MAT 215A: (Graduate) Topology
Syllabus

Melissa Zhang

Fall Quarter 2025

1 Course information

Instructor:	Melissa Zhang, mlzhang@ucdavis.edu
TA:	Ian Sullivan, iasullivan@ucdavis.edu
Sec:	001
CRN:	49366
Course Description:	Fundamental group and covering space theory.
Course Prerequisites:	Graduate standing or consent of instructor.
Lectures:	MWF 11:00–11:50 AM, Olson 244
Discussions:	T 10:00–10:50 AM, Wellman 107
Office hours:	M 2-3pm, W 1-2pm, MSB 2142 *(hours subject to change until second week of classes)*
Textbook:	*Algebraic Topology* by Allen Hatcher
Course websites:	Lecture materials and homework will be posted on my personal website. Problem sets will be submitted and graded on Gradescope/Canvas.

Class calendar I will keep an updated version of my personal lecture planning calendar on the class website. Please note that the content (especially the lesson topics) are subject to change.

2 Assignments and Grading

Grades Grades will be determined using the following weights:

Problem Sets	30%
Exam 1	20%
Exam 2	20%
Final Exam	30%

Attendance is not mandatory. However, it is the student's responsibility to keep up with announcements, which will be communicated via Canvas Announcements.

Problem Sets Problem sets will be posted by Sunday morning each week and will be due **Thursday nights at 9pm on Gradescope**. Submissions must be typeset, but you may insert handdrawn figures as needed.

- There will be around 7 problem sets total.
- You start the quarter with **two 24-hour extension tokens**. No other extensions will be granted, except in documented, extenuating circumstances. To use an extension token, write "Extension Token #1" (or '# 2') at the top of your submitted homework. There is no need to email me.
- At the end of the quarter, I will drop your one (1) lowest problem set grade. Keep in mind that the main purpose of these sets is to help you make sure you understand the course content. I would prefer that you turn in half of a set than nothing at all.
- I will not be posting full solutions. Instead, we will use part of Discussion to share solutions to particularly important exercises.

Exams There will be two pen-and-paper midterm exams, scheduled for the following dates, during the usual time in the usual lecture room:

- Exam 1: **Monday, October 20, 2025**
- Exam 2: **Monday, November 10, 2025**

These dates are very unlikely to change, so please plan accordingly. There will be **no makeup exams**. If for a documented, extenuating circumstance you have to miss one of midterm exams, that exam will be dropped; in other words, your other exam will be worth 40% of your final grade.

There will also be a take-home final exam, due **Thursday, December 11, 2025 at 9:00 pm**. You must take the final exam to pass the class.

Letter grades: At the end of the quarter, letter grades will be assigned based on the distribution of numerical grades.

Disclaimer: The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary. It is the responsibility of the student to seek clarification of the grading policy and/or course requirements and procedures from the instructor.

3 Course policies and procedures

Diversity and inclusion statement: In this classroom, you will be treated with respect, and I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability – and other visible and nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the class. (Source: modified from https://docs.asee.org/public/LGBTQ/Diversity_Statement.pdf)

Classroom expectations: We will discuss mathematics together on a daily basis. These discussions are important because they provide for a richer classroom discussion, and they ensure that we all encounter different ways – correct and/or incorrect – of thinking about the material. It will be important for you to listen attentively to your peers' thinking, even if you think you already have a full solution to the discussion problem. I expect you to respond respectfully and carefully to your peers' comments. When you are working in groups, I expect you to help your group members to all work at the same pace; it will be important for you to keep your peers informed about the choices you are making, and for you to check in with them to make sure they follow your thinking and are ready to move on.

Academic honesty: See the UC Davis Code of Academic Conduct at

https://ossja.ucdavis.edu/code-academic-conduct

You are encouraged to discuss homework with others, but any solution that you hand in must be thought through and worked through on your own and written down in your own words.

Accessibility For accommodations for disabilities, go to

https://sdc.ucdavis.edu

and begin the process as soon as possible. I will need to approve a letter from the Student Disability Center before making any accommodating changes to the policies stated on this syllabus for you. It is the student's responsibility to make sure all accommodations are set up through the SDC ahead of exams or class meetings where accommodations are needed.