Syllabus for 18.06 Linear Algebra, Spring 2001

Note: The three midterm exams will be held in Walker: closed book

W	2/7	The Geometry of Linear Equations	1.1–2.1
F	2/9	Elimination with Matrices	2.2–2.3
M	2/12	Matrix Operations and Inverses	2.4–2.5
W	2/14	LU and LDU Factorization	2.6
F	2/16	Presentation on Matlab by B. Schlittgen	
M	2/19	PRESIDENTS' DAY	
T	2/20	Transposes and Permutations	2.7
W	2/21	Vector Spaces and Subspaces	3.1
F	2/23	The Nullspace and Row Reduced Echelon Form	3.3–3.4
M	2/26	Review	
W	**2/28**	**Exam 1: Chapters 1–3**	
F	3/2	Rectangular $PA = LU$ and $Ax = b$	3.3–3.4
M	3/5	Basis and Dimension	3.5
W	3/7	The Four Fundamental Subspaces	3.6
F	3/9	Orthogonality	4.1
M	3/12	Projections and Subspaces	4.2
W	3/14	Least Squares Approximations	4.3
F	3/16	Gram-Schmidt and $A = QR$	4.4
M	3/19	Review	
W	**3/21**	**Exam 2: Chapters 1–5**	
F	3/23	Graphs and Networks	8.1
M	4/2	Properties of Determinants	5.1
W	4/4	Formulas for Determinants	5.2
F	4/6	Applications of Determinants	5.3
M	4/9	Eigenvalues and Eigenfunctions	6.1
W	4/11	Diagonalization	6.2
F	4/13	Differential Equations	6.3
M	4/16	PATRIOT'S DAY	
W	4/18	Symmetric Matrices	6.4
F	4/20	Positive Definite Matrices	6.5
M	4/23	Review	
W	**4/25**	**Exam 3: Chapters 1–7**	
F	4/27	Similar Matrices	6.6
M	4/30	Singular Value Decomposition	6.7
W	5/2	Linear Transformations	7.1–7.2
F	5/4	Choice of Basis	7.3–7.4
M	5/7	Fourier Series and Complex Matrices	8.4, 10.2
W	5/9	Fast Fourier Transform	10.3
F	5/11	Linear Algebra in Engineering	
M	5/14	Course Review	
W	5/16	Course Review	

Final Exam during finals week, 5/21-5/25