide the student with the statistical estimation, and hypothesis testing of the panel data and time series data. We are going to build on the material that you learned in Econ 120A and 120B. You'll learn how to estimate these models on real data sets using Stata, a statistical package that you were introduced to in Econ 120A and 120B.

Course Materials

Required textbook: James H. Stock and Mark W. Watson, *Introduction to Econometrics*, 3rd Edition, Updated, Pearson, 2014.

Required Statistical Software: Stata

- Students are not required to buy but encouraged to buy Stata (Stata/IC version 14).
- Students may order Stata online at reduced prices using GradPlan program at http://www.stata.com/order/new/edu/gradplans/course-pricing/
- Students can use STATA in the computer lab in Economics Building 100, and in other computer labs on campus, such as ERC 117.
- Students can also access Stata via the Virtual Lab. See http://acms.ucsd.edu/students/govirtual/index.html for more information.
- There are several free web sites for help on using Stata and those will be provided on our TED page.

Prerequisites: Econ 120B (Econometrics B) or Math 181B (Intro/Math Statistics II)

Problem Sets: Even though they will not be collected or graded, it is VERY important to do them. The problem sets are the best way to learn and be prepared for the exams.

Exams: The midterm will be given in regular class: Tuesday, February 14th. The final will be given Tuesday, March 21, 8:00 - 11:00am for 9:30am class (C00) and Thursday, March 23, 8:00 - 11:00am for 8:00am class (B00). The final exam will be cumulative, but focus more on the material covered after the midterms. All tests are closed book and notes.

Makeup exams: Make-up examinations will be given only under unusual circumstances and only if the student provides official written notification to the instructor no less than two weeks prior to the missed test. Students who miss a test without a valid medical excuse or without an acceptable University excuse will most likely fail the course. If you have a conflict with the scheduled tests it is your responsibility to drop one of the classes.

Grades: The overall score will be computed as follows:
- Quizzes: 15%
- Midterm: 35%
- A comprehensive final: 50%

I reserve the right to modify these weights as needed during the semester.

Disability: If you have a documented disability, please bring your documentation to me as soon as possible so that I can make suitable accommodations for you. If you believe that you have a disability and desire accommodation, please register with the Office for Students with Disabilities.

Class conduct: Each student is expected to contribute and help to maintain a positive classroom environment conducive to learning. Do not socialize or read newspapers during class, and be sure your cell phones are turned off. No text messaging is allowed. If you must arrive late or leave early, do so quietly.

Academic Integrity: Any student found responsible for violating UCSD's academic integrity policy will earn a failing grade for the course. In addition, the Council of Deans of Student Affairs will impose a disciplinary penalty. You can find information on the university's policy on academic integrity at this website: https://students.ucsd.edu/academics/academic-integrity/policy.html

General comments

- Even if I don't explicitly assign reading from the text, it is a good idea to read the chapter before coming to class in order to have some understanding of the concepts to be presented.
- ***This class moves rapidly***. *Cramming* is not an effective way to learn this material. A student who keeps up with the topics as they presented will find the course much more enjoyable and will master the concepts more quickly.
- Attend all lectures. You are responsible for any information given during lectures.
- Please do use my office hours for everything related to the content of the course. If you have doubts about the materials, do not wait until a few hours before the exam.
- Students are encouraged to ask questions in class. You've probably heard this before, but if you have a question, chances are that others in the class have the same question.
- Finally, ask questions before, during, or after class or come to my office if you having any trouble with the course material. Remember the the goal of education is to learn, not to suffer!

Course content and schedule (Changes, if any, will be announced in the class.)

The following course schedule should be considered extremely tentative, and will likely change depending on our pace through the quarter. I reserve the right to modify this schedule as needed during the quarter.

1. Introduction and a brief review (Chapter 1 - 7)

2. Discrete Choice Model. (Ch 11)

3. Instrumental Variable Regression. (Ch 12)

4. Regression with Panel Data (Ch 10)

*5. Experiments and Quasi-Experiments (Ch 13)

6. Time Series Regression (Ch 14, part of Ch 15)