

Mathematics 607: Basic Topology, Fall 200

Professor Frank Connolly, Room 235 CCMB

Text: BASIC TOPOLOGY, by M.A. Armstrong, Springer Verlag(1983)

MATERIAL TO BE COVERED

Topological Spaces and Metric Spaces. Separation Properties. The Tietze Extension Theorem. Compact Spaces, Product Spaces and the Tychonoff Product Theorem. Connectedness. Paths, Loops and Homotopy. The Fundamental Group of a topological space. Quotient spaces, topological groups, and orbit spaces. Calculation of fundamental groups, and the classification of Covering Spaces. Simplicial Complexes. The Euler Characteristic.

Smooth Manifolds, and Surfaces. Smooth Maps between Manifolds. The Tangent Bundle of a Smooth Manifold.