

Mathematics for Economics

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1. Purpose of the course

This course is intended to assist economics majors in becoming comfortable with the basic mathematical tools used in economic analyses. Mathematical concepts are developed in the context of economics and applications are drawn from a wide range of fields in economics including microeconomics, macroeconomics, economic growth, international trade, international finance, labor and environmental economics, industrial organization and development economics. The course covers equations, functions, sets, matrix, algebra, total and partial differentiation, as well as comparative static analysis in the context of partial and general equilibrium models.

2. Outline

Ch2. Economic Models

Ch3 Equilibrium Analysis in Economics

Ch4. Linear Models and Matrix Algebra

Ch5. Linear Models and Matrix Algebra (Continued)

Ch6. Comparative Statics and the Concept of the Derivative

Mid-term

Ch7. Rules of Differentiation and their use in Comparative Statics

Ch8. Comparative-Static Analysis of General-Function Models

Ch9. Optimization: A Special Variety of Equilibrium Analysis

Ch10. Exponential and Logarithmic Functions

Ch12 Optimization with Equality Constraints

Final Exam

3.Requirements

Assignments (30%)

Mid-term exam (30%)

Final Exam (40%)

4.Textbook

Chiang, A.C. and Wainwright, K., “Fundamental Methods of Mathematical Economics,” 4th edition (McGraw Hill inc., 2005).