

MATH 210 – Lecture 1

Finite Mathematics

Semester I, 2007-2008

INTRODUCTION

Instructor: Ken Kunen.

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Office Hours (in 305 Van Vleck): Monday and Wednesday, 8:30 AM – 9:30 AM.

Class: Tuesday and Thursday, 8:00 - 9:15, in B130 Van Vleck.

Prerequisite: Math 112 (or equivalent from high school).

Text: *Finite Mathematics, fifth edition*, by Maki and Thompson.

See <http://www.math.wisc.edu/~kunen/210.html> for more course info.

GRADES:

Three Midterm Exams: 20% each Final: 40%

Calculators, books, notes, etc. are not allowed in exams.

EXAM DATES:

Midterms; all on Thursdays:

September 27 October 25 November 29

These three are in class. On the Thursday before each one, I'll announce what topics it will cover, and on the Tuesday before each one, I'll review the topics.

Final, 2:45 – 4:45 PM, Wednesday, December 19; room to be assigned later.

TOPICS:

Here's my *estimate* of what we'll cover. We won't cover the whole text.

Chapter 1: Finite sets and how to count them: All sections.

Chapter 2: Probabilities and counting: All sections.

Chapter 3: Probability measures: Sections 1,2,3,5.

Chapter 4: Random variables: All sections.

Chapter 5: Linear equations: All sections.

Chapter 6: Matrix algebra: Section 1.

Chapter 8: Markov chains: Sections 1,2,3.

Chapter 7: Linear inequalities: All sections.

Chapter 9: Compound interest: Sections 1,2,3.

Chapters 1 and 5 contain a lot of review of high-school level math, but we cover them because they are important for what comes later.

You have to work problems to understand this stuff. There's plenty of problems at the end of each section in the text — maybe more problems than you want to do. In the following list, I've picked out 10–15 problems which seem to be at the right level for exam problems. Make sure that you know how to do them all. The exam problems will be similar to these (*but not the same!*). The answers to the odd numbered ones are in the back of the book.

section	page	problem numbers
1.1	9	1,2,3,6,12,14,17,26,27,28
1.2	17	1–7, 12,13,14
1.3	25	1–7, 18,19,23,27,28,31,32
1.4	37	1,2,4,5,7,10,14,22,25,26,29,32,33,34
2.1	54	1,2,4,6,7,10,11,12,14,16,18,29,31,32
2.2	64	1,2,3,4,7,10,11,12,23,25,27,32,33
2.3	74	1,4,5,6,7,8,9,10,11,19,21,23,25,27,28
2.4	80	1,2,3,4,5,6,7,10,12,15,20,23,25,26,31
3.1	94	1,3,5,7,8,9,11,24,27,30
3.2	103	1,3,5,9,10,11,16,19,22,27,28,30,34,35
3.3	112	1,2,4,6,14,16,17,18,23,27,28,29,31
3.5	135	1,2,4,9,10,11,15,16,20,28,31
4.1	149	1,2,3,6,7,13,14,15,26
4.2	160	1,5,9,13,14,16,17,22,23,24,30,32,33,34,35
4.3	185	5,7,8,22,27,28 + problems assigned in class
5.1	206	1,2,7,8,9,10,11,23,24
5.2	219	1,2,6,7,8,9,10,11,12,17,18,19,28,29
5.3	244	3,10,11,13,14,15,16,17,19,21,29,30,31,32
6.1	265	4,5,6,7,8,13,14,15,16,18,19,23,27
8.1	356	8,9,10,14,15,21,23,31
8.2	369	4,7,15,17,20,21,22,23,28,29,30,31,32
8.3	384	5,6,9,10,13,14,15,16,17,24,34
7.1	311	1–10
7.2	323	1,3,5,7,11,13,15,17,19,21
7.3	338	1,2,3,7,8,9,11,12,17,18,19,33,35,36,37
9.1	419	1,2,3,4,7,8,9,17,18,27
9.2	430	1,2,3,4,9,10,11,12,13,27,28
9.3	437	1,2,3,4,5,6,7,15,22,25,29