

Instructor: Mike Lundin
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 Office Hours: 11:15-11:50 M-F
 1:00-1:50 TTh

Math 360 Algebraic Structures

Meets in Bouillon 102
 MWF at 2:00

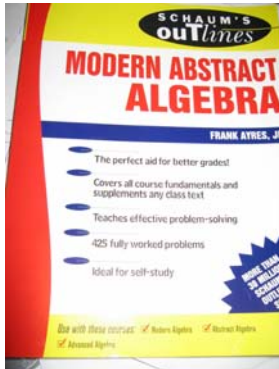
Special Needs

Please contact me if you have special needs.

Course Description

Algebraic Structures I is the study of various types of sets (categories) and their inherent structures. In this course, we examine Monoids and Groups.

Text



By Frank Ayres, Jr.

Schedule

Week 1 Foundations
 Week 2 The Natural Numbers
 Week 3 Monoids
 Week 4 Submonoids
 Week 5 Groups
 Week 6 Subgroups
 Week 7 Fundamental Homomorphism Theorem
 Week 8 Groups
 Week 9 Group Theorems
 Week 10 Group Theorems
 Final Exam: MWF, June 5, 12:00-2:00

Assessment and Evaluation

- 1) Weekly Quizzes 25%
- 2) 1 midterm 25%
- 3) Project 15%
- 4) Final Exam 25%
- 5) Homework 10%

Final Grading

93-100% A
 90-92% A-
 87-90% B+
 83-86% B
 80-82% B-
 77-79% C+
 73-76% C
 70-72% C-
 67-69% D+
 63-66% D
 60-62% D-
 Below 60% F

Objectives

- 1) Students will demonstrate reasoning and problem solving ability by modeling, generalizing, and justifying the main notions associated with Algebraic Structures, particularly Monoids and Groups.
- 2) Students will demonstrate excellent written and oral communication in their demonstrations of Objective 1).
- 3) Students will demonstrate cooperative learning skills both inside and outside of class.

About This Class

Algebraic Structures is traditionally a first course in the mathematics curriculum that demands formal use of logic to prove theorems. The course content highlights a framework supporting nearly **ALL** modern mathematics. As such, the subject cannot be learned by cursory survey, but must be examined with intensity. Take time to think about and discuss ideas and to write and rewrite proofs. Make working with others a priority, but also take time to internalize the ideas yourself. Rewards for your hard work will include understanding the “superstructure” of mathematics.