Pries: 467 Abstract Algebra II: Spring 2011 Tentative Syllabus

Week	Starts	Topics
1	1/19	Introduction - irreducibility and factorization
2	1/24	Introduction - quadratic fields
3	1/31	Group presentations
4	2/7	Field extensions, splitting fields
5	2/14	Quotient fields
6	2/21	Finite fields
7	2/28	Cyclotomic fields
8	3/7	Automorphisms
		Spring break
9	3/21	Galois theory
10	3/28	Insolvability of quintic, Inverse Galois problem
11	4/4	Affine varieties
12	4/11	Function fields
13	4/18	Noether's Theorem
14	4/25	Applications to error-correcting codes
15	5/2	Presentations

Important Dates:
Group presentations: Week 3
Midterm 1: Week 8, Friday 3/11
Midterm 2: Week 13, Friday 4/22
Written project: due Monday 5/9
Final exam period (Monday May 9, 2:00-4:00 pm) will be used for presentations.

References:

1. http://abstract.ups.edu/download/aata-original.pdf
   Judson, Abstract Algebra: Theory and Applications (Chapters 18-21)

2. http://www.math.uiuc.edu/ r-ash/Algebra.html
   Ash, Abstract Algebra: The Basic Graduate Year (Chapters 6,7,8)

3. http://www.maths.tcd.ie/ dwilkins/Courses/311/
   Wilkons, Abstract Algebra Lecture Notes (Parts 2,3,4).

4. http://www.maths.warwick.ac.uk/ miles/MA3D5
   Reid's course notes on Galois theory

5. http://www.maths.gla.ac.uk/ ajb/course-notes.html
   Baker's Introduction to Galois theory