

SYLLABUS – MATH 6320

ABSTRACT ALGEBRA

Description: This course is a continuation of Math 6310. We will cover fields, some more rings (commutative algebra), some homological algebra and if time permits, a little on Gröbner bases.

- **Time:** Tuesday, Thursday 12:25 – 1:45pm
- **Location:** LCB 323
- **Instructor:** Karl Schwede
- **Contact information:**
 - email: schwede@math.utah.edu
 - office: JWB 323
 - website: <http://www.math.utah.edu/~schwede/math6320>
- **Office hours:** TBD
- **Textbooks:**

You can choose the textbook you like best. Some good options include:

- “Abstract Algebra”, *Davis S. Dummit and Richard M. Foote*
- “Basic Algebra I, II”, *Nathan Jacobson*
- “Algebra”, *Serge Lang*

For more advanced topics (for example Gröbner bases) I may pull from the following sources (and others):

- “Commutative Algebra with a view towards algebraic geometry”, *David Eisenbud*.
- “An introduction to homological algebra”, *Charles Weibel*.
- “Ideals, varieties and algorithms”, *David Cox, John Little, Donal O’Shea*.

Grade: Your grade will be determined by the following formula.

- 60% Homework (due about once every one or two weeks – not every problem will be graded).
- 15% Midterm, tentatively March 12th in class.
- 25% Final.

Generally speaking, late homework will not be accepted. In unavoidable circumstances, you must speak with the instructor *prior* to missing the homework in order to receive credit. In such situations, the impact on the grade will be dealt with on a case by case basis.

Students are allowed, and even encouraged to work together when solving homework problems (although each student is responsible for their own write-up). LaTeX use is encouraged.

Prerequisites: Students taking this course should be familiar with groups, rings and fields at the undergraduate level.

Academic Integrity: All University of Utah policies regarding ethics and honorable behavior apply to this course.

Disabilities: The Americans with Disabilities Act requires that reasonable accommodations be provided to qualified individuals. To discuss any such accommodations, please contact me as well as the Center for Disability Services, (801) 581-5020, at the beginning of the semester.