

Economics 7818
Dr. Waldman
Room 108

August, 2014
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T 4:45 - 6:00 pm, W 8:30 - 10:00 am, and by appointment

Course Information

General: Economics 7818 is a course in mathematical statistics for economics Ph.D. students. It is followed by Economics 7828, a course in regression analysis. Together, Econ 7818 and 7828 are the core courses required for taking the preliminary exam in quantitative methods.

Prerequisites: An undergraduate course in statistics; calculus, to the level of multiple integration with transcendental functions (*e.g.* \log , e^x , etc.); the ability to manipulate and simplify algebraic expressions, and (most importantly) the ability to think abstractly.

Requirements: There will be two lectures weekly, meeting Tuesday and Thursday from 3:30 to 4:45 p.m. in Economics Rm. 119. There will be two midterm exams, in class Thursday, September 25 and Thursday, October 30, a final exam, Wednesday, December 18, 4:30-7:00 p.m., and weekly problem sets (usually, practice problems from the text) throughout the semester.

Grading: Grades will be determined approximately as follows:

Midterms:	40%
Final exam:	35%
Problem Sets:	25%

Texts: Introduction to Statistics and Econometrics, Takeshi Amemiya, Harvard, 1994.

Tentative Course Outline: We will cover, roughly in order, some or all parts of the first nine chapters of the text. After a brief introduction of what empirical economists do, we will discuss probability; univariate and multivariate discrete and continuous distributions (especially the normal distribution); mathematical expectation; sampling distributions; large sample (asymptotic) concepts; methods of estimation; and hypothesis testing.

Practice Problems: The end-of-chapter exercises are valuable learning experiences, but it is not expected or required that you do all of them. I will assign some of these problems, as well as some problems of my own, for problem sets. Answers to selected problems will be posted after assignments are due.

Problem sets will be posted on the course website. Written answers to problems are to be submitted before the answers are posted. These will be selectively graded, and returned. I will take some midterm and final exam questions from problem set exercises.