

# Syllabus for MA 362 - Elementary Modern Algebra II (Fall 2011)

Updated information can be found on the course web page at <http://www.ms.uky.edu/~uwenagel/EL-A-f11/el-a-II-f11.html>

## Basic Information

**Time and Place:** MWF 10:00-10:50, CB 335

You are expected to attend all lectures.

**Instructor:** Uwe Nagel, POT 763, 257-6793, [uwe.nagel@uky.edu](mailto:uwe.nagel@uky.edu) and [www.ms.uky.edu/~uwenagel](http://www.ms.uky.edu/~uwenagel).

**Office Hours:** MWF 11:00-11:50 am in POT 763 and by appointment.  
You can also consult me by email.

**Exams:** There will be two midterms and one final exam.

- Exam 1 (CB 335, Sept 30, 10:00-10:50 am)
- Exam 2 (CB 335, Nov 4, 10:00-10:50 am)
- Final exam (CB 335, Dec 13, 1:00-3:00 pm)

All exams are cumulative in the sense that students are expected to know also the material that has been on previous exams.

## Material

**Textbook:** *A first course in abstract algebra* (7th edition) by John B. Fraleigh, ISBN 0-201-76390-7.

Algebra is the study of mathematical structures. These are sets of elements endowed with certain operations. A familiar example is the set of integers with the operations of addition and multiplication. The goal of the course is to become very familiar with fundamental concepts such as groups, rings, fields, polynomials and some of their applications, e.g., in Cryptography and Coding Theory.

Algebra is used in almost every branch of mathematics. It is often instrumental in finding connections between seemingly unrelated topics. Moreover, algebraic methods have found numerous applications in many fields outside of mathematics.

he course will cover most of Chapters 4 - 6 and parts of Chapter 10 of the textbook.

## Homework and Quizzes

A short quiz will be given during the last 10 minutes of each Friday lecture, beginning September 2. Make-up quizzes will not be given without an excused absence.

Homework will be collected regularly. The homework problems will be announced in class and on the web page of the class at <http://www.ms.uky.edu/~uwenagel/EL-A-II-f11/el-a-II-f11.html>

In order to receive credit, homework solutions must be written out neatly and handed in at the beginning of the class on the due date. Late homework will not be accepted unless the delay is due to an excused absence.

You are encouraged to discuss homework problems and the course material with each other. However, when it comes time for you to write up the solutions, I expect you to do this completely on your own. It would be the best for your understanding if you put aside your notes from the discussions with your classmates and wrote up the solutions entirely from scratch. Working together on the exams, of course, is expressly forbidden.

## Grades

There is a total of 450 points in the course which is distributed as follows:

Attendance	25 points
Homework	50 points
Quizzes	50 points
First Midterm	100 points
Second Midterm	100 points
Final Exam	125 points

In this model an A requires at least 405 points (90% or more), B at least 360 (80% or more), C at least 315 (70% or more), D at least 270 (60% or more), E for anything else.