

# Course Syllabus

## Math 160 - Finite Mathematics

Summer Term 2001

Sect 01: 10:00 - 11:50 am, MTWR, S137

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### Text:

*Finite Mathematics for Business, Economics, Life Sciences, and Social Sciences*, 8<sup>th</sup> edition.  
Raymond A. Barnett, Michael R. Ziegler, Karl E. Byleen. Copyright 1998, Prentice-Hall Inc.

### Student Audience:

Most students taking Finite Mathematics are business or accounting majors and are planning on taking introductory statistics. Most will transfer to another school.

### Prerequisite:

The prerequisite is successful completion of Math 116, College Algebra, equivalent competencies, or the consent of the Academic Director of the Arts & Sciences Division.

### Course Description:

Mathematics 160, Finite Mathematics, is an introductory level course covering mathematical ideas needed by students of business management, social science, or biology. The topics include sets and counting, functions, introduction to probability and statistics, interest and annuities, matrix theory, linear systems, and linear programming.

Applicable toward graduation where program structure permits:

Certificate or Degree - All Certificates, A.A.S., A.L.S., A.A., A.S.

Group Requirement - Mathematics

Area of Concentration - Mathematics

### Illinois Articulation Initiative (IAI)

The mathematics component of general education focuses on quantitative reasoning to provide a base for developing a quantitatively literate college graduate. Every college graduate should be able to apply simple mathematical methods to the solution of real-world problems. A quantitatively literate college graduate should be able to:

- " interpret mathematical models such as formulas, graphs, tables, and schematics, and draw inferences from them;
- " represent mathematical information symbolically, visually, numerically, and verbally;
- " use arithmetic, algebraic, geometric, and statistical methods to solve problems;
- " estimate and check answers to mathematical problems in order to determine reasonableness, identify alternatives, and select optimal results; and
- " recognize the limitations of mathematical and statistical models.

Courses accepted in fulfilling the general education mathematics requirement emphasize the development of the student's capability to do mathematical reasoning and problem solving in settings the college graduate may encounter in the future. General education mathematics courses should not lead simply to an appreciation of the place of mathematics in society, nor should they be merely mechanical or computational in character.

To accomplish this purpose, students should have at least one course at the lower-division level that emphasizes the foundations of quantitative literacy and, preferably, a second course

that solidifies and deepens this foundation to enable the student to internalize these habits of thought.

*Math 160, Finite Mathematics, satisfies the Illinois Articulation Initiative Definition of a General Education Mathematics Course. It corresponds to M1 906, Finite Mathematics.*

**Course Objectives:**

Upon successful completion, the student will demonstrate proficiency and understanding in the following topics: Matrices and matrix algebra; solving systems of equations using matrix methods; linear programming; Simplex method; applications of matrices; counting, set, and probability theory; stochastic processes; game theory; Markov chains; and the mathematics of finance.

**Attendance Policy:**

Regular attendance is essential for satisfactory completion of this course. If you have excessive absences, you cannot develop to your fullest potential in the course. Students who, because of excessive absences, cannot complete the course successfully, will be administratively dropped from the class at midterm. If a student stops attending after midterm, it is the student's responsibility to withdraw to avoid an "F".

The student is responsible for all assignments, changes in assignments, or other verbal information given in the class, whether in attendance or not.

If a student must miss class, a call to the instructor (RCC's phone system has an answering system) is to be made, or an email message sent. When a test is going to be missed, the student should contact the instructor ahead of time if at all possible. Under certain circumstances, arrangements can be made to take the test before the scheduled time. If circumstances arise where arrangements cannot be made ahead of time, the instructor should be notified and a brief explanation of why given by either voice or email. This notification must occur before the next class period begins. At the instructor's discretion, the score on the final exam may be substituted for the missed exam.

**Grading Policy:**

Grades will be assigned on the basis of performance, attendance, and attitude. Performance will be measured by exams, quizzes, homework, and application projects. The grading scale is as follows: 90 - 100% A; 80 - 89% B; 70 - 79% C; 60 - 69% D; 0 - 59% F. Any student who stops attending without dropping will either be dropped administratively or receive a grade of "F".

Application projects are worth 20 points and exams are worth 100 points. There will be a cumulative final worth 200 points. The application projects will involve taking classroom learning and applying it to real-world situations. You should keep a notebook that contains every problem worked in class as well as any comments that are appropriate. In general, it should contain everything written on the chalkboard. Be sure to bring your notebook if you come to the instructor or a tutor for help.

**Type of Instruction:**

Lecture, discussion, problem solving, and group work will be used. Students should come to class with a prepared list of questions.

**Calculator:**

The [TI-82](#) or TI-83 graphing calculator will be incorporated into the course heavily. Use of this calculator will allow the student to concentrate on the concepts being taught instead of the mechanical steps to solving the problems. It will allow the student to solve more problems in less time, and more difficult problems which would be too time consuming by hand.

**Miscellaneous:**

Help is available from the instructor during [office hours](#) or by appointment. Walk-ins are welcome whenever I am in my office. Many of the class activities will be group, use the other members of your group as a resource. There is help available through the Student Learning Center ([S116](#)). If you need help, please get it as soon as possible, rather than waiting until it is too late.