

SYLLABUS FOR M118 FINITE MATHEMATICS  
Adopted Fall 2007

Book: Finite Mathematics by Raymond Barnett, Michael Ziegler & Karl Byleen; Prentice Hall, 11<sup>th</sup> Edition; ISBN: 0-13-225570-7

Prerequisite: 2 years of high school math including algebra, placement by exam, or M117

Calculator: Students should be required to have some form of a graphing calculator. TI-83 or 84 is recommended (used for in class demonstrations)

Online homework (MathXL) is available with this textbook. There is also a test bank (TestGen) which is good and easy to use. A Final Review with answers can be found at <http://homepages.ius.edu/pmiller/ReviewForFinals.htm> or in the school office.

Grading: Each instructor may choose a grading scheme that best suits his/her particular teaching style. We do require that the final exam be counted as 25% of the semester grade and students who score below 60% on the final cannot receive a grade higher than C. The instructor is responsible for grading the exams for his/her section with the completed exams and assessment forms returned to the math department.

M118 Course Objectives:

By the end of this course, students should be able to:

- Solve financial problems
- Solve systems of linear equations and inequalities with graphs and matrices
- Determine the probability of events
- Describe and analyze data graphically and numerically
- Use graphing calculator technology to compute, graph, model, and solve problems

Sections to be covered:

Chapter	Sections	Comments
3	1-4	Mathematics of Finance: students may use the “TVM Solver” on the TI-83/84 calculator
4	1-5	Systems of Linear Equations, Gauss-Jordan, and Matrix Operations
5	1-3	Linear Inequalities and Linear Programming (Geometric Approach)
7	2-4	Sets and Counting
8	1-5	Probability
11	1-5	Data Description and Probability Distributions.

## General Syllabus for M118 Finite Mathematics

**Instructor:**

**Time & Location:**

**Office:**

**Voice Mail Number:**

**Office Hours:**

**E-mail:**

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**Students with Disabilities:** If you have specific physical, psychological or learning disabilities and require accommodations, please let me know early in the semester so that your learning needs may be appropriately met. You will need to provide documentation of your disability to the Coordinator of Disability Services located in the University Center South, Room 207, 941-2243. Additional information about the Office of Services for Students with Disabilities may be obtained at: <http://www.ius.edu/ASC/DisabilityServices/>

**Grading Policy:** *In addition to other policies outlined by each instructor:*

The Final Exam is to count at least 25% of the course grade and students who score below 60% on the final exam may not receive a grade higher than a "C" for the course (C+ is not an option).

**Review for Final Exam:** <http://homepages.ius.edu/pmiller/ReviewForFinals.htm>

### **Homework Policy:**

**Attendance Policy:** Attendance is a key factor in academic success. Class attendance is required. Illness is usually the only acceptable excuse for absence from class. Other absences must be explained to the satisfaction of the instructor, who will decide whether missed assignments may be made up. A student absent from class bears full responsibility for all material covered in class. *Individual instructors can include particular requirements and/or penalties for absences.*

## **Makeup Policy:**

**Studying for the Class:** This is a college class and is much different than one taught in high school. We cover a lot of material and have limited time in class. **You should expect to spend at least two hours studying outside of class for each hour spent in class.** You cannot expect to master the material from just seeing it explained and working in class. An important part of your learning of the material will be the time you spend working out of class.

## **Help Outside of Class:**

- **Math Lab:** Location: Life Sciences, Room 101; 941-2670. Students may walk in and use the facilities at any time (free of charge) without an appointment. Tutor schedule is online at <http://www.ius.edu/mathlab/> and the bulletin board by the lab. Computer software from the textbook is installed on each computer.
- **Private Tutors:** Please visit the Student Development Center, University Center South, Room 203, to sign-up for a tutor. Most students get a tutor within 24 hours. The cost is \$5.00 per hour (non-refundable) and must be paid for in advance. For more information go to: <http://www.ius.edu/sdc/main/assist1.htm>

**Bad Weather Policy:** When there is bad weather in the area, a decision is made about whether the campus should be closed or open on a delayed schedule as soon as possible. The decision is independent of the decisions of school corporations and the other colleges in the area. Off-campus classes do not meet if campus is closed or if the school building in which they are held is closed.

## **Delay Schedule:**

### **Monday through Friday classes:**

8 a.m. classes meet from 10 a.m. until 10:55 a.m.  
9:30 a.m. classes meet from 11 a.m. until 11:55 a.m.  
11 a.m. classes meet from 12 noon until 12:55 p.m.  
Other classes meet at regular times.

