(a tentative, and probably too ambitious) Syllabus. Math 505, Spring 2010.

Ch.9(1-6) Polynomial Rings
9.1 Defs, properties
9.2 Polynomials rings over fields
9.3 Polynomials rings ∩ UFDs
9.4 Irreducibility
9.5 Polynomials rings over fields (cont.)

Ch.10(1-5) Modules
10.1 Definitions, examples
10.2 Homomorphisms, quotients
(10.3 Generators, sums, free modules?)

Ch.11(1-5) Vector Spaces
11.1 Definitions, basics
11.2 Matrix of a linear transformation

Ch.12(1-3) Modules over PIDs
12.1 Basics
12.2 Rational canonical form
12.3 Jordan canonical form

Ch.13(1-6) Fields
13.1 Basics, field extensions
13.2 Algebraic extensions
13.3 Straightedge and compass
13.4 Splitting fields, algebraic closures
13.5 Separable, inseparable extensions
13.6 Cyclotomic polynomials and extensions

Ch.14(1-9) Galois Theory
14.1 Definitions
14.2 Fundamental theorem of Galois Theory
14.3 Finite fields
14.4 Composite, simple extensions
14.5 Cyclotomic, Abelian extensions
14.6 Galois groups
14.7 Solvable, radical extensions
14.8 Computations
14.9 Transcendental extensions, infinite groups

Potential Policies
one in-class Exam  25%
one Final Exam  35%
graded HW problems  40% (if we get a grader)

Disability Information

Iowa State University complies with the American with Disabilities Act and Section 504 of the Rehabilitation Act. If a student has a disability that qualifies under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act and requires accommodations, he/she should contact the Disability Resources (DR) office for information on appropriate policies and procedures. DR is located on the main floor of the Student Services Building, Room 1076; their phone is 515-294-6624. Any student who requires an accommodation under such provisions should contact the instructor privately as soon as possible at the beginning of the semester or as soon as documentation of the need for accommodation is obtained. Contact may be made by e-mail (maddux@iastate.edu), telephone (4-8134), or in person (office 418 Carver). No retroactive accommodations will be provided in this class.