

ECONOMETRICS 120A

dss.ucsd.edu/~a2santos/Econ120a.htm

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 from data. 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 C which will concentrate on developing methods of statistical analysis extending the concepts covered in this class.

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Office Hours: M, W, F 1:00 - 2:00

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 specially to 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 9 and 8) Hypothesis Testing and Confidence Intervals. Critical and p values. Type I and Type II errors. Duality of Hypothesis Testing and Confidence Intervals. *Note:* Chapter 9 will be covered before Chapter 8.

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: (20% of Final Grade) It is important to do problems in this course, 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: (20% of Final Grade each) They will take place in class on October 22 and November 12.

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.

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.