

Syllabus for MA 361 - Elementary Modern Algebra I (Spring 2011)

Updated information can be found on the course web page at <http://www.ms.uky.edu/~uwenagel/EL-A-s11/el-a-s11.html>

Basic Information

Time and Place: MWF 10:00-10:50, FB 307A

You are expected to attend all lectures.

Instructor: Uwe Nagel, POT 763, 257-6793, uwe.nagel@uky.edu and 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 (FB 307A, Feb 18, 10:00-10:50 am)
- Exam 2 (FB 307A, Apr 1, 10:00-10:50 am)
- Final exam (FB 307A, May 5, 8:00-10:00 am).

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 including methods for digital signatures.

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.

The course will cover most of Chapters 0 - 4 of the textbook.