MAT400: Introduction to Topology

Course Description, Spring 2024

Instructor
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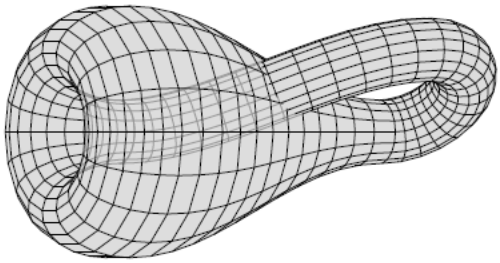

Class
MWF 2:00 PM - 2:50 PM, Neville 206

Course description
Topology is the study of continuous functions and continuous deformations of spaces, topics that are important in analysis and geometry. Recently, topology has also found its way into applications toward fields outside of mathematics such as topological data analysis in computer science and the topology of protein folding in biology.

In this course, we will discuss basic concepts in point set topology (e.g. topological spaces, continuous maps, compactness, connectedness) and algebraic topology (e.g. fundamental group, covering spaces). Along the way, we will also see some applications of topology to other disciplines.

Topology is a visual subject that pushes you to hone your intuition as well as your spatial reasoning, abstraction, and analytical skills. This course will be hands-on, with a portion of class time devoted to working on problems in groups, discussing concepts, and playing with topological spaces.

Textbook: *Basic Topology* by M. A. Armstrong

Credits: 3

Prerequisites: MAT261 (Introduction to Abstract Mathematics)