SYLLABUS FOR E504
Theory of Prices and Markets
Fall 2009

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TIME (CLASSROOM): M 6:00 p.m. to 8:40 p.m. UC 2118.
OFFICE HOURS: M 4:30 p.m. to 5:30 p.m., W 1:30 p.m. to 2:30 p.m.


GRADING: Based on ten class assignments, which carry 25% of the grade, a Midterm that carries 35% of the grade, a Final that carries 40% of the grade.

OBJECTIVES: The course is designed to introduce the graduate students to the some basic mathematics used by economists at the advanced level. The two-thirds of the course is comprised of the topics in matrix algebra, calculus and optimization theory. The last third of the course takes the students on a selected tour of modern decision theory and introduces them to several topics in markets and games. The course is thus designed to expose students to the mathematical tools used by economists with applications to decision theory and the theory of games.
A. Matrix Algebra
Matrix and Vector Algebra
Chapter 15 (SH) (15.1 through 15.5), August 31
Matrix and Vector Algebra
Chapter 15 (SH) (15.6 through 15.9) September 14
Determinants and Inverse Matrix
Chapter 16 (SH) (16.1 through 16.5) September 21
Determinants and Inverse Matrix
Chapter 16 (SH) (16.6 through 16.9) September 28

B. Optimization
Single-variable Optimization
Chapter 8 (SH) October 5
Tools for Comparative Statics
Chapter 12 (SH) October 12
Multivariable Optimization

MIDTERM October 19

Chapter 13 (SH) & Chapter 2 (AC) October 26
Multivariable Optimization
Chapter 13 (SH) & Chapter 2 (AC) (contd.) November 2
Constrained Optimization
Chapter 14 (SH) & Chapter 2 (AC) November 9
Constrained Optimization
Chapter 14 (SH) & Chapter 2 (AC) (contd.) November 16
C. Decision Theory and Game Theory

Decisions and Games, Chapter 2(AC), November 23
Chapter 2(AC) (contd.), November 30
Sequential Decisions, Chapter 3 (AC) December 7
Sequential Games, Chapter 4 (AC) December 14

Final: 6:00 p.m. to 8:00 p.m. December 21