

640:350 Linear Algebra

Text: Friedberg, Insel & Spense *Linear Algebra*

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Suggested Syllabus

Lecture	Reading	Topics
1	1.1, 1.2, 1.3	Vector Spaces, Subspaces
2	1.3, 1.4	Systems of Linear Equations, Linear Dep/Indep
3	1.5, 1.6	Bases, Dimension
4	1.6	Bases (cont.)
5	2.1	Linear Transformations
6	2.2	Matrix Representations
7	2.3	Matrix Algebra
8	2.4	Invertibility and Isomorphisms
9	2.5	Change of Coordinates
10	3.1, 3.2	Elementary Matrices and Rank of a Matrix
11	Midterm Exam #1	
12	3.3	Systems of Linear Equations (I)
13	3.4	Systems of Linear Equations (II)
14	4.1	Determinants
15	4.2	Properties of Determinants
16	5.1	Eigenvalues and Eigenvectors
17	5.2	Diagonalization of a Matrix
18	5.4	Invariant Subspaces
19	6.1	Inner Products
20	6.2	Orthogonalization
21	Midterm Exam # 2	
22	6.3	Adjoint of a Linear Operator
23	6.4	Normal and Self-Adjoint Operators
24	6.5	Unitary and Orthogonal Operators
25	6.6	The Spectral Theorem
26	7.1	Jordan Canonical Form (I)
27	7.2	Jordan Canonical Form (II)
28		Catch up and review
	Final Exam	(Class-hour exam schedule)