

MATH 2164-090 Spring 2008

TR 6:30p.m.–7:45p.m., Fretwell 305

Text: Linear Algebra and Its Applications, by D. C. Lay (Third Edition), Addison-Wesley, 2006.

Instructor: Prof. You-lan Zhu

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Office Hours: M 4:20p.m.–6:20p.m., 9:15p.m.–9:45p.m.;

TR 5:20p.m.–6:20p.m., 7:45p.m.–8:00p.m.;

and by appointment.

Homework will be assigned every lecture. During the first lecture of a week students should turn in all the homework problems assigned during the previous week for grading. Homework counts 20% of your grade.

There will be two tests and a final exam. The first test counts 15%, the second test counts 25%, and the final counts 40%. No makeup tests will be given without a reasonable, documented excuse. You should expect that an average of 90% or better will be needed for an A, 89% - 80% for a B. Otherwise a C (79% - 70%), D (69% - 60%) or F (below 60%) will be given.

As with most mathematics classes, the material covered in one class usually depends heavily on the material from previous classes. It is very important that you try to keep up with class assignments. If you have any questions, do not hesitate to ask me.

P.S.

	Estimated Dates	Percentages	Chapters
Test I	2/5 or so	15%	1
Test II	3/18 or so	25%	1-3
Final	5/8 (6:30p.m.–9:15p.m.)	40%	1-5

MATH 2164 (MATRICES AND LINEAR ALGEBRA) Syllabus

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Lecture	Material	Topics
1	1.1	Systems of Linear Equations
2	1.2	Row Reduction; Echelon Forms
3	1.3-1.4	Vector Equations; Matrix Equations $AX = b$
4	1.5-1.6	Solutions of Linear Equations; Applications
5	1.7	Linear Independence
6	1.8-1.9	Linear Transformations
7	1.10	Some Linear Models; REVIEW
8		TEST 1 (Chapter 1)
9	2.1-2.2	Matrix Operations; The Inverse of a Matrix
10	2.3	Characterizations of Invertible Matrices
11	2.4	Partitioned Matrices
12	2.5	Matrix Factorizations
13	2.6	Leontief Model
14	2.7	Applications to Computer Graphics
15	3.1	Introduction to Determinants
16	3.2	Properties of Determinants
17	3.3	Cramer's Rule; REVIEW
18		TEST 2 (Chapters 1–3)
19	4.1	Vector Spaces and Subspaces
20	4.2	Null Spaces, Column Spaces, Linear Transformations
21	4.3	Linearly Independent Sets; Bases
22	4.4	Coordinate Systems
23	4.5	Dimension of a Vector Space
24	4.6	Rank
25	4.7	Change of Basis
26	5.1	Eigenvectors; Eigenvalues
27	5.2	Characteristic Equation
28	5.3	Diagonalization
29	5.4	Eigenvectors and Linear Transformations
30		REVIEW
		FINAL EXAMINATION