

Syllabus for Math 351, Fall 2021

Instructor information

Instructor Name: Cartwright, Dustin

Office Hours and Location: M 11:00–11:45, M 1:30–2:15, T 10:45–11:30, T 12:45–1:30, and by appointment in Zoom meeting 988 4534 4523.

In order to join this meeting, you must be logged in to Zoom through your UTK credentials. In Zoom, choose “Sign in with SSO” and put “tennessee” as the company domain. You will then have to sign in with your NetID and associated password.

Email: cartwright@utk.edu

Course Webpage: All information will be coordinated on the Canvas webpage for this course.

Course Communications: Most announcements will be made at the beginning of class. If I want to be sure to reach everyone, or if something comes up between classes, I will make an announcement on Canvas. For particularly urgent messages, I will use email.

The best way for you to contact me is by email. I will reply within 24 hours during the work week and usually much faster.

Student Learning Objectives

Upon completion of this course, students should know basic properties of groups and rings, as well as many examples, and know how factorization works for integers, polynomials, and other rings.

Learning Environment

I expect you to attend every lecture, pay attention, and participate in discussions. During lectures, you should not be using your laptop, cell phone, or any other electronic devices.

You should treat other students in the class with respect, in the classroom and other components of the course.

Text

Introduction to Abstract Algebra: With Applications by Thomas Judson. A printed copy is available from the bookstore. In addition, you may read it online.

Course Assessment

- 25% homework
- 7% group work
- 30% two in-class midterms (15% each)
- 8% take-home midterm
- 30% final

Letter grades will be assigned based on the scale: A 90-100, A- 85-89, B+ 80-84, B 75-79, B- 70-74, C+ 65-69, C 60-64.

Homework: Homework is due each Wednesday by 9:00am. You will submit your homework by uploading a PDF to Canvas. Assignments will be available on Canvas at least a week in advance.

You are *strongly encouraged* to discuss your homework with other people in class. However, you must write up your own solutions and you must acknowledge your collaborators or any other sources used beyond the standard course resources, as described below.

Homework will be graded based on a subset of the problems.

Citation policy: You must write your own homework solutions and you must credit any person or source who helped you understand the solution.

- You must credit any person you discussed homework with either at the top of your homework or on specific problems.

- Any other source, such as the Internet or books other than the course textbook, must be credited for specific problems, and with enough specificity for me to find your source. For an Internet source, this means using the URL. You may use submission comments to include these URLs.

In all cases, you must understand your answer and write in your *own words*. You will find solutions on the Internet that use different notation and conventions than this class and you should not just blindly copy those.

Group work: Group work will be done collaboratively in class, possibly unannounced. You will submit your work as a group and be graded on effort.

In-class midterms and final: The in-class midterms and final must be taken without any book, notes, or electronic devices. The second in-class midterm will cover material since the first midterm, but you will also need to know any foundational material. The final will be cumulative.

Take-home midterm: The take-home midterm will be submitted through Canvas on a Wednesday, like the homework. The midterm will be available 47 hours in advance.

For the take-home midterm, you may use your own notes and the course textbook, but you may not consult with other students, any other resources, or the Internet.

Make up Policy

Late homework will generally not be graded. Lateness is determined by submission time to Canvas. In lieu of excused homework, I will drop the lowest homework score and the lowest group work score.

Missed exams will count as zero except in the case of serious problems which unavoidably prevent you from taking the exam, such as a medical or family emergency. Please let me know as soon as possible if you will miss or you have missed an exam. In all cases, you must provide appropriate documentation, to be approved by the Dean of Students. Accommodation is at my discretion and may take the form of a make-up or by having the final exam replace that component of your grade, as appropriate for the circumstances.

How to be Successful in this Course

Get a COVID-19 vaccine, which is available to you for free.

Go over the lecture material after each class, either your own notes, or the textbook. Start the homework early. Work on the problems by yourself before getting help. If you don't know where to start with a proof, look for theorems that will apply, try an example, or try to work the problem with a simplifying assumption.

Go to office hours. When you get your homework and exams back, go over your results and understand why you got the answers you did. Talk to other people in the class about the homework and the material.

If you find yourself falling behind on the material, adjust sooner rather than later. Go back over the notes or the book. Rework problems that you got wrong. Come to office hours if you have questions.

Course Outline and Schedule

- Fri, Sep 24: in-class midterm
- Fri, Oct 29: in-class midterm
- Mon, Nov 15, 10:05am: take-home midterm distributed
- Wed, Nov 17, 9:05am: take-home midterm due
- Mon, Dec 6, 10:30am–12:30pm: in-class final

We will cover modular arithmetic, rings, and groups, with an emphasis on examples such as polynomial rings and permutation groups. We will cover most of Chapters 2–12 from the textbook, as well as additional topics if we have time.

The approximate daily schedule of topics discussed in class is listed on a Canvas page.

Campus Syllabus

If the instructor finds it necessary to make informational changes (e.g. office hours, schedule adjustments) due to students' needs or unforeseen circumstances, students will be notified in writing/email of any such changes.