

Math 441: Topology

University of Washington, Summer 2024

Course information

Times: MWF 10:50–11:50 a.m.
Location: 102 Dempsey Hall.
Web page: <https://canvas.uw.edu/courses/1729952>
Canvas site: <https://canvas.uw.edu/courses/1729952> (will only be used to host grades.)

Instructors information

Instructor: Guillermo Sanmarco (he/him).
Email: sanmarco@uw.edu
Office hours: Monday 12:20-2:20 p.m. at 102 Dempsey Hall.

TA: Jackson Morris (he/they)
Email: jackmann@uw.edu
Office: PDL C-114.

Course format

The course will consist of synchronous blackboard lectures that will be recorded. Lecture notes and recordings will become available after class. Students are highly encouraged to take notes and participate actively during class. There will be 7 homework assignments, a midterm and a final exam (details below). Assignments will be submitted and graded via Gradescope.

Textbook

James R. Munkres, Topology, Second Edition.

We will focus on the first three chapters of the textbook. Reading the sections of the textbook corresponding to the assigned homework exercises is considered part of the assignment.

Course topics

We will study the notion of “space” in a very abstract form by reducing everything to the fundamental idea of proximity or nearness.

This course is an introduction to point set topology. We will discuss topological spaces, continuity, convergence, subspaces, product spaces, quotient spaces, connectedness, compactness, and simple connectedness if time permits. This is (most of) Chapters 1–3 of the textbook, together with some supplementary material that I will provide, specially if we make it to simple connectedness.

Prerequisites: minimum grade of 2.0 in either MATH 327 or MATH 335. This means in particular that you should be familiar with most of the content in Chapter 1 of the textbook.

Homework

You will have 7 weekly homework assignments that will be submitted and graded on Gradescope. Assignments will be due on **Wednesday by 10:30 am**. Your scores will be averaged to compute your final homework score. There will be no homework assignments due the first week of class nor the midterm week.

Inevitably, you will make mistakes as you learn how to construct proofs. At the end of the term, I will add an **extra 5%** to your total homework score, unless you are already in the 95%–100% range.

Late assignments will only be accepted under very specific situations. If you need an extension, you should have a very good reason and communicate it at least 24 hours before the due date.

Plan to spend a lot of time on homework—perhaps as much as six hours a week on average, more during some weeks. A typical homework assignment will consist of the following:

- **Reading.** You will be given several sections of the textbook to quickly read each week before class, which correspond to the material that will be discussed in the upcoming lectures. You should reread them carefully after the lectures.
- **Practice Problems.** Some assignments may include problems that are not to be handed in for a grade. You should at least figure out how to do all of them for your own good.
- **Required Problems.** The core of the course, they will constitute 40% of your final grade.

Collaborative work and study groups are strongly encouraged. These are great tools to help you polish your own ideas and also to take a glimpse at lines of thought that you might not have considered. You are allowed to discuss graded assignments outside of class. However, the grade that you receive on an assignment should represent your understanding, not someone else’s. You are not allowed to take written or electronic records away from group sessions. You should wait until you are on your own to write down your solutions.

Exams

This course will have two exams: a midterm and a final. Topics covered in the midterms may be also tested on the final. To pass the final, you will need to understand all the material covered in the course.

The **midterm** will presumably take place on **Wednesday, July 17** during the regular class location and time. The final exam is scheduled for the last day of class **Friday, August 16** from 10:50 a.m. to 12:40 p.m.

The Math Department has designed an external proctoring policy for students needing to take tests a course at a site other than on the UW Seattle. [Details on external proctoring are available here.](#)

Grading policy

Homework	40%
Midterm	25%
Final	35%

Your instructor cares about your well-being

You may experience stressors that can impact both your academic experience and your personal well-being. These may include academic pressure and challenges associated with relationships, mental health, alcohol or other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help is a courageous thing to do for yourself and those who care about you. Asking for support sooner rather than later is often helpful. Many helpful resources are available on campus, and an important part of the college experience is learning how to ask for help. If you encounter stressors of any kind, please contact me so that we can find solutions together.

Excused absence from class

Students are expected to attend class and to participate in all graded activities, including midterms and final examinations. A student who is anticipating being absent from class due to a Religious Accommodation activity needs to complete the Religious Accommodations request process by the second Friday of the quarter. Students who anticipate missing class due to attendance at academic conferences or field trips, or participation in university-sponsored activities should provide a written notice to the instructor ahead of the absence. The instructor will determine if the graded activity or exam can be rescheduled or if there is equivalent work that can be done as an equivalent, as determined by the instructor.

Medical excuse notes

Students are expected to attend class and to participate in all graded activities, including midterms and final examinations. To protect student privacy and the integrity of the academic experience, students will not be required to provide a medical excuse note to justify an absence from class due to illness. A student absent from any graded class activity or examination due to illness must request, in writing, to take a rescheduled examination or perform work judged by the instructor to be the equivalent. Students are responsible for taking any number of examinations for which they are scheduled on a given day and may not request an adjustment for this reason alone.

Religious accommodation

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy](#). Accommodations must be requested within the first two weeks of this course using the [Religious Accommodations Request form](#).