SES #	TOPICS	READINGS IN 5TH EDITION	KEY DATES
1	The geometry of linear equations	1.1-2.1	
2	Elimination with matrices	2.2-2.3	
3	Matrix operations and inverses	2.4-2.5	
4	*LU* and *LDU* factorization	2.6	
5	Transposes and permutations	2.7	Problem set 1 due
6	Vector spaces and subspaces	3.1	
7	The nullspace: Solving Ax = 0	3.2	
8	Rectangular *PA* = *LU* and Ax = b	3.3	Problem set 2 due
9	Row reduced echelon form	3.3	
10	Basis and dimension	3.4	
11	The four fundamental subspaces	3.5	Problem set 3 due
12	Exam 1: Chapters 1 to 3.4		
13	Graphs and networks	3.5, 10.1	
14	Orthogonality	4.1	Problem set 4 due
15	Projections and subspaces	4.2	
16	Least squares approximations	4.3	
17	Gram-Schmidt and *A* = *QR*	4.4	Problem set 5 due
18	Properties of determinants	5.1	
19	Formulas for determinants	5.2	

20	Applications of determinants	5.3	Problem set 6 due
21	Eigenvalues and eigenvectors	6.1	
22	Diagonalization	6.2	
23	Markov matrices	10.3	Problem set 7 due
24	*Review for exam 2*		
25	Exam 2: Chapters 1-5, 6.1-6.2, 8.2		
26	Differential equations	6.3	
27	Symmetric matrices	6.4	
28	Positive definite matrices	6.5	
29	Matrices in engineering	10.2	Problem set 8 due
30	Similar matrices	6.2	
31	Singular value decomposition	7.1-7.2	Problem set 9 due
32	Fourier series, FFT, complex matrices	10.5, 9.2-9.3	
33	Linear transformations	8.1-8.2	
34	Choice of basis	8.3	Problem set 10 due
35	Linear programming	10.4	
36	*Course review*		
37	Exam 3: Chapters 1-8 (8.1, 2, 3, 5)		
38	Numerical linear algebra	11.1-11.3	
39	Computational science		
40	Final exam		