SYLLABUS: ECON7808

Econ 7808-001
Professor Byung-Joo Lee
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Quantitative Methods in Economics
Fall 1993
Office Hours: Tue./Thu. 11:00-12:30
1/2: 1/5 - 1: 4/5

DESCRIPTION: The main purpose of this course is to provide mathematical tools generally used in graduate economic theory and econometrics, as well as other economic courses. It consists of three parts: Matrix Algebra, Static Analysis and Dynamic Analysis. Each part will serve a basic tool for econometrics, micro economic theory and macro economic theory, respectively.

PREREQUISITE: Satisfactory completion of Econ7800 and/or its equivalent preparation.

TEXTBOOKS:

ORGANIZATION: Two lectures per week. One midterm and one final will be given. Several problem sets throughout the semester.

GRADING: Each exam will be counted equally.

TENTATIVE COURSE SCHEDULE

1. Matrix Algebra (Chiang-1, Chapters 4 and 5)
   Basic Operation
   Properties
   Linear Regression Model

2. Mathematical Preliminaries
   Elementary Real Analysis

3. Static Analysis (Chiang-1, Chapters 8-12, 19-21)
   Comparative Statics
   Multiple Variable Optimization
   Optimization with Equality Constraints
   Optimization with Inequality Constraints

4. Dynamic Analysis (Intrilligator, Chapters 11-14, Chiang-2, 2-4, 7-9)
   Calculus of Variation (Chiang-2: 2-4)
   Elementary Differential Equations (Chiang-1: 14-15)
   Optimal Control Problem (Chiang-2: 7-9)