

BOSTON COLLEGE
Department of Economics

EC311 – Spring 2003
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 are taking EC311 concurrently with any of these courses 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, *Mathematics for Economics*, 2nd ed., by Michael Hoy et al 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 14 and March 19 (or 21)**. The comprehensive final exam is scheduled for **May 7 at 12:30 p.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 32 of the 2002 - 2003 *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 32 of the *Bulletin*).
- The weights for the various components of the grades will be: midterms - 25% each, final - 35%, problem sets - 10%, and class participation - 5%.
- The University grading system and the policy on academic honesty apply. These may be found on pages 30-31 and 36 of the *Bulletin*.

My office is in the new Administration Building, Room 468; 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 (1/13)
Hoy, Ch. 1
 - B. Functions (1/15)
Hoy, Ch. 2.4 (skim the rest of the chapter)
 - C. Sequences and Series (1/17 – 1/22)
Hoy, Ch. 3

- II. Univariate Calculus and Optimization
 - A. Continuity (1/24 – 1/27)
Hoy, Ch. 4
 - B. Derivatives and Differentials (1/29 – 2/5)
Hoy, Ch. 5
 - C. Optimization (2/7 – 2/12)
Hoy, Ch. 6

- III. Linear Algebra
 - A. Systems of Equations (2/17 – 2/21)
Hoy, Ch. 7
 - B. Matrices (2/24 – 2/28)
Hoy, Ch. 8
 - C. Determinants and Inverses (3/10 – 3/17)
Hoy, Ch. 9

- IV. Multivariate Calculus
 - A. Functions of n-Variables (3/21 – 3/31)
Hoy, Ch. 11
 - B. Optimization (4/1 – 4/7)
Hoy, Ch. 12
 - C. Constrained Optimization (4/9 – 4/14)
Hoy, Ch. 13
 - D. Comparative Statics (4/16 – 4/28)
Hoy, Ch. 14