Math 6833: **Topological Methods in Group Theory**
Instructor: Max Forester
Time: TR 12:00–1:15

In this course we will use topology to study some basic questions in group theory. The link between topology and group theory is provided by the fundamental group, and so fundamental groups and covering spaces will be used throughout the course. Homology will also be used, but not all the time. A semester of Algebraic Topology would be a good background to have.

Since every group is the fundamental group of a 2-complex, much of the course will be concerned with the topology of 2-complexes. Some topics I hope to cover are: transversality for cell complexes, diagrams in group theory, Dehn functions, one-relator groups, locally indicable groups, the tower construction and Howie's theorems, coherence of groups.