

COURSE OUTLINE FOR MATH 109

Instructor: Nick Marsden, Ewing 258

Text: Finite Mathematics
Fifth Edition
Author - Howard L. Rolf

CHAPTER 1: FUNCTIONS AND LINES

#	Text	Time	
1	1.1, 1.2	1	Functions, Graphs and Lines
2	1.3	1	Mathematical Models and Applications of Linear Functions

CHAPTER 2: LINEAR SYSTEMS

#	Text	Time	
3	2.1	1.5	Systems of Two Equations
4	2.2	2.5	Systems with Three Variables; Matrix Representations of Linear Systems
5	2.3	4	Gauss-Jordan Method for General Systems TAKE-HOME TEST
6	2.4	.5	Matrix Operations
7	2.5	.5	Multiplication of Matrices
8	2.6	2	The Inverse of a Matrix
9	2.7	1	The Leontief Input-Output Model
		1	TEST 1, Lessons 1 to 9

CHAPTER 3: LINEAR PROGRAMMING

#	Text	Time	
10	3.1	.5	Linear Inequalities in Two Variables
11	3.2	.5	Solutions of Systems of Inequalities: A Geometric Picture
12	3.3	1	Linear Programming: A Geometric Approach

CHAPTER 4: LINEAR PROGRAMMING: THE SIMPLEX METHOD

#	Text	Time	
13	4.1	1	Setting Up the Simplex Method
14	4.2	2	The Simplex Method
15	4.4	1	Mixed Constraints
16	4.5	1	Multiple Solutions, Unbounded Solutions, and No Solutions

CHAPTER 6: SETS AND COUNTING

#	Text	Time	
17	6.1	.5	Sets
18	6.2	.5	Counting Elements in a Subset Using a Venn Diagram
19	6.3	2	Basic Counting Principles TAKE-HOME TEST
20	6.4	1	Permutations
21	6.5	1	Combinations
22	6.6	1	A Mixture of Counting Problems
		1	TEST 2, Lessons 10 to 22

CHAPTER 7 + Section 8.6: PROBABILITY

#	Text	Time	
23	7.1	1	Introduction to Probability
24	7.2	1	Equally Likely Events
25	7.3	1	Compound Events: Union, Intersection & Complement
26	7.4	2	Conditional Probability
27	7.5	1	Independent Events
28	7.6	1	Bayes' Rule
29	8.6	1	Binomial Distribution
30	7.7	2	Markov Chains
			TAKE-HOME TEST

CHAPTER 10: LOGIC

#	Text	Time	
31	10.1	1	Statements
32	10.2	1	Conditional Statements
33	10.3	1	Equivalent Statements
34	10.4	1	Valid Arguments
		1	TEST 3, Lessons 23 to 34

CHAPTER 8: STATISTICS

#	Text	Time	
35	8.1	1	Frequency Distributions
36	8.2	1	Measures of Central Tendency
37	8.3	2	Dispersion: Range, Variance & Standard Deviation
38	8.4	1	Random Variables and Probability Distributions of Discrete Random Variables
39	8.5	1	Expected Value
40	8.7	1	Normal Distribution
41	8.7	1	Using the Normal Distribution to Approximate the Binomial Distribution
			TAKE-HOME TEST

CHAPTER 5: MATHEMATICS OF FINANCE

#	Text	Time	
42	5.2	1	Compound Interest
43	5.3, 5.4	2	Annuities
		1	TEST 4, Lessons 35 to 43

Review: 4 hours

Final exam, Lessons 1 to 43

FIRST DAY HANDOUT FOR NICK MARSDEN'S MATH 109 STUDENTS

Welcome to my class. I hope that the term goes well for you. Please take some time to read the following. I think you will find it helpful and informative.

A. SOME GENERAL COMMENTS

1. HOW IMPORTANT IS REGULAR ATTENDANCE? It is essential that you attend every class. If for some reason you miss a class, you will need to act quickly to get caught up. Get a copy of the notes from one of your classmates. Work through the notes very carefully.
2. PLEASE try to arrive a minute or two before class is scheduled to begin. This will give you an opportunity to get your notes out, and to prepare mentally for the class.
3. HOW MUCH TIME SHOULD I BE SPENDING ON MATH EVERY WEEK? If up to date, a typical student will need to spend a minimum of 60 minutes per day. It is highly preferable that this be done before the next class.
4. CALCULATORS. Graphing and programmable calculators may not be used on any test or on the final exam. However, you will require a calculator that has statistical capability.
5. The bookstore is selling the Fifth Edition of your textbook. However, if you have the Fourth Edition, you will be fine. The only difference will be that you will have to use the conversion guide outside my office in order to know which homework questions to do.

B. HOW TO GET HELP

1. For the first two weeks of the course, I intend to spend up to 20 minutes each day going over homework problems and any other questions you may have. After that period, we will not be able to afford that much time, but I will fit in as many of your questions as I can.
2. Please come to my office (Ewing 258) for help. You may make an appointment, or just drop in. My official office hours are from 9:30 to 10:00 and 12:00 to 12:20. When you come, bring your notes from the lesson where you are having problems. If you missed that class, I would appreciate your getting a copy from someone. I like to refer to the notes when I am giving help.
3. I strongly urge you to find one or more people in this class who you can study with. For many people, learning mathematics in a social setting with their peers can be very rewarding and productive.
4. Free tutoring is available in The Mathlab, Ewing 224. The lab is open all day and sometimes over the weekend. Although the lab is a great place to go when you are confident of the subject matter in general but you just need a little push in the right direction, I would strongly suggest that you use me first, especially at the beginning of the course. Between us we can work out a strategy for determining what kinds of questions you should always bring to me, and what kinds could be safely answered in the lab.

(over)

C. EVALUATION PROCEDURES FOR THE COURSE

1. TERM MARK. You will be doing a number of take-home tests. These can be done in consultation with other students in your class, but with the help of nobody else. They will be overdue if not handed in at the beginning of the class on the due date, but can be handed in up to one day late with only a one mark deduction.

The term mark is the average of the scores on your in-class tests. However, if your take-home test scores are satisfactory (overall average is at least 70%), you will be allowed to throw out your worst test before the average is calculated.

If you miss an in-class test for ANY reason, you will get a zero. There will be no make-ups. But with decent take-home test scores, that zero will be tossed out.

2. FINAL EXAM. The final exam for this course is to be written by all students on the day and time scheduled. The examinations for this term will be held Apr 14-17 & 22-25). Please make sure you are available during this period.
3. MARK FOR THE COURSE. Your course mark is the larger of:
 - a) The average of your term mark and your final exam mark (each is worth 50%)
 - b) Your final exam mark

The Math Department reserves the right to raise your course mark if it is judged that your in-class tests and final exam were more difficult than those in other years or other sections.

4. LETTER GRADE. Your course mark is then translated to a letter grade using the following table:

A+ 95%	B+ 80%	C+ 65%
A 90%	B 75%	C 60%
A- 85%	B- 70%	D 50%

D. FREE LEARNING SKILLS WORKSHOPS

The College offers workshops in topics such as Time Management, Reading Textbooks, Note-taking, Assisting Memory, Studying for Exams, and Exam Writing. These are held in Paul 107. Individual appointments are also available in Dawson 202. For more information, call 370-3583.

E. TWO MORE THINGS

I strongly encourage you to do all your writing (notes, tests, and final exam) in pencil. That way, you will be able to make corrections without leaving a mess.

Also, if you cannot read something that I wrote down on the board, please ask me right away. Or, ask me at the end of the class. Do not leave the room until all questions on my writing have been answered.