Fall 9-2-2000

MATH 225.02: Discrete Mathematics

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Course: Math 225 Sec. 02 (CRN 73623) 3 cr., Fall 2000
 Discrete Mathematics
 MWF 3:10–4:00pm in MA 109

Instructor: Mark Kayll

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Hours: MT 8:40–10am, W 9:40–10:30am, or
 by appointment MTWF (avoid Thurs., please).

Prerequisite: Math 152 (Calculus I)

Text: *Mathematical Structures for Computer Science*, 4th ed., Judith L. Gersting
 W.H. Freeman and Co., 1999

Important Dates: Mathematics Colloquium: Professor John Horton Conway, Princeton University
 The Mysterious Arithmetic of Integral Lexicographic Codes
 Thur., 7 Sept. at 4:10pm in James E. Todd Building 203–204;
 President's Lecture: Professor John Horton Conway, Princeton University
 Making Knots Dance: The Fascinating Mathematics of Ravelled Ropes
 Thur., 7 Sept. at 8:00pm in the University Theatre (attendance mandatory);

last day to add/drop by Dial Bear	Monday, 25 September;
last day to drop (no $$ back)	Monday, 16 October;
Veterans' Day Holiday	Friday, 10 November;
Thanksgiving vacation	22–24 November.

Exams & Grading: Course grades will be based on graded homework assignments, two term tests and a final exam, scheduled as follows:

Test # 1	Monday, 2 October;
Test # 2	Wednesday, 8 November;
Final exam	Tuesday, 19 December 1:10–3:10pm.

These will be weighted as follows to determine course grades:

Homework assignments	20%;
Term tests	each 25%;
Final exam	30%.

Description: This is an introductory course in discrete mathematics for computer science majors and minors. It covers many of the mathematical concepts which provide the background for a study of the theoretical foundations of computer science. These concepts include elementary logic, sets, functions and relations, combinatorics, mathematical induction, recursion, and analysis of algorithms. A major goal of the course is for the students to become comfortable with reading and writing mathematical notation and to become competent at constructing simple proofs. We will be guided by the Gersting text, the first four chapters of which introduce the main topics of the course. In addition to covering most of the material in these chapters, we will also study some graph theory from Chapter 5 if time permits.

Course Web Pages

Up-to-date course information will be posted electronically. This includes exam dates, homework assignments, and homework solutions. The relevant URL's are as follows.

Page Description	URL
Main Course Page	http://www.math.umt.edu/~kayll/225/
Administration (Dates, etc.)	http://www.math.umt.edu/~kayll/225/admin.html/
HW Assignments/Solutions	http://www.math.umt.edu/~kayll/225/assigns.html/

Starting at the main page, you can reach the others by clicking, respectively, <u>Administration</u> and <u>Assignments</u>.

I suggest you bookmark these pages, and check the Assignments page weekly. This will be the unique method of distributing homework assignments.

General Remarks

On homework: The homework problems to be assigned on the web represent only a <u>minimal</u> set of problems. You should do the more straightforward problems on your own as a warmup. I recommend doing additional problems whenever possible, especially in an area that you find challenging. *Practice is essential to the mastery of mathematics.*

The homework will be collected regularly and a <u>subset of</u> the assigned problems will be graded. You are encouraged to work together on the assignments, but **you must write up the solutions individually.** Your solutions should be clearly written, in complete sentences giving thorough explanations. Do not assume your audience can read your mind. It often helps to look over your solutions before submitting them and ask yourself if a classmate could easily understand what you have written.

I urge you from the outset to get into the habit of staying on schedule with your reading and homework. This will help you to maximize the material you are able to absorb in class, meaning less effort for you in preparing for exams. Please note the policy regarding homework collection:

NO LATE HOMEWORK WILL BE ACCEPTED — NO EXCEPTIONS.

Finally, please *staple or paper-clip* your assignments.

On exams: As noted on the reverse side of this sheet, there are two in-class tests and a final exam. The latter will be cumulative with a slight emphasis on the material not covered by the in-class tests.

On make-ups: Make-ups for tests will *not* be given unless there is a valid excuse cleared with the instructor *prior* to the test. Since at least two of your lowest assignment scores will be dropped, there will be no homework make-ups.