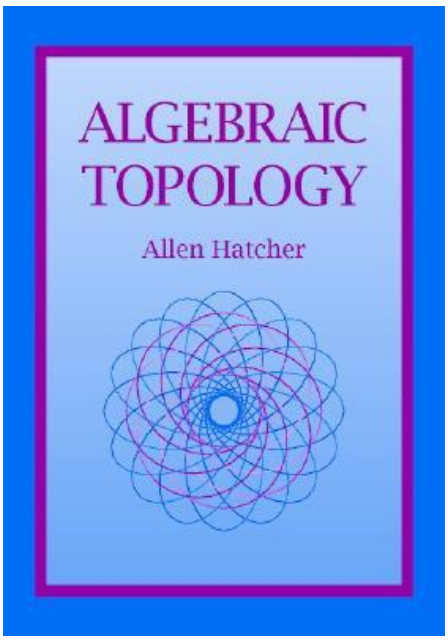

Algebraic Topology

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In most major universities one of the three or four basic first-year graduate mathematics courses is algebraic topology. This introductory text is suitable for use in a course on the subject or for self-study, featuring broad coverage and a readable exposition, with many examples and exercises. The four main chapters present the basics: fundamental group and covering spaces, homology and cohomology, higher homotopy groups, and homotopy theory generally. The author emphasizes the geometric aspects of the subject, which helps students gain intuition. A unique feature is the inclusion of many optional topics not usually part of a first course due to time constraints: Bockstein and transfer homomorphisms, direct and inverse limits, H-spaces and Hopf algebras, the Brown representability theorem, the James reduced product, the Dold-Thom theorem, and Steenrod squares and powers.

Algebraic Topology Details

Date	:	Published December 3rd 2001 by Cambridge University Press (first published November 15th 2001)
ISBN	:	9780521795401
Author	:	Allen Hatcher
Format	:	Paperback 544 pages
Genre	:	Science, Mathematics, Textbooks, Reference

From Reader Review Algebraic Topology for online ebook

Phil says

The best thing about this book is that its free on the internet! Hatcher's book is a good introduction to algebraic topology. Its full of examples and tons of extra material beyond the basics, which can actually make it difficult to find what you need. This book is NOT concise: if you have a lot of time on your hands and don't mind learning things that you probably won't ever use, this is a good book. But it can be hard to find what you need, and often the original examples that he gives aren't worth the effort, relative to how much they actually illuminate the material. I haven't tried many of the exercises.

Phyllis says

I have this love-and-hate relationship with Hatcher.

Chris says

As a beginner, prepped by Armstrong's Topology, I found this book, although readable, difficult and at times frustrating and exhausting. I spent seven months working the problems in chapters 0-3, with a handful of supplementary sections. Some say this book is not rigorous, but I disagree, and would say rather that I struggled because it isn't systematic enough for me: the geometric agenda gets in the way of revealing the fullness of the algebraic structure. Examples and exercises are often tricky and subtle applications from which it is hard to extract general patterns: examples often rely on geometric intuition and some exercises require more inspired homological algebra than provided in the text. Anyway, I'm just a beginner and this book is clearly correct and comprehensive, so I will just recommend that if you use this book for self-study you have another text as well and that you register for Math.SE.

Anthony says

Great introduction to algebraic topology. For those who have never taken a course or read a book on topology, I think Hatcher's book is a decent starting point. However, (IMO) you should have a working familiarity with Euclidean Geometry, College Algebra, Logic or Discrete Math, and Set Theory before attempting this book. While some people might complain about the book's lack of rigor, I think this is irrelevant. What is important is that the book manages to convey the essentials of topology. If you are an intuitive learner with a rudimentary background in topology , you'll find this book to be more accessible than a book which focuses on rigor. However, if you are an academic, then you might find this book unsatisying.

Why study topology? Topology is like geometry on steroids. It has practical applications in the physical sciences, computer graphics, and statistics. Furthermore, there is an inherent beauty in topology which cannot be easily described in words. Topology expands our means of working with geometric figures. Unlike Euclidean Geometry, the geometry which you encounter in a high school math class, Topology is primarily concerned with transformations of connected geometric objects through bending, stretching, and twisting.

Algebraic topology translates topological figures into algebraic images.

Stephen says

ebook,non-fiction,mathematics,topology

Chris says

when someone spends 50 years thinking about diffeomorphisms, and is an excellent expositor, you get a master text.

Give a look to chapter 0 even if you're a non-mathematician. It will change what you think A+B−A−B means. And whether mathematics is about numbers or knitting.
