

Instructor	Dr. Carl Mummert
Email	mummertc@marshall.edu
Office	742E Smith Hall
Office hours	Monday 3:00pm–4:30pm, Tuesday 9:00am–11:00am, Wednesday 3:00pm–4:00pm, Thursday 9:00am–11:00pm, and by appointment
Text	<i>A first course in abstract algebra</i> , Fraleigh. ISBN 0-201-76390-7
Prerequisites	Math 230 and Math 300
Meeting time	MWF 12 noon–1pm
Classroom	513 Smith Hall
Course site	http://users.marshall.edu/~mummertc/courses.html

Catalog description Structure of the abstract mathematical systems: fields, rings, groups, with illustrations and applications from number theory.

Course overview This 3-credit course is an introduction to the fundamental concepts of contemporary abstract algebra. These concepts generalize the arithmetic of the natural numbers, real numbers, and complex numbers to more general structures known as groups, rings, and fields. These structures provide a key tool in many areas of advanced mathematics, and also help us understand the structure of familiar number systems such as the natural numbers.

Course objectives After completing this course, you will be familiar with the fundamental properties of groups, rings, and fields. You will also master the fundamental proof techniques through which these properties are established.

Course structure Class meetings will include lecture, class discussion, and student presentations.

Topics covered Over the course of the semester, Math 450 students will study sections 0–11, 13–15, 18–24, 26–27, and 29–33 from the text. Sections 45–46, which cover the fundamental theorem of algebra, will be covered after Thanksgiving if time permits. Students enrolled in Math 550 will learn the Math 450 material in greater depth, as well as studying sections 16–17 and 34–38 independently.

Attendance Attendance in class is extremely important to master the material and prepare for exams. You should plan to attend every class meeting and to participate during class. *Excessive absences may result in a grade reduction:* if you miss three days of class without documented extenuating circumstances, your final grade may be decreased by a full letter grade for each additional absence.

Exams There are four exams including a comprehensive final. Make-ups will only be scheduled when there are documented extenuating circumstances.

Extenuating circumstances Acceptable justifications for absences and late homework include verifiable illness or family emergency, academic events, athletic team participation, and all other reasons specified in the undergraduate handbook. They do not include vacation or employment. If you will be absent at some point in the semester, let me know as soon as possible; we may be able to make arrangements to reschedule assignments.

Homework There will be frequent homework assignments, which will include a mix of computational and theoretical problems. Late assignments will only be accepted when there are extenuating circumstances. You will be expected to present your solutions to the class from time to time.

Calculators Calculators are not necessary for this course. You may occasionally wish to use a calculator on homework problems, but the exam problems will not require the use of a calculator, and no electronic devices may be used during exams.

Computer requirements I will communicate with you via your official Marshall University email address, which you should check daily. I may post handouts on the course webpage. You should be aware of the Marshall University acceptable use policy for computing resources.

Students with disabilities The Marshall University policy on students with disabilities, as documented in the undergraduate handbook, applies to the course. Students affected by this policy should contact me immediately, so that the proper arrangements can be made.

Equal opportunity This course will follow Marshall University policy on affirmative action, which gives all students equal opportunity without regard to race, color, sex, religion, age, disability, national origin, or sexual orientation.

Inclement weather policy I will not cancel class due to inclement weather unless there is a university-wide cancellation of classes. See <http://www.marshall.edu/ucomm/weather.html>.

Academic honesty policy You are permitted to discuss homework problems with other students, but your submissions must be your own writing and reflect your own understanding of the material. Be prepared to explain your solutions verbally if asked. No outside assistance is permitted during exams. The penalty for academic dishonesty is a zero grade on the assignment in question.

Grading Your final course grade will be determined using the following system.

Homework	40%
Exam 1 ..	10%
Exam 2 ..	15%
Exam 3 ..	15%
Final exam	20%

I will set the numerical cutoffs for letter grades once the course is complete. The cutoffs will be no be higher than: A–90%, B–80%, C–70%, D–60%. Separate cutoffs will be used for Math 450 and Math 550. The course is not graded on a curve.

Important dates Please note the following dates and plan around them.

Classes begin	Mon, Aug 24	Exam 3	Fri, Nov 20
Labor Day holiday	Mon, Sep 7	Last class meeting	Mon, Dec 7
Exam 1	Wed, Sep 23	Fall classes end . .	Tue, Dec 8
Exam 2	Wed, Oct 28	Final exam	Fri, Dec 11, 10:15am
Last day to drop . .	Fri, Oct 30		