

**BOSTON COLLEGE**  
Department of Economics

EC311 – Spring 2002  
Math for Economists

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This is an introductory course in mathematical economics. The goal is to learn the basic mathematical tools that are used in the analysis of economic problems. We will concentrate on matrix algebra and differential calculus.

EC201 – EC202 (or EC203 – EC204) and MT100 (or its equivalent) are prerequisites for the course. Students who wish to take EC311 concurrently with any of the prerequisites should speak with me before the end of the drop-add period.

You are responsible for all material covered in class and the assigned reading. The text, *Fundamental Methods of Mathematical Economics*, 3<sup>rd</sup> ed., by Alpha Chiang is available in the bookstore.

Course grades will be based on your performance on written exams, problem sets, and class participation.

- Mid-term exams are scheduled for **February 13 and March 22**. The comprehensive final exam is scheduled for **May 8 at 9:00 a.m.** Please notify me immediately if you are unable to take an exam; make-ups will be given only for excused absences and verification of the excuse may be required (see A&S policy on make-ups on page 39 of the 2001 - 2002 *Boston College Bulletin*).
- Problem sets will be distributed during the semester. The dates on which they will be distributed and on which they will be due will be announced in class. If you are not in class on the relevant days, you should arrange for someone to pick up the questions or turn in your paper for you. Homework that is turned in late will be penalized (the later it is, the greater the penalty), and homework will not be accepted once the answer sheets have been distributed. You are encouraged to work together on problem sets, but you must submit independent "write-ups."
- Class participation includes class attendance. If you are unable to attend class for a prolonged period of time, please have your class dean notify me (see A&S policy on class attendance on page 39 of the *Bulletin*).
- The weights for the various components of the grades will be: midterms - 25% each, final - 30%, problem sets - 10%, and class participation - 10%.
- The University grading system and the A&S policy on academic honesty apply. These may be found on pages 31 and 39-40 of the *Bulletin*.

My office is Carney 145; the telephone number is 552-3786. My e-mail address is catherine.schneider@bc.edu. Office hours will be Monday, 1:00 – 2:30; Tuesday, 9:30 - 11:30; Thursday, 1:00 - 2:30; and by appointment.

## SYLLABUS

### I. Introduction

- A. Administrative Matters (1/14)  
Chiang, Ch. 1, 2, and 6.5  
Greek Alphabet, p. 756
- B. Exponential and Logarithmic Functions (1/16 – 18)  
Chiang, Ch. 10.1 – 10.4

### II. Equilibrium Analysis

- A. Equilibrium Values for Simple Models (1/23 - 25)  
Chiang, Ch.3
- B. Matrices and Vectors (1/28 – 2/1)  
Chiang, Ch. 4
- C. Equilibrium Values for Linear Models (2/6 – 11)  
Chiang, Ch. 5

### III. Comparative Statics

- A. Derivatives and Limits (2/15 – 20)  
Chiang, Ch. 6
- B. Differentiation (2/22 – 3/1)  
Chiang, Ch. 7, 10.5
- C. Differentials (3/11 - 18)  
Chiang, Ch. 8
- D. Applications of Exponential and Logarithmic Functions (3/20)  
Chiang, Ch. 10.6 – 10.7

### IV. Optimization

- A. Optimization with a Single Choice Variable (3/25 – 4/3)  
Chiang, Ch. 9
- B. Optimization with Multiple Choice Variables (4/5 - 17)  
Chiang, Ch. 11
- C. Constrained Optimization (4/19 – 29)  
Chiang, Ch. 12