

NORTH CAROLINA STATE UNIVERSITY
 Department of Mathematics
MA 303 Syllabus - Spring 2010
 Text: Introduction to Linear Analysis
 By N.J. Rose

Date	Sections	Topics
Jan. 12	1.1, 1.2	Difference Equations
Jan. 14	1.2, 1.3	Difference Equations, Compound Interest
Jan. 19	1.3	Compound Interest
Jan. 21	1.4, 1.5	Mortgage Amortizations, 1 st Order Difference Equation
Jan. 26	1.6	1 st Order Difference Equations
Jan. 28	1.7	Complex Numbers
Feb. 2	1.7, 1.8	Complex Numbers, Fibonacci Numbers
Feb. 4		TEST # 1
Feb. 9	1.9	Properties of Solutions of Second Order Linear Difference Equations
Feb. 11	1.10	Homogeneous 2 nd Order
Feb. 16	1.10	Homogeneous 2 nd Order
Feb. 18	1.11	Non-homogeneous
Feb. 23	1.12, 1.13	Economic Model, Gambler's Ruin
Feb. 25	2.1	Differential Equations
Mar. 2	2.2	Separation of Variables
Mar. 4		TEST # 2
Mar. 9	2.2, 2.3	Examples, First Order Linear
Mar. 11	2.3	Linear 2 nd Order
Mar. 23	3.1, 3.2	N-tuples, Matrix Notation for Linear Systems
Mar. 25	3.3, 3.4	Properties of Solutions, REF & RREF
Mar. 30	3.6	Solutions of Systems
Apr. 6	3.8	Matrix Algebra
Apr. 8	3.9, 3.10	Powers, Transposes, Inverses
Apr. 13	3.10, 3.12	Inverses, Determinants
Apr. 15		Test # 3
Apr. 20	3.13, 3.14	Eigenvalues & Eigenvectors
Apr. 22	3.14	Eigenvalues & Eigenvectors
Apr. 27	3.15	Systems of Differential Equations
Apr. 29	3.16	A^k and Solutions of Systems of Difference Equations