

# MTH U115 APPLICATIONS IN ALGEBRA Summer II 2005

**Instructor:** Dr. S. Wu

**E-mail:** swu@neu.edu

**Phone:** (617) 373-5640

**Office:** 541 Lake Hall

**Office Hours:** Mon, Wed & Thu: 12noon --- 1pm and other time by appointment

**Text:** Finite Mathematics & Its Applications by Goldstein, Schneider & Seigel, 8th edition. You may pickup a class packet at Gnomon Copy at 325 Huntington Ave.

**General course objective:** To introduce students to interesting and useful applications of mathematics while improving their basic skills, problem solving capabilities and understanding of the power of abstraction.

## COURSE POLICIES :

1. There will be weekly quizzes. If you miss a quiz there is no make-up. The best 5 quizzes will be used to determine your quiz average.
2. There will be a one-hour midterm and a two-hour, cumulative, departmental final exam. No student will be granted a request for a special final exam unless it is due to a registrar created conflict. If you miss either of these exams you will receive a grade of zero, as there will be no make-up exams given. A plane ticket home will not excuse you from the final exam, so please plan accordingly.
3. Homework will be assigned at each class and will be periodically collected. Homework will be used to determine a student's grade if he/she is on the borderline of two grades.
4. Your grade in the course will be determined as follows:  
Quizzes: 30%, Midterm 30%, and Final Exam: 40%  
**THERE IS NO SCALING OF QUIZ OR EXAM GRADES IN THIS COURSE.**  
You will be graded to the following scales:

### COLLEGE OF ARTS AND SCIENCES\*\*

Final Avg	Grade
94 - 100	A
90 - 93	A-
87 - 89	B+
83 - 86	B
80 - 82	B-
77 - 79	C+
73 - 76	C
0 - 72	U

### ALL OTHER COLLEGES

Final Avg	Grade
94 - 100	A
90 - 93	A-
87 - 89	B+
83 - 86	B
80 - 82	B-
77 - 79	C+
73 - 76	C
70 - 72	C-
67 - 69	D+
63 - 66	D
60 - 62	D-
0 - 59	F

5. \*\*You must receive a grade of C or higher in this course to demonstrate proficiency in mathematics. A final grade lower than 73 will receive a U (unsatisfactory) and it will be necessary for you to repeat the course and receive a C or better in order to graduate.
6. Calculators are not allowed on the midterm or on the quizzes preceding the midterm exam. The final exam will be two parts - a calculator section and a non-calculator section.
7. It is the student's responsibility to be aware of what happens in the classroom, including announcements of possible exam (or quiz) date changes, material that will be covered and changes to the syllabus, which may occur. If classes are cancelled for any reason, scheduled quizzes or exams will be given the following class.
8. If you have a concern about this course that cannot be resolved by speaking with me, then please contact the Vice-Chair of the Department of Mathematics, Professor D. King, 447 Lake Hall, ext. 5679, donking@neu.edu
9. You may receive any extra help in this course during my office hours or at the Math Tutoring Center. The tutoring center offers free tutoring on an individual basis. You just need to sign up for an appointment at 102 Cahners Hall. Please seek help as soon as you experience any difficulty, do not wait until just before an exam.

## MTH U115 Homework Assignments (Tentative)

Section	Page	Problems	Handout
1.1 Linear Equations			1
1.3 Point of Intersection (Substitution & Addition Methods)	23	1-15 odd	2
1.2 Linear Inequalities	18	37, 39-42, 52,53	3,4
3.2 Linear Programming (Set-Up)	135	29-34, 37 <b>SET-UP ONLY</b>	5
3.2 Linear Programming (Solve)	134	21-27 odd	6
2.3 Operations on Matrices	84	1-25 odd, 28,30, 31-33 35-38,41,42	7
2.3 Operations on Matrices	86	44,45, 46 a-f, 47,49, 50-52	8
2.4 Matrix Inverses	97	3-8, 11-14, 27,28	9
5.1 Sets	213	1-7 odd, 13,14, 21-25, 27-30, 33-37	10
5.2 Venn Diagrams	220	1-6, 9,10,12,27,29,30-32	11
5.3 Survey Problems	226	1-11 odd, 14,15, 17-21, 22-26, 34,35,37,38, 41-46	12
5.4 Multiplication Principle	232	1-19 odd, 23, 25-27	
5.4 Multiplication Principle	233	29-35 odd, 36,38,41,47,49,51,53,54	13
MIDTERM EXAM (Tentative Date --- July 21)			
5.5 Permutations and Combinations	239	1-10, 13, 21-42	14
Distinguishable Permutations			15
5.5 Permutations and Combinations	240	47,49,50,53,56,63,66,68	16
5.6 More Counting Problems	245	1,5,6,10, 13-19, 28-31, 37,45	17
6.3 Probability	286	1-9, 11, 13-16, 23,24,25	
6.4 Probability	294	1-9 odd, 16,19, 20-22, 24, 28-30, 32,39	18
6.5 Conditional Probability	305	1-5, 7,8,10,11,12,15,16,18,20,22	
6.5 Conditional Probability	305	27,31,32,36,37,38,40,52,53	19
8.1 Markov Chains	415	1-6, 7,11,12,14,15,25	20
Cryptography			21
<b>Final Exam</b>			