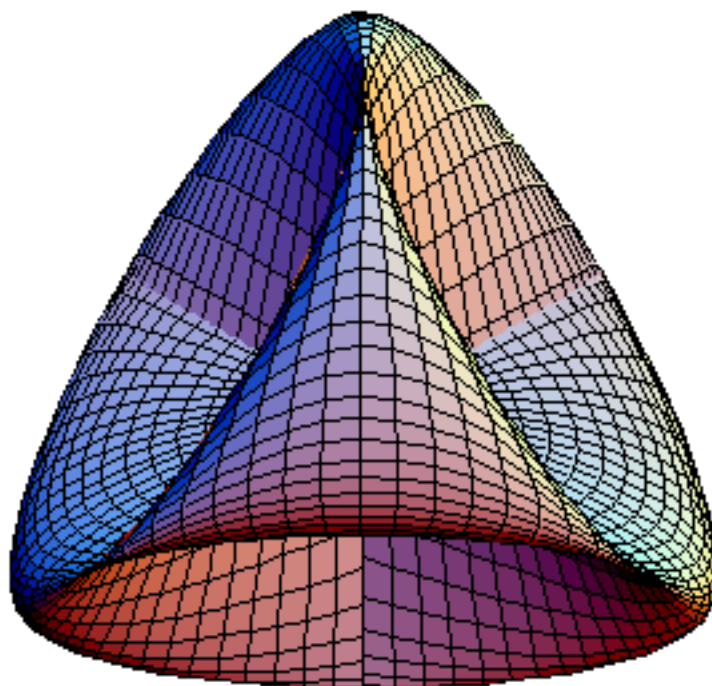


Math 426

Introduction to Topology

Fall 2014

Course Information



Time: MWF 10:00-11:00

Place: MATX 1102

Instructor: [Kai Behrend](#)

Office hours: Mondays, 2-3
in Math Annex 1213.

Text Book: James Munkres: *Topology*. Second Edition. Prentice Hall.

Prerequisites: A score of 68% or higher in both MATH 321 (Real Variables II) and MATH 322 (Introduction to Algebra).

Course Outline: Topology is one of the most active and advanced fields of mathematics, and it is indispensable for many other fields, such as Analysis, Geometry or Algebra. This course is a standard introduction to Topology.

We will follow the textbook fairly closely, and attempt to cover most topics included in the book.

The first part of the course will cover the basics of point set topology: definitions and first examples of topological spaces and continuous maps; basic constructions: products, subspaces, quotient spaces; basic properties: connectedness, compactness, separation axioms. A first peak will be Urysohn's lemma and some of its consequences. Then we study metric spaces and function spaces.

The latter part of the course discusses the fundamental group of a topological space, one of the most interesting and important invariants in all of topology. We will study the Jordan curve theorem, the Seifert-Van Kampen theorem, and classify surfaces up to homeomorphism.

Exams: There will be one midterm exam and one final exam.

Homework: Homework will be assigned on an irregular basis throughout the semester. Please do all homework assignments.

Marking: Your mark will be made up as follows:

Homework: 40%

Midterm: 20%

Final: 40%