Course Outline:

This is a first semester graduate course in Topology.

We will start with a review of point set topology, and discuss basic properties of topological spaces, including compactness, connectedness and separation properties. Most of the course will then be spent introducing techniques ways in which algebraic invariants arise in topology, and applications thereof. This latter part will cover the fundamental group of a space, the theory of covering space, and end with a brief introduction to homology groups. Along the way we will explore many examples.

Text:


Additional (optional) texts for point-set topology topics:

John Hocking and Gail Young, *Topology* and/or Munkres, *Topology*. 