

Syllabus for 18.06 Linear Algebra, Spring 2004

The three midterm exams will be held in Walker during lecture hours:
closed book. All grading is by your recitation instructor!

W	2/4	The Geometry of Linear Equations	1.1–2.1
F	2/6	Elimination with Matrices	2.2–2.3
M	2/9	Matrix Operations and Inverses	2.4–2.5
W	2/11	LU and LDU Factorization	2.6
F	2/13	Transposes and Permutations	2.7
M	2/16	<i>PRESIDENTS DAY</i>	
T	2/17	Vector Spaces and Subspaces	3.1
W	2/18	The Nullspace: Solving $Ax = 0$	3.2
F	2/20	Rectangular $PA = LU$ and $Ax = b$	3.3–3.4
M	2/23	Row Reduced Echelon Form	3.3–3.4
W	2/25	Basis and Dimension	3.5
F	2/27	The Four Fundamental Subspaces	3.6
M	3/1	Exam 1: Chapters 1 to 3.5	
W	3/3	Graphs and Networks	8.2
F	3/5	Orthogonality	4.1
M	3/8	Projections and Subspaces	4.2
W	3/10	Least Squares Approximations	4.3
F	3/12	Gram-Schmidt and $A = QR$	4.4
M	3/15	Properties of Determinants	5.1
W	3/17	Formulas for Determinants	5.2
F	3/19	Applications of Determinants	5.3
M-F	3/22-26	<i>SPRING BREAK</i>	
M	3/29	Eigenvalues and Eigenvectors	6.1
W	3/31	Exam review	
F	4/2	Exam 2: Chapters 1–5	
M	4/5	Diagonalization	6.2
W	4/7	Markov Matrices	8.3
F	4/9	Fourier Series and Complex Matrices	8.5, 10.2
M	4/12	Differential Equations	6.3
W	4/14	Symmetric Matrices	6.4
F	4/16	Positive Definite Matrices	6.5
M	4/19	<i>PATRIOTS DAY</i>	
W	4/21	Matrices in Engineering	8.1
F	4/23	Singular Value Decomposition	6.7
M	4/26	Similar Matrices	6.6
W	4/28	Linear Transformations	7.1–7.2
F	4/30	Choice of Basis	7.3–7.4
M	5/3	Exam Review	
W	5/5	Exam 3: Chapters 1–8 (8.1, 2, 3, 5)	
F	5/7	Fast Fourier Transform	10.3
M	5/10	Linear Programming	8.4
W	5/12	Numerical Linear Algebra	9.1–9.3
M-F	5/17-21	Final Exams	