Math 7200
Geometric and Abstract Algebra
Fall 2006
MWF 9:40 - 10:30 Lockett 113

Instructor: William A. Adkins
350 Lockett Hall
Tel: 578-1601
E-mail: adkins@math.lsu.edu
Class Web Site: *http://www.math.lsu.edu/∼adkins/m7200.html*

Office Hours: 10:40 - 11:30 A.M. MWF
Other times by appointment

Text

William A. Adkins and Steven H. Weintraub. *Algebra: An Approach via Module Theory*, Springer-Verlag New York, 1992. ISBN 0-387-07839-9

Syllabus

We will cover most of Chapters 1 – 4 of the text. The underlying theme will be the usefulness of abstract structures in describing and elucidating important properties of ostensibly disparate objects. Specifically, a main goal will be the proof of the main structure theorem for finitely generated modules over a principal ideal domain, and the application of this result to (1) canonical form theory for linear operators on a finite dimensional vector space, and (2) the structure of finitely generated abelian groups. To achieve this goal it will be necessary to introduce some of the basic concepts of groups, rings and modules.

Examinations

There will be 2 in-class exams and a 2-hour final examination. Exam dates are:

Exam I	September 29
Exam II	November 3
Final Exam	December 12 (Tuesday) 12:30 - 2:30 PM

Homework

The homework assignments and any supplementary materials for the course will be posted on the class website (*http://www.math.lsu.edu/∼adkins/m7200.html*). *You should check this website regularly for the assignments and any supplementary materials.* The assigned homework problems will be collected and a representative sample of the exercises from each assignment will be graded. You should not be surprised to find assigned homework problems, or small modifications of assigned problems, appearing on the exams, and moreover, you should expect that some of the assigned exercises will be taken from the test bank that is used for the Core I Algebra Comprehensive examination. The syllabus for this exam can be found under the Graduate Program section of the Math Department website at *http://www.math.lsu.edu/gradfiles/algsyl99.pdf. An important part of your homework assignment is to carefully read the assigned sections of the text.*

Grade

Your course grade will be weighted among the in-class exams, final exam, and homework as follows:

Homework	35%
Exam I	20%
Exam II	20%
Final Exam	25%