

Econ 120A, Fall 2016

Basic Probability and Statistics Inference

Lectures: RBC Auditorium

- MWF 5:00 – 5:50pm
- MWF 6:00 – 6:50pm

Instructor: Dr. Munpyung O

- Office: Econ 109
- Office hours: F 1:30 – 4:30pm 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 120A**” in the subject line of your email.

Discussion sections: Solis 104

- F 7:00 - 7:50pm, Noh, Eul, Econ 120, e1noh@ucsd.edu
- F 8:00 - 8:50pm, Sun, Fanglin, SH 206, f4sun@ucsd.edu
- Th 7:00 - 7:50pm, Liao, Yanjun, SH 234, yal005@ucsd.edu
- Th 8:00 - 8:50pm, Choi, Wonhyong, SH 205, woc001@ucsd.edu

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 the weekend . 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 120A;

Monday	7:00 - 8:30, Yoshihara, Moto
Tuesday	5:30 - 7:00, Sun, Fanglin
Wednesday	7:00 - 8:30, Noh, Eul
Thursday	5:30 - 7:00, Liao, Yanjun
Sunday	3:30 - 5:00, Choi, Wonhyong

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, solutions and more. You should check this page regularly.

Course description: As the first of the econometrics sequence, this course is designed to provide the student with the statistical fundamentals of probability, estimation, and hypothesis testing that are necessary to understand the other Econometrics courses and theory/field courses. Students will be expected by the end of the course to understand the foundations of modern statistical analysis in preparation for 120B and 120C.

Textbook: T. H. Wonnacott and R. J. Wonnacott, *Introductory Statistics for Business and Economics*, John Wiley and Sons, Fourth edition, 1990. There is also a custom version of the book made for UCSD students. This book is exactly the same as non-custom version, only less expensive.

Statistical Software: Stata

- Students are not required to buy but encouraged to buy Stata (Stata/IC version 14).
- This software will be used in 120B and 120C as well.
- Stata is available at computer labs.
- Students may order Stata online at reduced prices using GradPlan program at <http://www.stata.com/order/new/edu/gradplans/course-pricing/>

Prerequisites: 1. Econ1 (Principles of Microeconomics)
and 2. Math 10C (Calculus III) or Math 20C (Calculus & Analyt Geom/Sci& Engnr)
or Math 31BH (Honors Multivariable Calculus)

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: Two midterms will be given in regular class: Monday, October 17th and Wednesday, November 9th. The final will be given Thursday, Dec. 8, 7:00 - 9:59pm for 5:00 class (A00) and Monday, Dec. 5, 7:00 - 9:59pm for 6:00 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:

- Two midterms: $30\% \times 2 = 60\%$
- A comprehensive final: 40%

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

120AH: If you earn an A/A- grade in my class this quarter, I recommend that you take the one-unit honors class 120AH. Honors classes are capped at 20 students and you will get to know the faculty member well (important for getting letters of recommendation). These classes typically have you give a short presentation and write a short paper. Presenting and writing in the major are two valuable skills that are challenging for us to offer in large classes. I recommend you take advantage of the 120AH opportunity.

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.

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. (Week 0) Introduction: Chapter 11.1
 - Motivation: Regression examples
 - Statistical decision making
2. (Week 1 - 3) Descriptive Statistics: Chapter 1, 2
 - Population vs Sample
 - Data collection and sampling
 - Data description: Organizing, summarizing, and presenting data
 - Exploratory data analysis
3. (Week 3 - 6) Inferential statistics 1 - Random variables and distributions: Chapter 3, 4, 5
 - Data and randomness
 - Random variable
 - Distribution - A characterization of random variable
 - Use of random variables
 - Two random variables
4. (Week 6 - 10) Inferential statistics 2: Chapter 6, 7, 8, 9
 - Sampling distribution and sample statistics
 - Law of Large Numbers and Central Limit Theorem.
 - Estimation
 - Hypothesis testing