

Math 523: Linear Algebra with Applications

Winter 2005

- Instructor: Joan Remski
- Text: *Linear Algebra and its Applications* by Gilbert Strang, Third Edition
- Office: 2073 CB
- Office Hours: MW 3:30-4:15, T 3:15-4:00, F 12:45-1:30 or by appointment
- Phone: 593-4994 (o)
- E-mail: remski@umd.umich.edu
- Course Web site: www.umd.umich.edu/~remski/math523/math523.html
- **Course Description:** This course is an introduction to linear algebra with applications to engineering and the sciences. Topics include: matrices, vector spaces, inner products and projections, eigenvalues and eigenvectors, and norms and condition numbers. Applications include networks and incidence matrices, the fast Fourier transform, solutions to systems of differential equations, and the finite element method. This corresponds to chapters 1-7 of the text. If time permits, we will also discuss iterative methods for solving linear systems, linear programming and game theory.
- **Homework:** Homework assignments will be announced in class and will be posted at www.umd.umich.edu/~remski/math523/hwk.html. Homework will be collected and graded on a weekly basis. You are encouraged to discuss homework problems with other students, but your final write up should be in your own words. There is a two day grace period for late homework. Any homework turned in more than two days late will only receive half credit.
- **Exams:** Two midterm exams are scheduled on the following dates:
 - Wednesday, February 16
 - Wednesday, March 30
 The final exam is scheduled for Friday, April 29 from 3:00-6:00pm.
- **Grading:** Student grades will be based on the total points earned on the following:
 - Homework 200 points
 - Midterms 200 points
 - Final Exam 150 points
 Grades will not be worse than:

A	B	C	D	E
90-100%	80-89%	70-79%	60-69%	0-59%
- **Drop Date:** Monday, March 21 is the last day to drop the class.
- **Academic Integrity:** The University of Michigan-Dearborn values academic honesty and integrity. Each student has a responsibility to understand, accept, and comply with the university's standards of academic conduct as set forth by the Code of Academic Conduct, as well as policies established by the schools and colleges. Cheating, collusion, misconduct, fabrication, and plagiarism are considered serious offenses. Violations will not be tolerated and may result in penalties up to and including expulsion from the University.
- **Disability Resource Services:** The University will make reasonable accommodations for persons with documented disabilities. Students need to register with Disability Resource Services every semester they are taking classes. DRS is located in Counseling and Support Services in the UC. To be assured of having services when they are needed, students should register no later than three weeks after the

first week of classes.

Approximate Course Calendar

Week Starting	M	W
1/10	1.1-1.3	1.4-1.7
1/17	no class	2.1, 2.2
1/24	2.3-2.4	2.5, 2.6
1/31	3.1	3.2, 3.3
2/7	3.4	3.5
2/14	Review	Midterm 1
2/21	4.1, 4.2	4.3, 4.4
2/28	Spring	Break
3/7	5.1, 5.2	5.3
3/14	5.4, 5.5	5.6
3/21	6.1, 6.2	6.3
3/28	Review	Midterm 2
4/4	6.4	6.5
4/11	7.1, 7.2	7.3
4/18	7.4	8.1, Review