

TOPOLOGY SYLLABUS, SUMMER, 2021

JOHN C. MAYER

Course:	MA 671	Topology II
Meetings:	TuTh 3:00 - 5:00 PM	UH 4002
Dates:	June 7 – August 13, 2021	
Instructor:	John Mayer	UH 4022
Email:	jcmayer@uab.edu	
Office Hours:	tba in UH 4022 office	online via Zoom

Format of Course. This is a graduate course in fundamentals intended to prepare students to undertake further graduate work in a variety of areas of mathematics. This is a “do-it-yourself” course utilizing techniques of *inquiry-based learning*. You are *strongly discouraged* from consulting any textbook, internet site, or “expert.” You may talk to each other informally and to me, but work presented in class must be your own or properly credited. It is OK to say “The idea for this proof was suggested to me by ...” and incurs no penalty.

Material. The only material for the course will be a set of **Topology Notes** which will be updated and distributed periodically. Chapters 1-3 have been distributed in Topology I and will be available in Canvas or directly from me. We will begin by finishing the problems in Chapter 3 and moving on to Chapter 4, also posted to Canvas. Please keep up with the course through Canvas.

It is an unfortunate fact that occasionally there may be errors in the Notes. Please point them out and they will be corrected in the next update.

Most items in the Notes appearing in italics (theorems, lemmas, propositions, corollaries, problems, and examples) are for students to work out and present proofs and explanations in class. Set out items not in italics (definitions, axioms, remarks, conjectures, and questions) are for your use and reference.

Presentations are proofs and explanations of theorems (lemmas, propositions, etc.) prepared in advance of class and presented in class using the document camera for printed or written presentations, or using a thumb drive and the in-class computer and data projector for electronic files. PDF files prepared using LaTeX are encouraged. See the website below for a free LaTeX editor:

<https://www.overleaf.com/>

Exercises are also in italics, but are not usually to be presented at the board. They may count toward your grade (see “Rules” below). You are responsible for knowing how to solve them. You may use true statements from the exercises in your presentations without proof.

Rules.

- (1) Mere presence counts 1 point per class meeting.
- (2) Each item presented in class and defended correctly counts 2–4 points, depending upon quality of explanation/proof/defense.
- (3) Priority order for presenting is determined (in order) by:
 - (a) Persons with lowest presentation point total.
 - (b) Persons who have not yet presented that day.
 - (c) Random experiments to break ties.
- (4) Exercises generally are not presented in class, but may be turned in through Canvas for a written homework grade (see “Grading” below). Deadline is first class meeting after we move beyond where the exercise appears in the Notes. Proof and/or explanation is always required — a bare answer never suffices.
- (5) There are two tests: midterm and final (see “Grading” below), and there may be a few quizzes.

Grading. Items will be weighted the flexible amounts indicated below so as to produce the best individual grade. You can (and may) rely entirely on presentations for your grade.

Presentations	30–100%	rank-ordered subject to a minimum
Homework (Exercises)	0–20%	rank-ordered subject to a minimum
Tests and Quizzes	0–50%	mid-term and final count equally

You *are not required* to do any written homework unless you want to. It can only help your grade. You *are required* to take the tests and quizzes, though they cannot hurt you much if your Presentation total is excellent. Any day that there are **not** enough presentations to keep the class engaged, there will be a quiz!

Attendance. Attendance in class is required, as you are there not only to present your own results, but also to critique (in a positive way) the work of others. Participation is expected. Unexcused absence is a 2 point penalty per day on your presentation total. Lateness of above 15 minutes is a 1 point penalty. After a warning from me, *your* grace time may be shortened.

COVID Awareness. UAB may have health and safety rules in effect because of the COVID pandemic. You are responsible for being aware of the rules. The rules will be rigidly enforced. See the website below:

<https://www.uab.edu/uabunited/>

You need to be prepared for the possibility of meeting online using Zoom.

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