

Pries, Fall 2017, 466 Abstract Algebra I: Tentative Syllabus

Week	Starts	Topics
1	8/21	Group actions:
2	8/28	orbits, stabilizers, permutation groups
3	9/6	left regular action, Cayley's theorem
4	9/11	conjugation, Sylow theorems
5	9/18	matrix representations, orthogonal matrices and rigid motions
6	9/25	Monday midterm 1; Class project I: Burnside's counting theorem
7	10/2	Quadratic extensions and ideals:
8	10/9	quadratic fields
9	10/16	quadratic rings
10	10/23	failure of unique factorization
11	10/30	quadratic forms and the class group
12	11/6	Finite fields:
13	11/13	Monday midterm 2; Class project II: Error-correcting codes
		Thanksgiving break
14	11/27	Class project II: Error-correcting codes
15	12/4	Review

Grading scheme and tentative due dates:

Exams: 60%

15% midterm 1: Monday 9/25.

15% midterm 2: Monday 11/13

30% Final exam: Thursday 12/14, 4:10-6:10 pm

Homework/projects: 40%

10% Homework about groups: F 8/25, F 9/1, F 9/8, F 9/15, F 9/22.

4% Class project I: Monday 10/2.

10% Homework about rings, ideals, fields: F 10/6, F 10/13, F 10/20, F 10/27, F 11/3.

4% Class project II: Monday 12/4

12% Final poster: math departmental poster session sometime after Thanksgiving

Textbooks:

Group actions: on-line resources Judson 5,12,14,15, Goodman 1.1-1.5, 4, 5, Garrett 13, Ash 5.1-5.4, Wilkons 1.10-1.14. Dummit/Foote chapter 4.