Schedule for MA 520, Linear Algebra

Fall 2013, MWF 1:30-2:20, SAS 2229

Instructor: Dr. Bojko Bakalov, office SAS 3116, phone 513-7442, email bojko_bakalov@ncsu.edu

Course Webpage: http://www4.ncsu.edu/~bnbakalo/ma520.html


Topics:

Chapter 1 (2 lectures) Linear equations, Row reduction, Matrix multiplication, Matrix inversion

Chapter 2 (5 lectures) Vector spaces, Subspaces, Bases, Dimension, Coordinates, Row space, Column space, Null space

Chapter 3 (12 lectures) Linear transformations, Matrix of a linear transformation, Linear functionals, Transpose of a linear functional

Chapter 4 (1 lecture) Polynomials

Chapter 5 (1 lecture) Determinants

Chapter 6 (12 lectures) Eigenvalues, Minimal polynomial, Invariant subspaces, Simultaneous diagonalization, Primary decomposition

Chapter 7 (3 lectures) Cyclic decomposition, Rational canonical form, Jordan canonical form

Chapter 8 (1 lecture) Inner product spaces

Chapter 10 (2 lectures) Bilinear forms

Approximate Test Dates: 9/6, Test 1 (take-home); 10/4, Test 2; 11/4, Test 3; 11/22, Test 4 (take-home).

Final Exam: December 11, 2013, 1-4 pm in SAS 2229.