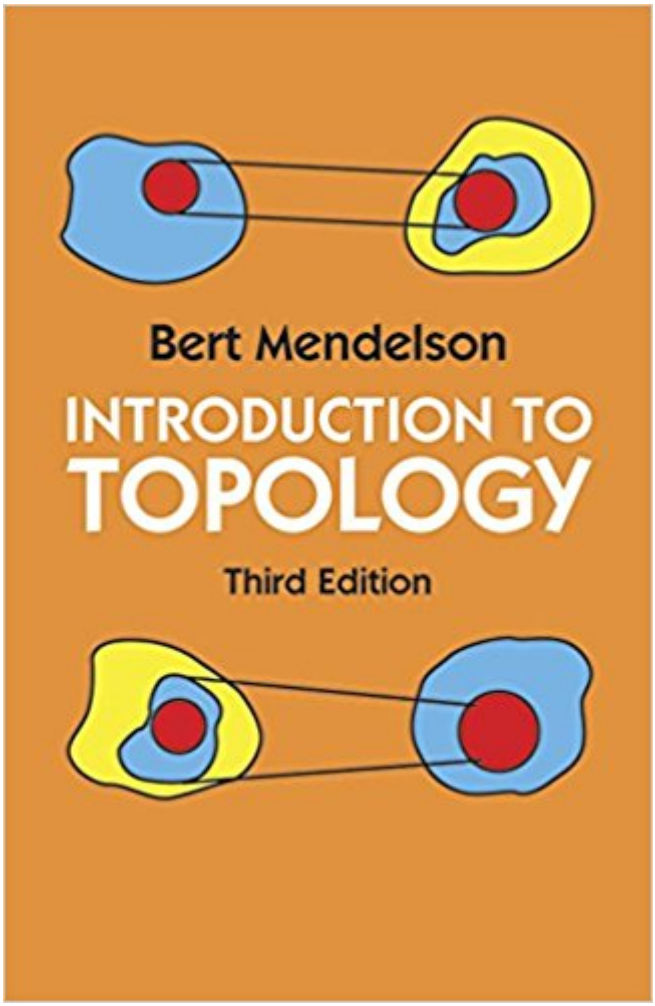
Introduction To Topology: Third Edition (Dover Books On Mathematics)



Synopsis

Highly regarded for its exceptional clarity, imaginative and instructive exercises, and fine writing style, this concise book offers an ideal introductionÃ Â to the fundamentals of topology. Originally conceived as a text for a one-semester course, it is directed to undergraduate students whose studies of calculus sequence have included definitions and proofs of theorems. The book's principal aim is to provide a simple, thorough survey of elementary topics in the study of collections of objects, or sets, that possess a mathematical structure.The author begins with an informal discussion of set theory in Chapter 1, reserving coverage of countability for Chapter 5, where it appears in the context of compactness. In the second chapter Professor Mendelson discusses metric spaces, paying particular attention to various distance functions which may be defined on Euclidean n-space and which lead to the ordinary topology.Chapter 3 takes up the concept of topological space, presenting it as a generalization of the concept of a metric space. Chapters 4 and 5 are devoted to a discussion of the two most important topological properties: connectedness and compactness. Throughout the text, Dr. Mendelson, a former Professor of Mathematics at Smith College, has included many challenging and stimulating exercises to help students develop a solid grasp of the material presented.

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Customer Reviews

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Overall, great introductory book to topology. The pedagogy was excellent and the development of topics made sense in going from metric spaces (a notion that is general more intuitive) to abstract topological spaces.In particular, it was great for self-study as Mendelson doesn't shy away from fully fleshing-out proofs and repeating relatively similar cases with some additional notes (e.g. when going from metric to topological spaces and proving several ideas there). The book itself can certainly be read by anyone with a set theory background and some intuitive notion of limits/sequences (i.e. a class in pre-calculus), but that doesn't mean it's easy, by any means. I struggled quite a bit with the intuition behind some of the proofs, and have, more than once, rolled around on my bed trying to recall (or prove again) some particular statement that I found quite useful. Sadly, the book doesn't have a section on homotopy equivalence and some other useful notions, but do recall it is an introduction in exactly 200 pages of short text.This book took me at least 20-30 hours to get through, skipping only the very latter section on compactess and doing at least two of the harder problems in each section; but I have very little experience with analysis, something I'm sure would have helped complete this and gain the corresponding intuition much more quickly.Again, great book and would highly recommend it for self-study of topology.

Well, a simple language and very easy to understand. Edition is very small and you can carry it anywhere. You will need of course, a previous knowledge of mathematics to understand the great

part of this book, but this is topology, ones of the fields more difficult in mathematic, even the more easy handbook will seem very high abstracted book if you doesn't know anything about theory of sets and functions. For students and mathematics is really a good point to begin a review of Topology, not the great only one book, but a start point to familiarize with terminology before to study Topology applications. I like this one.

With all due respect to the late Professor Mendelson, I have struggled with this book. Having said that, I am neither a mathematician nor graduate student of same. I am a professional specialising in theory and am trying to teach myself (with MIT's help) some belated applied maths useful to theory making. For work I have embarked upon recently I am in need of upgrading my knowledge of things like abstract algebra and topology. This is one of the texts I purchased for self-study.I guess my main gripe is the book is a bit too dry for me. Which led to a lack of clarity on certain topics. I need a bit more flourish of explanation than mere definitions, theorems, examples. Over and over again. But I know, on the other hand Prof M wrote it from his lecture notes, for his students of serious maths. Not for me. So be it. For example, after reading the book through, then pouring over it in selected areas and chapters for weeks, re-visiting things I had not quite grasped, I still cannot tell the difference between a topological space and a topology - other than by theorem definition. Sure, there I can see (X,T) (T being curly T or whatever it is called) is the former, and T itself the latter. But I remain in desperate need of help from an author saying what this means. In clear simple English, preferably.I am not negative about the book as a whole, for I now know something at least about topology. As opposed to before I bought it and read it - when I knew zilch.Recommended for mathematical students; not for inquiring minds of applied people like myself who need more gently, gently.

Well written INTRO. I purchase it as a gift to an aspiring young mathematician.

Mendelson's text is a well organized, clear, and concise (though basic) introduction to point/set ("general") topology at an undergraduate-level of accessibility. As a look at the table of contents shows, the topics covered are the basics of the subject. On the up side, the exposition is very clear. For the most part I found the exercises to be what I consider the ideal for a textbook: very helpful and instructive, but not used in place of the exposition/proof of any major result.

It falls somewhere in between: neither conceptual, nor technical.Not bad, neither superb.It's ok.

I had one semester of real analysis prior to picking up this book. I found it's presentation of metric spaces OK, though Mendelson seems happy enough with abstract definitions that he doesn't always try to help with developing some intuition. This book is probably pretty hard to read if you're not familiar with metric spaces.Mendelson introduces topological spaces very well, though, with lots of examples, counterexamples, and explanations of both. It's dense reading (though not open-dense, ha-ha) but it is worth it. Definitely a good first book on topology.

Would recommend.

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