

Math 121B Suggested Syllabus (based on 29 lectures)

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

Lecture	Section	Topic
1	5.4	Invariant subspaces and Caley-Hamilton Theorem
2	5.4	Complete 5.4
3	6.1	Inner product and norm
4	6.1	Complete 6.1
5	6.2	Gram-Schmidt process and orthonormal basis
6	6.2, 6.3	Complete 6.2, start 6.3
7	6.3	Adjoint of a linear operator
8	6.3	Complete 6.3
9	6.4	Normal and self-adjoint operator
10	6.4	Continue 6.4
11	6.4, 6.5	Complete 6.4, start 6.5
12	6.5	Unitary and Orthogonal operators
13	6.5	Complete 6.5
14		Review
15		Midterm
16	6.6	Orthogonal Projections and the Spectral Theorem
17	6.6	Complete 6.6
18	6.8	Quadratic forms
19	6.8	Complete 6.8
20	6.11	Geometry of orthogonal operators
21	6.11	Complete 6.11
22	7.1	Jordan Canonical form I
23	7.1, 7.2	Complete 7.1, start 7.2
24	7.2	Jordan Canonical form II
25	7.2	Complete 7.2
26	7.3	Minimal polynomial
27		Application to linear systems of ODE
28		Review
29		Review