

Math 121A Suggested Syllabus (based on 29 lectures)

Text: *Linear algebra*, Friedberg, Insel, and Spence

Lecture	Section	Topic
1	1.1	Introduction
2	1.2	Vector spaces
3	1.3	Subspaces
4	1.4	Linear combination and system of linear equations
5	1.5	Linear dependence and independence
6	1.6	Basis and Dimension
7	1.6, 1.7	Complete 1.6, start 1.7
8	1.7	Maximal independent subsets
9	2.1	Linear transformations, null spaces and ranges
10	2.1, 2.2	Complete 2.1, start 2.2
11	2.2	Matrix representation of a linear transformation
12	2.3	Composition of linear transformations
13	2.4	Invertibility and isomorphisms
14	Review	
15	Midterm	
16	2.5	Change of coordinate matrix
17	3.1	Elementary matrix operations and elementary matrices
18	3.2	Rank of a matrix and matrix inverse
19		Computation of basis of $N(A)$, $R(A)$
20	4.1	2x2 determinants
21	4.2	$n \times n$ determinants
22	4.3	Properties of determinants
23	4.4	more facts about determinants
24	4.5	A characterization of determinants
25	5.1	Eigenvalues and eigenvectors
26	5.1, 5.2	Complete 5.1, start 5.2
27	5.2	Diagonalizability
28	Review	
29	Review	