

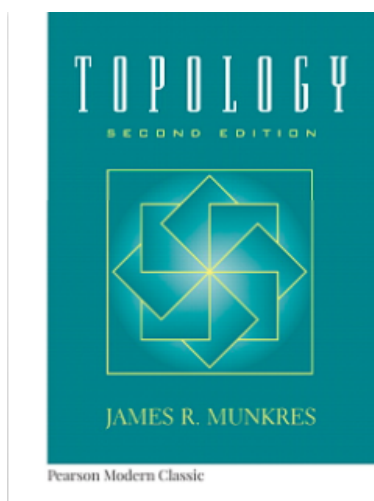
## Math 461: Metric and Topological Spaces

<b>Instructor</b>	<b>Class</b>
Brent Nelson	Mon, Wed, Fri
brent [at] math.msu.edu	9:10 - 10:00 am
D215 Wells Hall	Zoom

**Office Hours:** MWF immediately following class, or by request.

**Course Webpage:** <https://www.math.msu.edu/~banelson/461.html>

**Textbook:** James R. Munkres, [Topology \(Classic Version\)](#), 2nd Edition, Pearson.



**Course Description:** This course offers an introduction to general topology. Metric spaces will be treated as a special case of more general topological spaces. Other topics to be covered include basic set theory, continuous functions, product and quotient topologies, connected and compact spaces, and the separation axioms. This corresponds to Chapters 1–4 in the textbook. Time permitting we will also cover portions of Chapters 5 and 7.

**Course Format:** This course will be held online via Zoom (if you need the registration link, please email me). Before each lecture, there will be required reading from notes I have prepared based on the textbook material. These readings will be supplemented by short lectures during the scheduled class meetings, but these will not directly cover all of the material in the notes. Consequently, it is important to stay on top of the readings and bring plenty of questions to class and office hours.

A portion of each class will be devoted to group work based on the weekly homework assignments (see below), though the precise ratio of lecture to group work will likely vary throughout the semester. I expect you will be able to complete the majority of your weekly homework assignments (not including writing them up) in these group work sessions.

**In-Class Tone:** My aim is to foster an open and inclusive atmosphere in class. Therefore questions, participation, collaboration, and curiosity are strongly encouraged. Math

can be hard, especially when we aren't honest with ourselves about whether or not we understand something. Confusion is not a sign of weakness, nor is asking for help. If you need help beyond class time and office hours, please do not hesitate to contact me so that we can work out additional times to meet.

**Grading:** Your course grade will be determined according to the following scheme:

<b>Homework</b>	60%
<b>Participation</b>	10%
<b>Final Project</b>	30%

Details for the above components are provided below. A gradebook will be maintained in D2L, but you are also welcome to ask me for your current grade at any time.

**Homework:** There will be a total of 12 homework assignments. These will be posted on the course webpage, and will be collected at the beginning of lecture every Friday. As mentioned above, you will work in groups on large portions of the homework assignments, however your written work must clearly be your own. No late homework will be accepted. The lowest four homework scores will be automatically dropped, and the remaining eight will count equally toward your overall homework score.

**Participation:** There is a total of 42 class meetings throughout the semester, and participation is defined as attending the lecture portion of class, asking questions as needed, and actively working with your peers in the group work sessions. You will earn either full, half, or no credit based on the percentage of class meetings you participated in: at least 75% (i.e. at least 32) for full credit; at least 50% (i.e. at least 21) but fewer than 75% for half credit; and fewer than 50% for no credit.

**Final Project:** Your final project will consist of a group presentation and an individual expository paper, both based on a topic related to the course. Additional details, including a grading rubric, will be provided at a later date.

I understand and appreciate the exceptional circumstances and likely challenges this semester presents for many of you. My hope is that the flexibility in the above grading scheme will alleviate some stress and account for any unforeseen circumstances, including illness, care for a loved one, loss of internet, etc. In particular, you can miss three weeks of classes with little impact on your grade, so long as you learn the material missed and display your knowledge of these topics in your final project. If you miss more than three weeks of classes, it is likely your grade will be negatively affected by these absences. Students missing work due to illness beyond the flexibility already afforded in the syllabus are advised to meet with an academic advisor to discuss the University's Medical Leave Withdrawal Policy and other avenues for support.

**Academic Integrity:** Students are expected to adhere to MSU's standards of academic integrity and the Spartan Code of Honor, as outlined [here](#).

**Student Accommodations:** If the Resource Center for Persons with Disabilities (RCPD) has determined that you eligible for classroom accommodations, then you should submit a [Verified Individualized Services and Accommodations document](#) (VISA) to the instructor no later than Friday, September 18th.