

ECONOMETRICS 120A

The course introduces students to the science of statistics, building student skills in the analysis of data and introducing the formal methods used by statisticians to learn about the real world. As a building block students will be introduced to basic probability theory. We will gain an understanding of the collection of data and the problems and opportunities this affords. Students will be expected by the end of the course to understand the foundations of modern statistical analysis in preparation for 120B and 120C.

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Economics #210

Office Hours: M, W, F 3:00pm - 4:00pm

TAs 8:00 AM Section

John McAdams Email: jmcadams@ucsd.edu

Sequoyah #226 Office Hours: T 9:00am - 10:00am

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Sequoyah #244 Office Hours: TH 9:00am - 10:00am

TAs 10:00 AM Section

Hiroaki Kaido Email: hkaido@ucsd.edu

Sequoyah #232 Office Hours: TH 11:00am - 12:00am

Yi Zhan Email: yzhan@ucsd.edu

Sequoyah #234 Office Hours: T 2:00pm - 3:00pm

Textbook “Introductory Statistics for Business and Economics” by T.H. Wonnacott and R.J. Wonnacott, Fourth Edition or Fifth Edition, John Wiley and Sons: New York. 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.

Course Outline

Part I (Chapters 1, 2, 11.1 and 11.2) Introduction to descriptive statistics (mean, median, variance, frequencies, etc) and graphical analysis.

Part II (Chapters 4 and 5) Discrete and continuous Random Variables. Multiple Random Variables and their transformations. *Note:* Chapter 3 will not be covered. Please read this chapter even though it is not directly examined the remaining chapters use some of its materials.

Part III (Chapters 6 and 7) Sampling and Point Estimation. Law of Large Numbers and Central Limit Theorem. Unbiasedness and Efficiency.

Part IV (Chapters 8 and 9) Hypothesis Testing and Confidence Intervals. Critical and p values. Type I

and Type II errors. Duality of Hypothesis Testing and Confidence Intervals.

Part V (Time Permitting) Additional Issues in Economics. Selection Problems. Endogeneity and simultaneous equations.

Grading There will be a number of Problem Sets, two Midterm Examinations and a Final Exam.

Problem Sets: (10% of Final Grade) There will be a total of 4 problem sets. It is VERY important to do problems in this course, as this is the best preparation for both learning and the exams. Assignments are due in class the day specified. Please do not interrupt class or come to my office to hand in assignments (I do not grade them, they might get lost). Late assignments will not be accepted since the answer key is immediately posted on the web.

Midterms: (50% of Final Grade) There will be two midterms for the course. The first one will take place on October 24 and correspond to 20% of the final grade. The second midterm will be on November 14 and correspond to 30% of the final grade.

Final: (40% of Final Grade) date and room to be announced.

Exam policies: You may use a calculator, a simple one is enough. All grading problems (exams and problem sets) must be rectified within a week of being returned. There will be no regrading of exams written in pencil. Makeup exams will only be given if absence is due to medical reasons (Doctors certificate required). In general, makeup exams will be at least as difficult as the regular exam, most likely harder.

Webpage It can be found on WebCT. All problem sets and answer keys will be posted here.

Software All of the statistics in this course can be done using the Microsoft Excel spreadsheet program, which is available in the computer laboratory in Econ 100. You may use other econometric or statistical software. Data, Problem sets and solutions will also be available from the class webpage.