

# MATH 8655: General Topology

Fall 2025

Instructor: Zhengchao Wan  
Email: [zwan@missouri.edu](mailto:zwan@missouri.edu) (best contact method)  
Office: MSB 308  
Office Hours: Wed 3:00–5:00pm or by appointment  
Class Meetings: MWF 1:00–1:50pm (MSB 111)

## Course Description

This course is a rigorous introduction to point-set (general) topology. Core themes include topological spaces, continuity, product and quotient constructions, connectedness, compactness, countability and separation axioms, metrization, etc. Emphasis is placed on developing proof-writing skills and abstract reasoning fundamental to advanced study in analysis, geometry, and algebra.

## Required Text / References

Primary reference: lecture notes (updated regularly on the course site).

Suggested textbooks for consultation / deeper context (not required):

- Stephen Willard, *General Topology*.
- James R. Munkres, *Topology* (2nd ed.).

Use the books as auxiliary references: definitions, theorems, and notation on assessments follow the lecture notes unless explicitly stated otherwise.

## Assessment and Grading

Component	Weight
Written Homework (6 in total)	60%
Midterm Exam	15%
Final Exam (cumulative)	25%
<b>Total</b>	<b>100%</b>

**Homework.** Problem sets emphasize proof writing. Collaboration in small groups is encouraged, but all submitted work must be written independently in your own words with collaborators acknowledged at the top. **You are expected to use LaTeX to typeset your homework.**

**Make-Up Exams.** Approved only for serious, documented, unavoidable reasons (e.g., university-sanctioned athletic/academic travel, verified medical emergency, death in immediate family). Not acceptable: personal travel (vacations, weddings, graduations), work schedules, court appearances, fraternity/sorority events, intramurals, club/organization activities, or convenience. To qualify you must (i) notify the instructor in advance when reasonably possible and (ii) supply timely written documentation. Otherwise the exam score is 0.

**Participation.** Regular attendance is expected, though not separately graded.

## Grading Scale

Letter grades are assigned according to the following thresholds:

Grade	Criterion
A+	$\geq 97\%$
A	$\geq 90\%$
B+	$\geq 87\%$
B	$\geq 80\%$
C+	$\geq 77\%$
C	$\geq 70\%$
D+	$\geq 67\%$
D	$\geq 60\%$
F	$< 60\%$

## Communication Problems

If you have any problems or concerns regarding this course, please contact: Dr. Dustin Belt, Director of Undergraduate Studies (beltd@missouri.edu) or Dr. Asma Harcharras, Faculty Supervisor, (harcharrasa@missouri.edu). In all correspondence, include your full name, Course (Math 8655), section, and instructor. This will enable us to answer your question more quickly.

## AI Policy

AI tools (e.g., ChatGPT, Copilot) may be used only in a limited, transparent, learning-support role to augment — not replace — your own reasoning. Using AI to obtain or adapt complete solutions for graded work is prohibited and may constitute academic misconduct. If you unintentionally encountered AI-generated material while researching or clarifying a concept (for example, an AI suggested examples that later appear in your homework), disclose the interaction in good faith; such inadvertent influence, when honestly reported, will ordinarily not be penalized.

Use this exact format for required disclosures: “AI assistance: [Tool name]; purpose: [brief description]” (e.g., “AI assistance: ChatGPT; purpose: suggested example of a non-Hausdorff space”). Failure to disclose intentional substantive AI use may be treated as academic misconduct; good-faith disclosures will ordinarily not reduce credit.

Use AI to explore and deepen understanding—never as a shortcut to a finished solution.

## University Policies

### Academic Inquiry, Course Discussion and Privacy

Recording and picture taking are not allowed during class meetings unless you have permission.

### Intellectual Pluralism

The University community welcomes intellectual diversity and respects student rights. Students who have questions or concerns regarding the atmosphere in this class (including respect for diverse opinions) may contact the departmental chair or divisional director, the Office of Academic Integrity

<https://oai.missouri.edu/about/intellectual-pluralism/> or the MU Equity Office <https://civilrights.missouri.edu/>

## **Students with Disabilities**

The goal of the University of Missouri is to ensure an inclusive learning environment for all students. The University of Missouri Disability Center <https://disabilitycenter.missouri.edu/> provides services and accommodations for students to participate fully in the learning experience and to experience equitable evaluation of their performance. Students (including online students) with a documented disability can contact the Disability Center to establish an accommodation plan; see <https://disabilitycenter.missouri.edu/accommodations-and-supports/> Documented disabilities include hearing, vision, mobility, learning and attention, psychological health, and physical health. Students' accommodations are implemented with the input of students to maximize the learning experiences. The MU Disability Center keeps information about a student's disability confidential. Please notify me of your eligibility for accommodations as soon as possible. Additionally, if there are aspects of the course that present as barriers, such as inaccessible course content (e.g., learning assessments, PowerPoints, non-captioned videos, images, tables, PDFs) or if you need an immediate accommodation due to an injury, please contact me or contact the Disability Center as soon as possible.

## **Mental Health**

The University of Missouri is committed to supporting student well being through an integrated network of care, with a wide range of services to help students succeed. The MU Counseling Center <https://counseling.missouri.edu/> offers professional mental care and can help you find the best approach to treatment based on your needs. Call (573) 882-6601 to make an appointment. Any student in crisis may call or go to the MU Counseling Center Monday-Friday between 8:00-5:00. After hours phone support is available at (573) 882-6601. Visit the website <https://counseling.missouri.edu/services/> to learn about the valuable services available to you to promote your mental well-being and to help you navigate life challenges while in college.