

Syllabus for Math 4000/6000, Fall, 2007
Abstract Algebra

- **Text:** The text for this course is *Abstract Algebra, a Geometric Approach* by T. Shifrin.
- **Instructor:** Jesse Ratzkin
 - **Office:** 447
 - **Office Hours:** Mondays 10:30–12:00, Thursdays 11:00–12:00 and by appointment
 - **phone number:** 706.542.2644
 - **email:** jratzkin@math.uga.edu
 - **webpage:** <http://www.math.uga.edu/~jratzkin/teaching/uga/m4000>

- **Tentative Schedule:** We will cover these topics, but the order and dates may vary a little.

date	topic	sections of the text
Aug. 17–20	integers, induction, binomial theorem	1.1
Aug. 22–27	prime numbers	1.2
Aug. 29–Sept. 7	modular arithmetic	1.3
Sept. 10–14	rings, integral domains, and fields	1.4
Sept. 17	rational numbers	2.1
Sept. 24–Oct. 3	real and complex numbers	2.2–2.3
Oct. 5	quadratic and cubic formulas	2.4
Oct. 8–12	isometries of \mathbb{R} and \mathbb{C}	2.5
Oct. 15–17	dividing polynomials	3.1
Oct. 19–29	roots of polynomials	3.2
Nov. 5–7	vector spaces, dimension	5.1
Nov. 9–12	polynomials with integer coefficients	3.3
Nov. 14–16	homomorphisms	4.1
Nov. 19–28	isomorphisms, fundamental homomorphism theorem	4.2
Nov. 30–Dec. 3	compass and straightedge constructions	5.2
Dec 4–5	review	

There will be three exams in this course, including the final (which scheduled for **Friday, Dec. 12, 8–11 AM**). The midterm exams will be on **Friday Sept. 21** and **Friday Nov. 2**.

- **Other important dates:**

- Labor Day: Sept. 3
- Last day to drop: Oct. 12
- Fall break: Oct. 25–26
- Thanksgiving recess: Nov. 21–23
- the Tuesday Dec. 4 has a Friday schedule for the university

- **Grading:** To assign grades, I will form a weighted sum of all the grades you receive throughout the semester. The weighting will be
 - midterm exams 25% each
 - homework 15%
 - final exam 35% .

I expect that the median grade in this class will be a B-.

- **Homework:** I will collect homework approximately every week and a selection of the assigned problems will be graded. I will set aside some of the harder problems; those of you registered for math 6000 must do these set-aside problems, but everyone is welcome to try them. It always helps to start the assignments early and ask me questions (in or out of class) about the problems giving you trouble. The department has assigned a graduate student, Brian Cook, to hold extra office hours for this class (and math 4100 and math 4200). These extra office hours will be Tuesdays and Thursdays 10:00–12:30, in room 308. I encourage you to work in groups, but everyone has to write up their own solutions.
- **Exam Policies:** I do not allow reference materials (e.g. a page or index card of notes) during the midterm or final exams. I do allow calculators, but they are not required.
- **ADA Statement:** The Americans with Disabilities Act requires that reasonable accommodations be provided for students with physical, cognitive, systemic, learning and psychiatric disabilities. Please contact me at the beginning of the semester to discuss any such accommodations you may require for this course.
- **General Comments:** Please ask me questions. In general, this is the best way for you to learn the material, and the best way for me to tell how well the class is following the lectures. Asking many questions makes you happier and my job easier. I also encourage you to come to my office hours, or drop by my office outside of office hours. I'm usually available for questions.

Please keep in mind that mathematics is not a spectator sport! You can only learn math by doing it, so it is imperative that you do the homework.

Good luck.