

Mathematics 211: Linear Methods

Fall Semester 2009 -- Tentative Schedule

Week	Date	Class Topic
1	Aug 31	Syllabus and 1.1 Intro to Systems of Lin Eq
	Sep 2	1.1 Solving a System -- Row-Echelon Form
	Sep 4	1.2 Matrices, Row Operations, and Solving
2	Sep 7	No Class - Labor Day
	Sep 9	1.2 Reduced Row Echelon Form
	Sep 11	1.3 Applications of Systems of Linear Eq.
3	Sep 14	2.1 Operations with Matrices
	Sep 16	2.2 Properties of Matrix Operations
	Sep 18	2.3 The Inverse of a Matrix
4	Sep 21	2.3 The Inverse of a Matrix
	Sep 23	2.4 Elementary Matrices
	Sep 25	2.5 Applications of Matrix Operations
5	Sep 28	3.1 The Determinant of a Matrix
	Sep 30	3.1 The Determinant of a Matrix
	Oct 2	3.2 Evaluation of Det using Elem Operations
6	Oct 5	3.3 Properties of Determinants
	Oct 7	3.4 Intro to Eigenvalues
	Oct 9	3.5 Applications of Determinants
7	Oct 13	(Tuesday) Review for Exam
	Oct 14	Exam 1
	Oct 16	4.1 Vectors in \mathbb{R}^n
8	Oct 19	4.2 Vector Spaces
	Oct 21	4.3 Subspaces of Vectors Spaces
	Oct 23	4.4 Spanning Sets and Linear Independence

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9	Oct 26	4.4 Spanning Sets and Linear Independence
	Oct 28	4.5 Basis and Dimension
	Oct 30	4.5 Basis and Dimension
10	Nov 2	4.6 Rank of a Matrix and Systems of Lin. Eq.
	Nov 4	4.7 Coordinates and Change of Basis
	Nov 6	5.1 Length and Dot Product in \mathbb{R}^n
11	Nov 9	5.2 Inner Product Spaces
	Nov 11	5.3 Orthonormal Bases: Gram-Schmidt Process
	Nov 13	Review
12	Nov 16	Exam 2
	Nov 18	6.1 Intro to Linear Transformations
	Nov 20	6.2 The Kernel and Range
13	Nov 23	6.3 Matrices and Linear Transformations
	Nov 25	No Class - Thanksgiving Break
	Nov 27	No Class - Thanksgiving Break
14	Nov 30	6.4 Transition Matrices and Similarity
	Dec 2	6.5 Applications of Linear Transformations
	Dec 4	7.1 Eigen Values and Eigenvectors
15	Dec 7	7.2 Diagonalizations
	Dec 9	7.3 Symmetric Matrices
	Dec 11	Catch up and Review
16	Dec 16	Final Exam 8:00 - 9:50 AM