

MATHEMATICS 6520

Topics in Higher Algebra

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MAT 6520 Textbook: Topics in Algebra, by I.N. Herstein, 2nd ed.

Prerequisites: Graduate Standing

Course Description: From the graduate catalog:

A development of the real number system along with a study of algebraic systems such as groups, rings, integral domains, and fields. A development of the complex numbers and other number fields.

This course carries 3 hours of graduate academic credit.

Learning Objectives: Mathematics 6520 is the first semester of a two-semester sequence concluding with Mathematics 6521. During 6520, time permitting, the following basic topics dealing with groups will be discussed:

Group definitions and examples

Subgroups

Counting principles

Homomorphisms and automorphisms of groups

Cayley's Theorem

Permutation Groups

Sylow's Theorem

Direct Products

Finite Abelian groups

Additional material may be covered dependent upon the preparation of the students and pace of the class.

Meetings: The format of class meetings will consist of lectures by the instructor. Student participation will be encouraged via classroom discussions as well as problem sessions where the student will present their work.

This class meets as scheduled. You are expected to be in class on time. University policy states that a student cannot miss more than 25% of class meetings and receive credit for the course. Further, attendance will be necessary in order to understand the material and make a good grade. The student is responsible for work and material missed when absent. Cheating in any way will be properly rewarded according to University policy (<http://www.mc.edu/publications/policies/219.html>).

If you need special accommodations due to learning, physical, psychological, or other disabilities, please contact Dr. Buddy Wagner in the Counseling and Career Development Center. He may be reached by phone at (601)925-3354 or by mail at P.O. Box 4013, Clinton, MS 39058.

Grading: During the semester, there will be two examinations. Further, there will be library papers and homework. The semester grade will be based on an average where the exams comprise 80% and the library projects and homework counting the other 20%.

The grading scale is

A=80-100

B=60-79

C=40-59

D=20-39

F=0-19

Also, B+ and C+ grades can be awarded at the discretion of the instructor. Aim now for the desired grade. Finally, all graded work will be returned to the student for keeping. If there were any question later about your grade, you would be expected to show these papers.