

Abstract Algebra Math 444 Section 001, Fall 2001

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Course website: <http://www.csulb.edu/~fnewberg/444.html>

Meeting Times: MATH 444 meets T-Th 2:00 - 3:15 in LA5-147.

Office hours (held in my office: FO3-218): Tuesdays and Thursdays 3:20-4:15.
Feel free to stop by, email or call to schedule an appointment or ask a question!

Goals: The goals of this course are to introduce the students to algebraic structures, such as groups, rings and fields, and to provide the students with a foundation in mathematical reasoning and writing (a.k.a. proofs!) that will aid the students in their future mathematics courses, as well as give them tools with which to communicate, in a logical and organized way, throughout the curriculum.

Topics: groups, subgroups, cyclic groups, symmetric groups, Lagrange's Theorem, quotient groups. Homomorphisms and isomorphisms of groups. Rings, integral domains, ideals, quotient rings, homomorphisms of rings. Further topics in groups, rings and fields as time permits.

Prerequisites: MATH 233 and 247 and at least one of MATH 341 or 347.

Text (required): Abstract Algebra, Second Edition, by John Beachy and William Blair
I recommend the following on-line resources from the authors website, and will often refer you to them:

- On-line Study Guide
(http://www.niu.edu/~beachy/abstract_algebra/study_guide/contents.html) This guide includes sample problems with solutions! Use it!
- A version (http://www.niu.edu/~beachy/abstract_algebra/guide/contents.html) of this guide has been formatted for printing, either as one pdf or ps file, or in segments.

Alternate Sources: I have asked for these books to be put on reserve at the Library. I will not use them for the course, but sometimes students wish to look at different presentations of the material.

Abstract algebra, by I.N. Herstein
Schaum's Outline of Group Theory, by Benjamin Baumslag

Coursework: *Assignments will be posted on the course website as they are assigned.*

Homework: Expect daily homework assignments, due the following class period. The assignments will be graded subject to the following rules:

- A problem completed **correctly** and on time will receive 10 points.
- A problem completed correctly and **up to one week late** will receive 8 points. *(I really want you to do the homework!!)*
- An **incorrect problem** (one which is either mathematically wrong or written poorly) will receive partial credit and may be corrected and **resubmitted within a week** from when it is returned for up to 8 points. *(In fact, I really want you to do the homework correctly!! Even if you need help or more time.)*

Quizzes: From time to time you will be asked to start class with a short activity, for example recalling definitions and theorems from the previous lecture, or writing down a proof from the solved problems on the author's website. By and large, these are not to be graded, but when they are, you will be warned in advance. The scores from any graded quizzes will be added into the homework scores for the purposes of creating a course grade.

Exams:

Thursday, September 27	Midterm 1: Parts of Chapters 1 and 2
Thursday, November 1	Midterm 2: Chapter 3 and parts of Chapter 4
Thursday, December 13 12:30-2:30	Final Exam in two sections: Section 1: Parts of Chapters 4, 5 and 6 Section 2: Cumulative

Grades:

Homework and Quizzes	40%
Midterm 1	15%
Midterm 2	15%
Final Exam Section 1	15%
Section 2	15%