Math 22 Syllabus - Spring 2014

Instructor: Dan Crytser

MWF 12:30-1:35, T (X-hr) 1:00-1:50 in Kemeny 008

Week 1

M 3/24	1.1: linear systems
T 3/25	(X-hr) 1.2: row reduction
W 3/26	1.2: echelon forms
F 3/28	1.3: vector equations

Week 2

M 3/31	*HW 1 due*; 1.4, 1.5: $Ax = b$ and solution sets
T 4/1	(X-hr) 1.6: network flow
W 4/2	1.7: linear independence
F 4/4	1.7: linear independence; 1.8: linear transformations

Week 3

M 4/7	*HW 2 due*; 1.9: the matrix of a linear transformation
T 4/8	(X-hr) 1.10: application to difference equations
W 4/9	2.1: matrix algebra
F 4/11	2.2: inverse of a matrix; 2.3: characterization of invertible matrices

Week 4

M 4/14	*HW 3 due*; 2.5: matrix factorizations
T 4/15	(X-hr) 3.1, 3.2, 3.3: determinants
W 4/16	review for midterm; midterm I: 6-8 PM
F 4/18	4.1: vector spaces, subspaces; 2.8: subspaces of $\mathbb{R}^n$

Week 5

M 4/21	*HW 4 due*; 4.2: null spaces
T 4/22	(X-hr) 4.3: linear independence
W 4/23	4.4: coordinate systems
F 4/25	4.5: dimension

Week 6

M 4/28	*HW 5 due*; 4.6: rank
T 4/29	(X-hr) 4.6: rank; 2.9: dimension and rank
W 4/30	4.7: change of basis
F 5/2	5.1: eigenvectors

Week 7

M 5/5	*HW 6 due*; 5.2: the characteristic equation
T 5/6	(X-hr) 5.3: diagonalization
W 5/7	review for midterm; midterm II: 6-8 PM
F 5/9	5.4: eigenvectors and linear transformations

Week 8

M 5/12	*HW 7 due*; 4.9: applications to Markov chains and PageRank
T 5/13	(X-hr) 5.6: application to discrete dynamical systems
W 5/14	5.8: iterative estimates of eigenvalues
F 5/16	6.1: inner product spaces

Week 9

M 5/19	*HW 8 due*; 6.2: orthogonal sets, orthogonal projections
T 5/20	(X-hr) 6.4: Gram-Schmidt
W 5/21	6.5: least squares; 6.6: applications to linear models
F 5/23	Final review

Week 10

M 5/26	*HW 9 due*
S 5/31	*Final exam*