

ECONOMETRICS 120A

Instructor:

Martin Santamaria
114 Economics

Email: misantamaria@ucsd.edu

Office Hours: W 11AM-12:30 PM

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.

If you earn an A/A- grade in my class this quarter, I recommend that you take the one-unit honors class 120AH in the fall. 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.

Course Outline

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

Part II (Chapters 3, 4 and 5) Discrete and continuous Random Variables. Multiple Random Variables and their transformations.

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

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) Selection Problems. Endogeneity and simultaneous equations

Lecture and discussion section

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 the class. There is a weekly discussion section for this class. The TA will review material covered in class and go over solutions to problem sets as well as practice problems. While attendance is not mandatory, it is STRONGLY encouraged. You may find them HIGHLY beneficial, especially if you are confused with the material being covered in class.

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.

Additional Practice Problems

On addition to the practice problems you will find on the book I will assign additional practice problems. Even though they will NOT be collected or graded, it is VERY important to do them. The problem sets and additional practice problems are the best way to learn and be prepared for the exams.

Grading

There will be one Midterm Exam and a Final Exam. Your grade will be determined as follows:

40%	Midterm Exam
60%	Final Exam

Midterm: (40% of Final Grade) The midterm will take place on Monday August 22nd and corresponds to 40% of the final grade. The midterm will take place in class during the usual lecture time and classroom.

Final: (60% of Final Grade) The final is on Saturday September 3rd, from 8am until 11am. Room will be announced when assigned by the Registrar.

Exam policies: You may use a calculator, a simple one is enough. All grading problems must be directed to the TA and rectified within a week of the exam being returned. You will have to show full work and derivations to receive full credit.

Administrative Issues

1. If you have a documented disability, please come to talk 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.
2. Students found guilty of academic dishonesty will earn a failing grade for the course. In addition, the Council of Deans of Student Affairs will impose a disciplinary penalty.
3. There are no make up exams. If you need to miss a midterm for a verifiable medical/legal reason, the rest of the exams will be reweighed so they account for 100% of your grade. Failure to notify me promptly that you must miss a midterm will result in a zero grade for that midterm. Unexcused absences will also result in a zero.

Teaching Assistants

Liao, Yanjun
SH 234

Email: yal005@ucsd.edu
Office Hours: Thursday 1-3pm

Class Web Page

A course web page is available at <https://tritoned.ucsd.edu/>. It will include information relevant to the course, such as announcements, homework assignments, information on Stata lab and tutorials, practice problem sets and tests, solutions, syllabus, schedule and more. You should check this page regularly.