

Topology Paper/presentation for MAT 451/551.

We will replace the final exam with a paper and short presentation to the class on one of the topics below. Only one person can pick a given topic.

Alexandrov Topology	Hairy Ball Theorem	Network Topology
Cantor Set	Hilbert Cube	Poincare Conjecture
Categorical Topology	Hopf Fibration	Pointless Topology
Cone Topology	Jordan Curve Theorem	Space Filling Curves
Continuum	Knot Theory	Vector Bundles

1. Describe the topic.
2. Provide some historical context.
3. What does it have to do with topology?
4. What are the key topological properties?
5. Why is it interesting?

The paper should be typed with double-spacing and 12 pt font. (You can use LaTeX, but the page count might depend on the format you have chosen.) The graduate student paper should consist of at least 4,000 words. (This is roughly 8 single-spaced pages, or 16 double-spaced pages, depending upon the layout and 12 pt font.) Undergraduate student papers can be at least 3,000 words.

You will be expected to use correct English grammar and punctuation. This is a report and thus you will use proper sentence and paragraph formatting. Your work should also be supported with properly labeled and embedded plots, equations, theorems and proofs. References should be used and cited in the body of the paper. This paper will count towards the final exam component of your grade.

Note, you will be graded on the how well you have followed directions as well as evidence of work, mathematics detail and understanding, proper exposition and neatness, and effort as noted by appropriate length and depth presented. You will then have the opportunity to present your topic to the class at a designated time.