Syllabus for Math 552 – Introduction to Abstract Algebra

Instructor: Mike Hill, Kerchof 213.
Office Hours: M 3-4, T, W 4-5.
Textbook: Adkins and Weintraub's *Algebra: An Approach via Module Theory*.
Requirements: Attendance is mandatory, but will not be taken. Your grade will be determined by two things:

1. Homework assignments approximately every two weeks.
2. A final project, consisting of you speaking in front of the class for 10–15 minutes about a topic of your choosing. You will also have to write up a blurb about your talk on the course wiki.

Date	Topic	Sections
Jan 17, 2008	Introduction & Set Theory	None
Jan 22, 2008	Category Theory & Groups	1.1
Jan 24, 2008	Subgroup and Quotients	1.2
Jan 29, 2008	Isomorphism Theorems	1.3
Jan 31, 2008	Free Groups & Functors	None
Feb 5, 2008	Permutation Representations	1.4
Feb 7, 2008	Sylow Theorems	1.4
Feb 12, 2008	Products & Examples	1.6, 1.7
Feb 14, 2008	Symmetric Groups	1.5
Feb 19, 2008	Symmetric Groups	1.5
Feb 19, 2008	Rings	2.1
Feb 21, 2008	Isomorphism Theorems II	2.1, 2.2
Feb 26, 2008	Remainders & Localization	2.2, 2.3
Feb 28, 2008	Polynomials & Examples	2.4, 2.1
Mar 11, 2008	PIDs	2.5
Mar 13, 2008	Modules	3.1
Mar 18, 2008	Isomorphism Theorems III	3.2
Mar 20, 2008	Exact Sequences & Hom	3.3
Mar 25, 2008	Free & Projective Modules	3.4, 3.5
Mar 27, 2008	Free Modules over a PID	3.6
Apr 1, 2008	Finitely Generated Modules over a PID	3.7
Apr 3, 2008	Finitely Generated Modules II	3.7
Apr 8, 2008	Representation Theory	8.1
Apr 10, 2008	Representations of Abelian Groups	8.2
Apr 15, 2008	Characters	8.4
Apr 17, 2008	Presentations	Wiki
Apr 22, 2008	Presentations	Wiki
Apr 24, 2008	Presentations	Wiki
Apr 29, 2008	Presentations	Wiki