

Course Description
MAT 5430
Winter 2007
Dan Isaksen
Wayne State University

Objectives: The main objective of the course is to continue the study of abstract algebra begun in MAT 5420. We will start with a review of ring theory. Then we will study fields in some detail. Next will come some finite group theory, including the Sylow theorems. After that, we'll study principal ideal domains and unique factorization domains. Time permitting, we will also look at some advanced linear algebra.

Class Meetings: The class meets Monday, Tuesday, Wednesday, and Friday 10:40–11:35AM in EDUC 189.

Prerequisites: MAT 5420 or consent of instructor. It will be assumed that students understand the concept of a proof and are already able to write their own proofs.

Text: The required text is Beachy and Blair: *Abstract Algebra*, third edition, Waveland Press. We will review Sections 5.1–5.3. We will thoroughly cover Sections 5.4, 6.1–6.5, 7.1–7.7, and 9.1–9.2. We will use another source for linear algebra, but students will not be required to purchase additional texts.

Online information: There will be occasions throughout the semester when I will want to make some information available to you online. The website for this information will be <http://www.math.wayne.edu/~isaksen/W07-5430>

Contacting Me: E-mail: isaksen@math.wayne.edu. Office phone: 313-577-2491.

Office Hours: FAB 1195, times to be determined. I am happy to schedule appointments outside of regular office hours. Appointments are not strictly necessary, but there is no guarantee that I will be in my office if you just stop in.

Grading: There will be one midterm exam, one final exam, and weekly graded homeworks. Also, each student will be required to give a half-hour presentation on a subject that is related to the course material.

The midterm will be on Friday March 1. The final exam will be on Tuesday May 1, 8:00–10:30AM.

Homework: I will assign homework weekly. I will collect and grade the homework each Tuesday. Homework assignments will be posted on the course website.