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                    COURSE OUTLINE FOR MATH 126


Instructor: Nick Marsden, Ewing 258

Text: Discrete Mathematics and its Applications
      Fifth Edition
      Author - Kenneth H. Rosen


A. LOGIC AND PROOF

     #     Text      Time
     1     1.1        2     Logic
     2     1.2        3     Propositional Equivalences
     3     1.3        2     Predicates and Quantifiers
     4     1.4        1     Nested Quantifiers
                                TAKE-HOME TEST
                      1         TEST 1, Lessons 1 to 4
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     5     Notes      2     Valid Arguments
     6     1.5        3     Methods of Proving Theorems


B. SET THEORY

     #     Text      Time
     7     1.6        1     Sets
     8     1.7        3     Set Operations
                                TAKE-HOME TEST
                      1         TEST 2, Lessons 5 to 8
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C. THE INTEGERS;ALGORITHMS;COMPUTATIONAL COMPLEXITY

     #     Text      Time
     9     2.4        3     The Integers and Division
    10     2.5        2     Integers and Algorithms
    11    2.2,2.3     2     Computational Complexity


D. MATHEMATICAL INDUCTION; RECURSION

     #     Text      Time
    12     3.3        2     Mathematical Induction
    13     3.4        1     Recursive Definitions
                                TAKE-HOME TEST
                      1         TEST 3, Lessons 9 to 13
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D. COUNTING

     #     Text      Time
    14     4.1        2     The Basics of Counting
    15     4.3        2     Permutations and Combinations
    16     4.4        1     Binomial Coefficients
    17     4.5        2     Generalized Permutations and Combinations
    18     5.1        1     An Introduction to Discrete Probability
                      1         TEST 4, Lessons 14 to 18
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E. ADVANCE COUNTING TECHNIQUES

#	Text	Time	
19	6.1	1	Recurrence Relations
20	6.2	1.5	Solving Linear Homogeneous Recurrence Relations
21	6.2	1.5	Solving Linear Non-Homogeneous Recurrence Relations

F. GRAPHS AND TREES

#	Text	Time	
22	8.1	.5	Introduction to Graphs
23	8.2	1	Graph Terminology
24	8.3	.5	Representing Graphs
25	8.4	1	Connectivity
26	8.5	.5	Euler Paths
27	9.1	.5	Introduction to Trees
		1	TEST 5, Lessons 19 to 27

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Review: 3 hours

Final exam, Lessons 1 to 27

FIRST DAY HANDOUT FOR NICK MARSDEN'S MATH 126 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 AND OTHER ELECTRONIC DEVICES. Graphing and programmable calculators, translators, and other electronic devices may not be used on any test or on the final exam. Cell phones must be put away.

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 10:20. When you come, bring your notes from the lesson where you are having problems. If you missed that class, I would apreciate 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.

C. EVALUATION PROCEDURES FOR THE COURSE

1. TERM MARK. The term mark is the average of the scores on your in-class tests after the worst score is removed.

   If you miss an in-class test for ANY reason, you will get a zero. There will be no make-ups. But that will then be the score that is removed.

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 18-26. 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 percentage and your final exam percentage
   b) Your final exam percentage

   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. 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.