



PURE MATHEMATICS 631 "ALGEBRAIC TOPOLOGY I"

Calendar Description: H(3-0)

Elements of category theory and homological algebra. Various examples of homology and cohomology theories. Eilenberg-Steenrod axioms. Geometrical applications.

Suggested Text: Gray, "Homotopy Theory", Academic Press.

Syllabus

Topics

Introduction to Category Theory

Basic Ideas of Algebraic Topology

Chain Complexes, Homology

Simplicial Complexes

Explicit Calculations over Principal Ideal Domains

Eilenberg Steenrod Axioms, Singular Homology Theory

Fundamental Group

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