### **Saturday Classes:**

Morning classes meet from 10:30 a.m. until 12 noon.  
Afternoon classes meet at regular times.

**Daily Schedule:** *There is a possible daily schedule below. This is only a suggestion. As long as you cover the sections indicated during the semester, you may structure the organization of the course as you wish.*

**Note:** *some instructors prefer to start with chapter 4 and return to chapter 3 at the end of the semester*

<b>Day</b>	<b>Sections</b>	<b>Topics</b>
1	3.1	Simple Interest
	3.2	Compound Interest
2	3.3	Future Value of an Annuity; Sinking Funds
3	3.4	Present Value of an Annuity; Amortization
4	4.1	Systems of Linear Equations in Two Variables
5	Test 1: Chapter 3	
6	4.2	Systems of Linear Equations and Augmented Matrices
7	4.3	Gauss-Jordan Elimination
8	4.4	Matrices: Basic Operations
9	4.5	Inverse of a Square Matrix
10	5.1	Inequalities in Two Variables
	5.2	Systems of Linear Inequalities in Two Variables
11	5.3	Linear Programming in Two Dimensions – Geometric Approach
12	7.2	Sets
	7.3	Basic Counting Principles
13	Test 2: Chapters 4 - 5	
14	7.4	Permutations and Combinations
15	8.1	Sample spaces, Events, and Probability
16	8.2	Union, Intersection, and Complement of Events; Odds
17	8.3	Conditional Probability, Intersection, and Independence
18	8.4	Bayes' Formula
19	8.5	Random Variable, Probability Distribution and Expected Value
20	11.1	Graphing Data
21	Test 3: Chapters 7 - 8	
22	11.2	Measures of Central Tendency
23	11.3	Measures of Dispersion
24	11.4	Bernoulli Trials and Binomial Distributions
25	11.5	Normal Distributions
26	Review	
27	Test 4: Chapter 11	
28	Review for Final Examination	

**Comprehensive Final Examination:** time & date

**Note:** If a student fails the final exam, the maximum course grade possible is a C.

Below is a list of suggested textbook exercises (if you are not using MathXL online homework):

Section	Exercises
3.1	1,3, 5, 9, 19, 21, 23, 27, 33, 37, 39, 41, 45, 49
3.2	33, 35, 41, 43, 47, 51, 57, 61, 63, 65, 67, 71a,75, 77, 87, 91
3.3	21-33 (all odd), 39-43 (all odd)
3.4	21-27 (all odd), 31, 33, 35, 37, 41, 45, 47
4.1	5, 9-7 (all odd), 53-59 (all odd),63
4.2	11, 41, 45, 47, 51, 53, 61
4.3	11, 14, 17, 19, 31, 35, 39, 47, 49,65, 67, 69,75, 87
4.4	3, 5, 27-43 (all odd), 51, 53, 55, 57, 58, 61, 63, 69a &b, 71a & b
4.5	5, 7, 11, 13, 31, 37, 41, 49, 53, 57, 65, 67, 71
5.1	1, 3, 5, 9, 39
5.2	1, 3, 7, 13, 15, 21, 23, 27, 39, 43, 45
5.3	9, 19, 21, 23, 31, 35, 37, 41
7.2	1-19 (all odd), 29-39 (all odd), 59, 61, 63, 65, 73-83 (all odd),
7.3	13, 15, 19, 21, 23, 35, 37, 41, 49,53, 55, 57, 63, 65
7.4	3, 5, 17, 21, 23, 25, 31, 33, 37, 39, 41, 61, 63, 65, 67
8.1	5- 33 (all odd), 39 - 59 (all odd), 69-83 (all odd), 89, 91, 95
8.2	1-33 (all odd), 41-47 (all odd), 51-57 (all odd),71-79 (all odd), 81, 83
8.3	1-9 (all odd), 13, 15, 17, 23, 29, 31, 33, 37, 39, 49, 51, 59,61, 65
8.4	1,3,5, 11, 13, 15, 23, 25, 27, 29, 31, 37, 47, 49, 51, 53, 55
8.5	1, 3, 7, 9, 15, 17, 19, 21, 25, 27, 37, 39, 41, 43
11.1	1, 13, 15
11.2	1, 5, 13, 15, 17, 19, 21
11.3	1, 3, 5, 11, 13, 17
11.4	1, 5, 7, 9, 11, 15, 17, 19, 21, 25, 29, 33, 35, 43, 47, 51, 53,59
11.5	1-25 (all odd), 53, 55, 59, 63