Lectures on Algebraic Topology
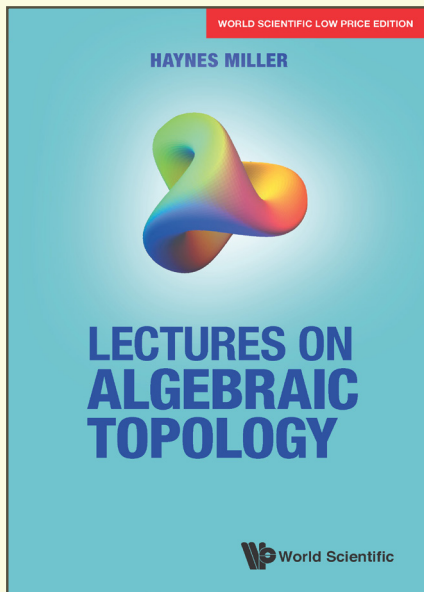
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ABOUT THE BOOK

Algebraic Topology and basic homotopy theory form a fundamental building block for much of modern mathematics. These lecture notes represent a culmination of many years of leading a two-semester course in this subject at MIT. The style is engaging and student-friendly, but precise. Every lecture is accompanied by exercises. It begins slowly in order to gather up students with a variety of backgrounds, but gains pace as the course progresses, and by the end the student has a command of all the basic techniques of classical homotopy theory.

READERSHIP

Ideal for a beginning graduate course, aimed at students familiar with general topology and basic modern algebra; also good for researchers who need to use the methods of algebraic topology, in mathematics at large and in theoretical physics.

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Preface

Singular Homology

Computational Methods

Cohomology and Duality

Basic Homotopy Theory

The Homotopy Theory of CW Complexes

Vector Bundles and Principal Bundles

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