

NORTH CAROLINA STATE UNIVERSITY
Department of Mathematics

MA 303 Syllabus for Fall Semester 2005

Text: *Introduction to Linear Analysis*, by N. J. Rose

Instructor: Dr. Alina Chertock

Date	Sections	Topics
Aug. 18	1.1, 1.2	Difference Equations
23	1.2, 1.3	Difference Equations, Compound Interest
25	1.3	Compound Interest
30	1.4, 1.5	Mortgage Amortizations, 1 st Order Difference Equation
Sep. 01	1.6	1 st Order Difference Equations
06	1.7	Complex Numbers
08	1.7, 1.8	Complex Numbers, Fibonacci Numbers
13		Test # 1
15	1.9	Properties of Solutions of Second Order Linear Difference Equations
20	1.10	Homogeneous 2 nd Order
22	1.10	Homogeneous 2 nd Order
27	1.11	Non-homogeneous
29	1.12, 1.13	Economic Model, Gambler's Ruin
Oct. 04	2.1	Differential Equations
11		Test #2
13	2.2	Separation of Variables
18	2.2, 2.3	Examples, First Order Linear
20	2.3	Linear 2 nd Order
25	3.1, 3.2, 3.3	N-tuples, Matrix Notation for Linear Systems
27	3.4, 3.5	Properties of Solutions, REF & RREF
Nov. 01	3.6	Solutions of Systems
03	3.8	Matrix Algebra
08		Test #3
10	3.9, 3.10	Powers, Transposes, Inverses
15	3.10, 3.12	Inverses, Determinants
17	3.13, 3.14	Eigenvalues & Eigenvectors
22	3.15	Systems of Differential Equations
29	3.16	A^k and Solutions of Systems of Difference Equations
Dec. 01		Course Review