

Math 444

Fall 2016

Lecture: MWF 11:00–11:50, 102 Deady Hall
Instructor: Nick Addington
Office: 208 Fenton Hall
E-mail: adding@uoregon.edu
Office Hours: Tuesdays 2:00–4:00, and by appointment.
Web Page: <http://pages.uoregon.edu/adding/courses/444/>

I will cover rings in the fall and groups in the winter, and Ellen Eischen will cover fields and Galois theory in the spring.

There is no required book, but if you want to read one, here are some recommendations:

- Fraleigh, *A first course in abstract algebra*.
Prof. Eischen will use this book in the spring.
- Artin, *Algebra*.
This is the book I first learned from.
- Dummit and Foote, *Abstract algebra*.
This is the bible – it contains two or three years’ worth of material, and will serve you well if you go to graduate school. Its greatest strength is its wealth of examples.
- Shifrin, *Abstract algebra: a geometric approach*.
I’ve taught out of this before – it’s very gentle, and it does rings first, unlike the books above.

Your grade will be based on the following:

- **Homework.** Due Wednesdays in class. I encourage you to work with other students, but you must do the writing yourself, in your own words. Use pencil and double space (skip lines) to leave room for the grader’s comments. If you type, use \TeX , not Microsoft Word. I will not accept late work, but you may skip one homework for free.
- **Midterms.** Friday, October 21 and Friday, November 11, in class.
- **Final Exam.** Tuesday, December 6, 10:15–12:15, in the usual room.

Learning outcomes. The successful student will come away understanding how familiar ideas about factorization in the rings of integers and polynomials extend to more general rings, using the key concepts of *ideals* and *quotient rings*. The student will both acquire and demonstrate this understanding by *writing proofs*. Especially important will be writing in paragraphs, rather than in strings of symbols; keeping in mind the audience for your writing, which is your peers; and “making the easy parts look easy,” that is, avoiding belaboring the routine parts of the proof so that the essential content can shine through.