

**MAT 534 — INTRODUCTION TO ABSTRACT ALGEBRA
SPRING 2014**

Instructor: Professor Graham Leuschke

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Lecture: MWF 9:30–10:25, Carnegie 115

Office hours: MW 11:00–12:00, TR 2:00–3:00, by appt, and any time my door is open

Text: Joseph Gallian, *Contemporary Abstract Algebra*, **8th ed.**,
Brooks Cole 2013. ISBN 978-1-133-59970-8

Text website: www.d.umn.edu/~jgallian/

Course webpage: leuschke.org/teaching/MAT-534-spring-2014/

Prerequisites: MAT 531 or graduate standing in the mathematical sciences.

Course Description: Theory of groups, rings, and fields, including the integers and polynomial rings.

The objective of this course is to provide an introduction to groups and rings, and to the axiomatic treatment of mathematics. This course is proof-based and is primarily intended for mathematics majors.

We will cover most of chapters 1–11 (groups) and 12–15 (rings) from the textbook. They are mostly short chapters.

Homework: Problem sets will be assigned and collected weekly. These homework assignments are crucial to your experience in the course. You are free to work with other people in the class, but should turn in your solutions in your own handwriting.

You are always welcome, in fact encouraged, to come see me in office hours for help.

Homework will be graded on mathematical correctness, and also on clarity and completeness of your writeup. No late homework will be accepted.

Learning outcomes: In addition to learning the basic theory of groups and rings, the student should learn how to read, understand and write proofs and other abstract mathematical arguments based on axioms and rules of logic.

Grading: I will use the following scheme to compute your grade:

Homework: 20%

Hour exams: 3@ 20% each

Final exam: 20%

Hour exams: There will be three hour-long exams during the semester, given in lecture. Here are the approximate dates:

Exam 1: Friday 21 February

Exam 2: Friday 28 March

Exam 3: Friday 25 April

Any changes to this schedule will be announced in class and on the course webpage.

Final exam: Friday 2 May, 8:00–10:00am (“exam period 6”). The final will be cumulative.

Course web page: From time to time, interesting or useful information will appear on [the course web page](#). You should make a habit of checking it regularly (and remind me if I forget to update it).

Students with Disabilities: If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), <http://disabilityservices.syr.edu>, located in Room 303 of 804 University Avenue, or call 315-443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible coordinating disability-related accommodations and will issue students with documented disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are also welcome to contact me privately to discuss your academic needs although I cannot arrange for disability-related accommodations.

Academic Integrity: The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see <http://academicintegrity.syr.edu>.

Religious observances policy: SU religious observances policy recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to are religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, an online notification process is available through MySlice (Student Services -> Enrollment -> My Religious Observances) from the first day of class until the end of the second week of class.