

Course Syllabus

CSU Math 472: Introduction to Topology, Fall 2022

Instructor: Henry Adams

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Office: Weber 120

Lectures: MWF 2:00-2:50pm in Clark C363

Textook: *Basic Topology* by M. A. Armstrong. This book is [freely available as a PDF to CSU students](#) if you login on the CSU library webpage.

Class Webpage: <http://www.math.colostate.edu/~adams/teaching/math472fall2022>

Course Overview: This course is an introduction to topology. Topics introduced include Euler's theorem, topologies on sets, continuous functions, homeomorphisms, compactness, connectedness, surfaces, manifolds, identification spaces, homotopy equivalences, the fundamental group, homotopy groups, Borsuk-Ulam theorem, Brouwer's fixed-point theorem, Morse theory, homology.

Goals: Students will become fluent with the main ideas and the language of topology, and will be able to communicate these ideas to others.

Prerequisites: The official prerequisite is Math 317 (Advanced Calculus of One Variable). The unofficial prerequisite is a certain level of mathematical experience.

Requirements: Your grade will be based on the following components: 60% homework, 30% poster session, 10% class participation.

Poster Session: The math department poster session for Fall 2022 is **Thursday, December 8**.

Homework: The clarity of your solutions is as important as their correctness. Working in groups on homework and to study is encouraged! However, your submitted homework should be written up individually, in your own words.

A great way to know if you have learned something is to try to communicate it with others. Therefore, I may assign a homework mini-project to be made publicly available (typically meaning that it has a url), with the goal of helping teach folks from outside of CSU. The medium for such a homework is wide-open: it could be a blog post, a video tutorial, a small webpage explaining a topic, an expository note, etc. The possible topics for such a homework is also flexible: it could be on some aspect of the history of topology, an explanation of the solution to an exercise, an explanation of the proof of a theorem, a topic from a lecture, a topic that wasn't covered in any lectures (but that you perhaps wish was), etc.

Standard mode of communication: I will primarily communicate announcements in class and via emails through Canvas.

Academic Policies and Integrity: Students are expected to adhere to the CSU Academic Integrity Policy as found on the Students' Responsibilities page of the [CSU General Catalog](#) and in the [Student Conduct Code](#). [CSU policies apply](#) for illness, religious or spiritual holidays, unexpected events, university-sanctioned activities, etc. Colorado State University is committed to providing reasonable accommodations for all persons with disabilities, and students with disabilities are encouraged to contact the [Student Disability Center](#). A good summary of this information is available at the [Syllabus Resources and Policies page](#), corresponding to the below QR code.



Covid: My understanding of CSU policies this semester is that you may wear a mask or not. If you are sick or suspect you may be sick, please do not come to class, and do send me an email. The following information is from the university:

- All students are expected and required to report any COVID-19 symptoms to the university immediately, as well as exposures or positive tests (even home tests).
- If you suspect you have symptoms, or if you know you have been exposed to a positive person or have tested positive for COVID (even with a home test), you are required to fill out the COVID Reporter (<https://covid.colostate.edu/reporter>).
- If you know or believe you have been exposed, including living with someone known to be COVID positive, or are symptomatic, it is important for the health of yourself and others that you complete the online COVID Reporter. Do not ask your instructor to report for you.
- If you do not have internet access to fill out the online COVID-19 Reporter, please call (970) 491-4600.
- You may also report concerns in your academic or living spaces regarding COVID exposures through the COVID Reporter. You will not be penalized in any way for reporting.
- When you complete the COVID Reporter for any reason, the CSU Public Health Office is notified. Students who report symptoms or a positive antigen test through the COVID Reporter may be directed to get a PCR test through the CSU Health Network's medical services for students.
- For the latest information about the University's COVID resources and information, please visit the CSU COVID-19 site: <https://covid.colostate.edu>.