Syllabus for 18.06 Linear Algebra, Fall 2007

MWF 3-4 Room 54-100

The three midterm exams will be held in in 54-100 (for A-M) and 2-190 (for N-Z), depends on the first letter of your last name, during lecture hours

Lect 01	W	09/05	The Geometry of Linear Equations	1.1-2.1
Lect 02	F	09/07	Elimination with Matrices	2.2-2.3
Lect 03	M	09/10	Matrix Operations and Inverses	2.4-2.5
Lect 04	W	09/12	LU and LDU Factorization	2.6
Lect 05	F	09/14	Transposes and Permutations	2.7
Lect 06	M	09/17	Vector Spaces and Subspaces	3.1
Lect 07	W	09/19	The Nullspace: Solving $Ax = 0$	3.2
Lect 08	F	09/21	Rectangular $PA = LU$ and $Ax = b$	3.3-3.4
———	M	09/24	—STUDENT HOLIDAY—	
Lect 09	W	09/26	Row Reduced Echelon Form	3.3-3.4
Lect 10	F	09/28	Basis and Dimension	3.5
Lect 11	M	10/01	The Four Fundamental Subspaces	3.6
*******	W	10/03	**Exam 1: Chap 1-3.5**	
Lect 12	F	10/05	Graphs and Networks	8.2
———	M	10/08	—COLUMBUS DAY——	
Lect 13	W	10/10	Orthogonality	4.1
Lect 14	F	10/12	Projections and Subspaces	4.2
Lect 15	M	10/15	Least Squares Approximations	4.3
Lect 16	W	10/17	Gram-Schmidt and $A = QR$	4.4
Lect 17	F	10/19	Properties of Determinants	5.1
Lect 18	M	10/22	Formulas for Determinants	5.2
Lect 19	W	10/24	Applications of Determinants	5.3
Lect 20	F	10/26	Eigenvalues and Eigenvectors	6.1
Lect 21	M	10/29	Quiz Review	
*******	W	10/31	**Exam 2: Chap 1-5, 8.2**	
Lect 22	F	11/02	Diagonalization	6.2
Lect 23	M	11/05	Markov Matrices	8.3
Lect 24	W	11/07	Differential Equations	6.3
Lect 25	F	11/09	Complex Matrices, Hermitian Matrices	10.2
———	M	11/12	—VETERAN's DAY——	
Lect 26	W	11/14	Hermitian Operators, Fourier Series	8.5
Lect 27	F	11/16	Positive Definite Matrices	6.5
Lect 28	M	11/19	Linear operators, approximation	
Lect 29	W	11/21	Sparse matrices and iterative methods	
———	F	11/23	—THANKSGIVING——	
Lect 30	M	11/26	Singular value decomposition and the pseudoinverse	6.7
Lect 31	W	11/28	Non-diagonalizable matrices, Jordan forms	6.6
Lect 32	F	11/30	Exam Review	
*******	M	12/03	**Exam 3: Chap 1-8**	
Lect 33	W	12/05	Google PageRank, principal components analysis	
Lect 34	F	12/07	Linear transformations and choice of basis	7.1-7.2
Lect 35	M	12/10	Roundoff error and condition numbers	9.2
Lect 36	W	12/12	Course Review	
			==== Final Exam Week ====	