

POLICIES
MATH 451 - TOPOLOGY
SECTION 01 - FALL 2021

INSTRUCTOR: Jonathan Cutler

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FINAL EXAM: Tuesday, December 14, 5.30-8.00pm

TEXTBOOK: *Topology without Tears*, Sidney A. Morris.

<https://www.topologywithouttears.net>

OPTIONAL TEXT: *Introduction to Topology: Pure and Applied*, Colin Adams and Robert Franzosa. ISBN: 978-0-13-184869-6

CLASS TIME/LOCATION: T 5.30-8.00pm, RICH 135

OUTLINE: This course will introduce most major topics in point-set topology. We will use the text as a general outline and supplement it when necessary. We will attempt touch on most the material in the text, although most of our time will spent on classical areas of the field, e.g., topological spaces, continuity, metric spaces, connectedness, and compactness. Examples and counterexamples will be a point of emphasis throughout the course. If there is time, we may cover topics including homotopy, fixed points theorems, embeddings, knots, and manifolds. The pace and material will be directly correlated with the environment in this class. An emphasis will be put on understanding mathematical rigor. Applications will also be pointed out when convenient. Also, the lecture period should be thought of more as a discussion than a monologue. Questions before, during and after the lecture period are strongly encouraged.

EVALUATION: There will be a midterm exam and a final exam, the format of which will be determined during the semester. There will also be weekly homework sets, which the students are encouraged to work on together and ask questions to me or anyone else who may be of help, e.g., other undergraduate students, graduate students, other faculty, etc. However, each student should write up their solutions separately. The main goal of the problem sets is for the students to show the instructor a clear understanding of the exercise through a clear and precise solution. Occasionally, the instructor may ask students to present nice solutions to homework problems on the board. Homework will be worth 50% of your grade, the midterm will be worth 25%, and the final exam will be worth 25%.

OFFICE HOURS: T 4.30-5.30pm, W 1.30-2.30pm, F 10.20-11.20am and by appointment. Students are encouraged to come by the office whenever they have a problem and either ask questions immediately or set up an appointment. Of course, questions can also be asked over email or the phone, but being able to discuss the problem with a board around is preferable.

NB: Even though this is meant only as a very rough outline of the layout of this course, the instructor reserves the right to change any of the above during the semester subject to informing the students of these changes.