

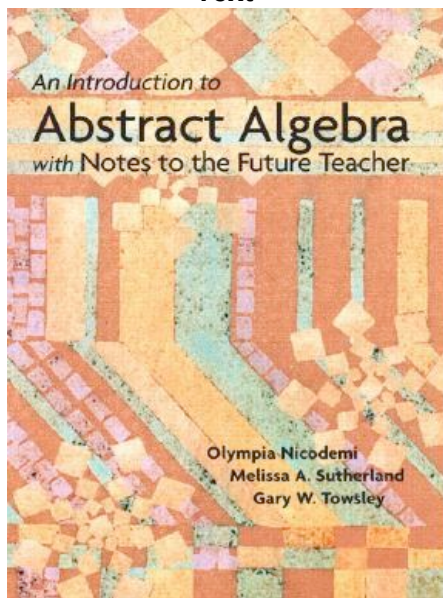
## Math 361 Algebraic Structures

**Instructor:** ♦ Mike Lundin  
Office: Bouillon 108D  
E-mail: [Lundin@cwu.edu](mailto:Lundin@cwu.edu)  
Web: <http://www.cwu.edu/~lundin/>  
Phone: 963-1398  
Office Hours: ♦ M-F 12:15-1:00

### Course Description

Algebraic Structures II is the study of various types of sets (categories) and their inherent structures. In this course, we examine Groups and structure preserving functions (homomorphisms).

### Text



### Assessment and Evaluation

- 1) Homework 1/6
- 2) Project 1/6
- 2) Midterm 1/3
- 3) Final Exam 1/3

### 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 Groups and homomorphisms.
- 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.

### Schedule

Week 1-The FTA and factoring  
Week 2-Polynomial Congruences  
Week 3-Intro to Groups  
Week 4-Groups and Homomorphisms  
Week 5-Supgroups  
Week 6-Groups and Geometry  
Week 7-Groups and Geometry  
Week 8-Glide Groups  
Week 9-Permutation Groups  
Week 10 ?  
Final Exam: Thursday, June 5, 12:00-2:00

### About This Class

Algebraic Structures is traditionally a 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.