

## Syllabus for 18.06 Linear Algebra, Fall 2004

The two midterm exams will be held in Walker during lecture hours:  
closed book

W	9/8	The Geometry of Linear Equations	1.1–2.1
F	9/10	Matrix multiplication	2.4
M	9/13	Solving systems with elimination	2.2–2.3
W	9/15	Inverses	2.5 (PS1 due)
F	9/17	LU and LDU factorization	2.6
M	9/20	Permutations and $PA=LU$	2.7
W	9/22	Vector Spaces and subspaces	3.1 (PS2 due)
F	9/24	Nullspace of $A$	3.2
M	9/27	Row reduced form	3.3
W	9/29	All solutions to $Ax=b$	3.4 (PS3 due)
F	10/1	Basis and dimension	3.5
M	10/4	Four fundamental subspaces	3.6
W	10/6	Orthogonality	4.1 (PS4 due)
F	10/8	Review	
M	10/11	COLUMBUS DAY.	
<b>W</b>	<b>10/13</b>	<b>Quiz 1</b>	<b>1–4.1</b>
F	10/15	Graphs and networks	8.2
M	10/18	Projection and subspaces	4.2
W	10/20	Least-squares	4.3 (PS5 due)
F	10/22	Orthogonal matrices and Gram-Schmidt	4.4
M	10/25	Linear transformations	7.1–7.2
W	10/27	Change of basis	7.3 (PS6 due)
F	10/29	Properties of determinants	5.1
M	11/1	Formulas for determinants	5.2
W	11/3	Applications of determinants	5.3 (PS7 due)
F	11/5	Complex numbers; eigenvalues	10.1 and 6.1
M	11/8	Eigenvalues and eigenvectors ;cont'd;	6.1
W	11/10	Diagonalization	6.2 (PS8 due)
F	11/12	Review	
<b>M</b>	<b>11/15</b>	<b>Quiz 2</b>	<b>1–6.2, 7.1–7.3, 8.2</b>
W	11/17	Markov matrices	8.3
F	11/19	Complex matrices	10.2
M	11/22	Differential equations	6.3
W	11/24	Symmetric matrices	6.4 (PS9 due)
F	11/26	THANKSGIVING	
M	11/29	Positive definite matrices	6.5
W	12/1	Matrices in engineering	8.1 (PS10 due)
F	12/3	Singular value decomposition	6.7
M	12/6	Similar matrices and the Jordan form	6.6
W	12/8	Review and what's next	
<b>M-F</b>	<b>12/13–17</b>	<b>Final Exam</b>	