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

Office: MA 7B

Prerequisite: Math 152 (Calculus I)

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 back­
ground for a study of the theoretical foundations of computer science. These concepts include
elementary logic, sets, functions and relations, combinatorics, mathematical induction, re­
cursion, 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.

(over)
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.

<table>
<thead>
<tr>
<th>Page Description</th>
<th>URL</th>
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<tbody>
<tr>
<td>Main Course Page</td>
<td><a href="http://www.math.umt.edu/~kayll/225/">http://www.math.umt.edu/~kayll/225/</a></td>
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<tr>
<td>Administration (Dates, etc.)</td>
<td><a href="http://www.math.umt.edu/~kayll/225/admin.html/">http://www.math.umt.edu/~kayll/225/admin.html/</a></td>
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<tr>
<td>HW Assignments/Solutions</td>
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Starting at the main page, you can reach the others by clicking, respectively, Administration and Assignments.

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 minimal 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 subset of 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.