Topology I
MATH 70800, Spring 2017
Tues & Thur 10:00 – 11:30 am, Room TBA
Ph.D Program in Mathematics, CUNY Graduate Center

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Office Hours: Thursdays 11:30 - 1 pm

Course Description: This is the second part of the graduate Topology sequence. We will learn techniques and applications of Algebraic Topology to study topological spaces. Topics covered will include Simplicial & Singular Homology, Homotopy Invariance, Exact Sequences and Excision, Cellular homology, Homology with Coefficients, Axioms for Homology, Cohomology of Spaces, Cup Products, Poincare Duality and Products. We will cover additional topics if time permits. In addition to rigorous proofs, we will do lots of examples and computations.


Homework and Exams: Homework will be assigned every other week, posted on the class homepage, collected and graded. There will be a final exam at the end of the course. For those taking the Qualifier in Topology in May, it can serve as the Final Exam.

Reference Books:


2. An Introduction to Algebraic Topology, by Rotman, Springer-Verlag GTM.

3. Homology theory. An introduction to algebraic topology by James Vick, Springer-Verlag GTM.