

Instructor: Christy Hazel
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Office Hours: MW 2-3:30
& by appointment

TA: Jacob H. Swenberg
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TA Office Hours: TBA

Class meetings: 1:00-1:50PM MWF in Mathematical Sciences 5118

Discussion meetings: 1:00-1:50PM T in Boelter Hall 5264

Textbooks: [Lectures on Abstract Algebra](#) by Richard Elman. This will be our primary text. Abstract Algebra by Dummit and Foote (any edition). This will be an optional, supplementary textbook.

Prerequisite: Math 110AH

Course summary: This is the second course in a year long sequence in honors abstract algebra. The first part of this course will focus on ring theory with an emphasize on commutative rings. Roughly speaking, a ring is a set that has two binary operations, addition and multiplication. The second part of the course will cover module theory. A “module over a ring” is analogous to a “vector space over a field” except our scalars come from a ring rather than a field. The course will end with a classification of modules over a special collection of rings, and we’ll see various applications of this theorem to abelian groups, vector spaces, and linear transformations on vector spaces.

Grading: Course grades will be weighted according to the following scheme:

Homework (8)	32%
Midterm Exams (2)	34% (17% each)
Final Exam	34%

Homework: Homework will be assigned each week on the course website, starting in Week 1. The homework will be due the following Wednesday. You will turn in the assignment on Gradescope.

I encourage you to work with your peers on the weekly assignments and to come to my and the TA’s office hours to ask questions. While you are welcome and encouraged to discuss the problems with others from our class, you must write up your solutions on your own and in your own words.

A note on late work: In order for the TA and I to maintain a regular grading schedule, late work will not generally be accepted. I do recognize outside factors such as illness, stress, or personal problems can come up that prevent you from turning in an assignment or completing the problems to the best of your ability. To account for such things, *your lowest homework grade will be dropped.* This allows everyone to miss one assignment without penalty. You do not need to email us to let us know why you are missing an assignment. If an exceptional situation arises that is requiring you to miss more than one assignment, then you should contact me so we can discuss your options.

Exams: There will be two midterm exams and one cumulative final exam. The midterm exams will take place in class on **Friday, February 3rd** (Week 4) and **Friday, February 24th** (Week 7). The exams will take place during our usual class time in our usual classroom. The final exam will be **Monday, March 20th** from 8am-11am. The location is TBD and will be announced in Week 10.

Classroom Culture and Expectations: We will be spending a lot of time discussing mathematics together this term. We should all recognize different people will have different mathematical and personal backgrounds. For everyone's learning experience, it is important to create a space where people feel comfortable asking questions and discussing material.

For me this includes, but isn't limited to, coming to lecture prepared, creating space and time for questions, and following up on any questions we were unable to resolve in previous classes.

For you this includes, but isn't limited to, listening when others speak, keeping distractions (cell phones, other work) to a minimum, and asking questions in a respectful and appropriate manner.

For all of us this also includes not interrupting one another and treating each other's questions with respect.

Class Schedule: See the Canvas page for our weekly course schedule.

University Resources

Student Conduct: All students are expected to adhere to the [Student Conduct Code](#).

Title IX: Title IX prohibits gender discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking. If you have experienced sexual harassment or sexual violence, you can receive confidential support and advocacy at the CARE Advocacy Office for Sexual and Gender-Based Violence, 1st Floor Wooden Center West, CAREadvocate@careprogram.ucla.edu, (310) 206-2465. In addition, Counseling and Psychological Services (CAPS) provides confidential counseling to all students and can be reached 24/7 at (310) 825-0768. You can also report sexual violence or sexual harassment directly to the University's Title IX Coordinator, 2241 Murphy Hall, titleix@conet.ucla.edu, (310) 206-3417. Reports to law enforcement can be made to UCPD at (310) 825-1491.

Accessibility: Everyone in this class deserves an equitable opportunity to learn and engage with the material. If you are already registered with the Center for Accessible Education (CAE), please request your Letter of Accommodation in the Student Portal. If you are seeking registration with the CAE, please submit your request for accommodations via the [CAE website](#). Students with disabilities requiring academic accommodations should submit their request for accommodations as soon as possible, as it may take up to two weeks to review the request. For more information on available accommodations, please visit the CAE website (www.cae.ucla.edu), visit the CAE at A255 Murphy Hall, or contact them by phone at (310) 825-1501. You are also welcome to come talk to me about any accommodations that you may need, whether or not you are registered with the CAE.