

SYLLABUS

ECONOMICS 319 UNCG SPRING 2003

INSTRUCTOR

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Office Hours T TH 9-11 or by appointment

COURSE LOCATION AND TIMES

MWF 9:00 – 9:50 room 105

COURSE OBJECTIVES

The purpose of this course is to teach you the fundamental mathematical methods used in economics, finance and business. Mathematical economics is not a distinct branch of economics like public finance or international trade. It is an approach to economics that expresses economic theories in terms of mathematical models. This course will provide much of the mathematics background for upper level electives in economics and business at UNCG. This course will also be especially helpful for students interested in pursuing graduate studies in economics, business, or the social sciences.

TEXTBOOK

There is one required text for this course: *Fundamental Methods of Mathematical Economics*, third edition, by Alpha C. Chiang.

GRADING

Your final grade in this course will be determined as follows:

| | |
|---------------------|----------|
| Quizzes | 15% |
| Three hourly exams | 15% each |
| Comprehensive Final | 40% |

COURSE OUTLINE

- A. Review: Chapters 1 and 2.
- B. Static Equilibrium Analysis: Chapter 3
- C. Matrix Algebra and Linear Models: Chapters 4 and 5

EXAM ONE

D. Comparative Static Analysis: Chapters 6- 8

EXAM TWO

D. Classical Optimization Analysis: Chapters 9-11

EXAM THREE

E. Constrained Optimization Analysis: Chapter 12

FINAL EXAM

DETAILED COURSE OBJECTIVES

1. Solve supply and demand models for equilibrium price and output and illustrate the solution graphically. Solve national income models for equilibrium output and understand the concept of the multiplier.
2. Be able to write and solve economic models expressed in matrix notation.
3. Explain what a derivative is and know its geometric representation.
4. Be able to use partial derivatives to do comparative static analyses for supply and demand models and national income models.
5. Explain what marginal analysis is and be able to use first and second derivatives to do optimization problems, such as profit maximization and cost minimizing problems.
6. Understand exponential and logarithmic functions and the concepts of growth, decay, and elasticity.
7. Be able to form and solve constrained optimization problems, such as cost minimization subject to an output constraint and utility maximization subject to a budget constraint.