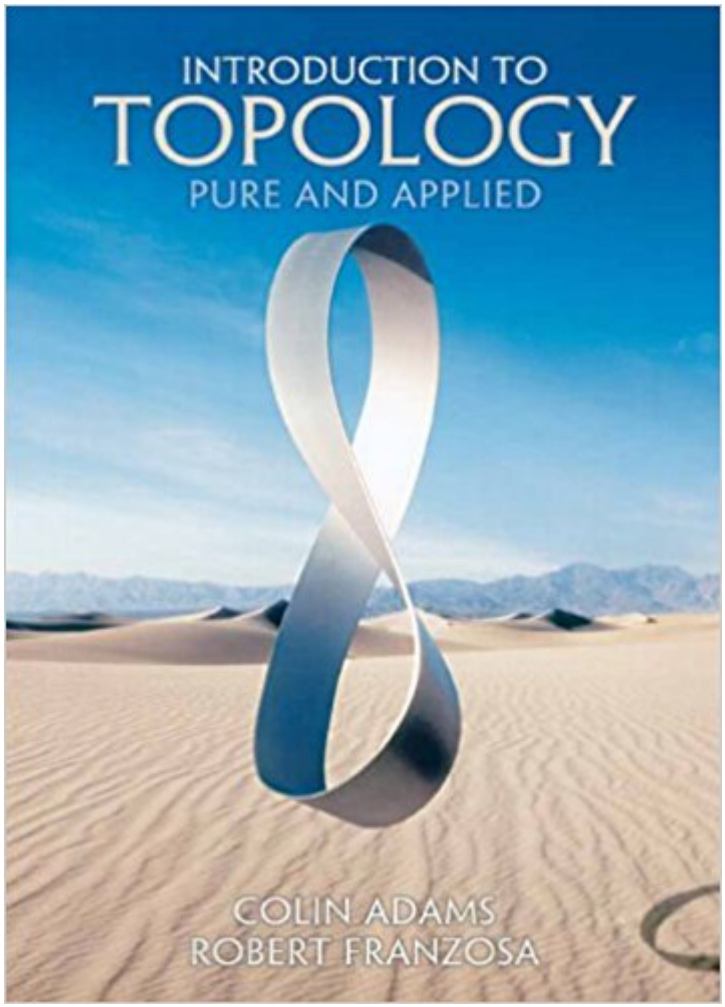
Introduction To Topology: Pure And Applied



Synopsis

Ã Â Learn the basics of point-set topology with the understanding of its real-world application to a variety of other subjects including science, economics, engineering, and other areas of mathematics.Ã Â Ã Â Introduces topology as an important and fascinating mathematics discipline to retain the readers interest in the subject. Is written in an accessible way for readers to understand the usefulness and importance of the application of topology to other fields. Introduces topology concepts combined with their real-world application to subjects such DNA, heart stimulation, population modeling, cosmology, and computer graphics. Covers topics including knot theory, degree theory, dynamical systems and chaos, graph theory, metric spaces, connectedness, and compactness. A useful reference for readers wanting an intuitive introduction to topology.

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Customer Reviews

Learn the basics of point-set topology with the understanding of its real-world application to a variety of other subjects including science, economics, engineering, and other areas of mathematics. Introduces topology as an important and fascinating mathematics discipline to retain the readers interest in the subject. Is written in an accessible way for readers to understand the usefulness and importance of the application of topology to other fields. Introduces topology concepts combined with their real-world application to subjects such DNA, heart stimulation, population modeling, cosmology, and computer graphics. Covers topics including knot theory, degree theory, dynamical systems and chaos, graph theory, metric spaces, connectedness, and compactness. A useful reference for readers wanting an intuitive introduction to topology.

Colin Adams is the Thomas T. Read Professor of Mathematics at Williams College. He received his PhD from the University of WisconsinÃ¢â ¬â œMadison in 1983. He is particularly interested in the mathematical theory of knots, their applications, and their connections with hyperbolic geometry. He is the author of The Knot Book, an elementary introduction to the mathematical theory of knots and co-author with Joel Hass and Abigail Thompson of How to Ace Calculus: The Streetwise Guide, and How to Ace the Rest of Calculus: the Streetwise Guide, humorous supplements to calculus. He has authored a variety of research articles on knot theory and hyperbolic 3-manifolds. A recipient of the Deborah and Franklin Tepper Haimo Distinguished Teaching Award from the Mathematical Association of America (MAA) in 1998, he was a Polya Lecturer for the MAA for 1998-2000, and is a Sigma Xi Distinguished Lecturer for 2000-2002. He is also the author of mathematical humor column called "Mathematically Bent" which appears in the Mathematical Intelligencer. Robert Franzosa is a professor of mathematics at the University of Maine. He received his Ph.D from the University of WisconsinÃ¢â ¬â œMadison in 1984. He has published research articles on dynamical systems and applications of topology to geographic information systems. He has been actively involved in curriculum development and in education outreach activities throughout Maine. He is currently co-authoring a text, Algebraic Models in Our World, which is targeted for college-level general-education mathematics audiences. He was the recipient of the 2003 Presidential Outstanding Teaching Award at the University of Maine.

This was my first experience EVER with topology and I did not find it easy to understand. Previous knowledge of sets,subsets, mathematical notation and other math relationships is a definite plus to help you understand what the text is trying to teach....but the text does attempt to give a review in the 0 chapter. This text would be a lot better if it had solutions to some of the exercises(like the odds) in the back of the book and had given a review of how to complete paragraph proofs.

The text is nicely laid out, with plenty of explanations. I especially enjoy the sections on applied topology. One major issue, for myself at least, is the absence of solutions to the exercises! Granted, most of them are "prove XYZ", so solutions aren’t going to be very concise, but the complete lack of them has me slightly disappointed.Overall a nice book, though.

Everything is well explained with lots of pictures and examples. I am able to read the text and learn the material without having to resort to outside reference material.

thanks

I really enjoy the book and I think that it is going to be a great class. I feel that it should only be used by someone who is experienced in math notation and has some upper division undergraduate math courses under their belt.

Everything you want to know about basic topology can be found in this book. The title is correct. Used it for my topology class in college.

I purchased this book upon recommendation from an internet buddy. I'm currently taking my first topology course (at an undergraduate level) and usingÃ Â Topology (2nd Edition)Ã Â as the assigned text. I understand that Munkres is the "standard", and I don't have any real complaints about it, but I wanted something else to help broaden my understanding, and Adams and Franzosa did a great job in providing a book that does exactly that.While Munkres presents everything from a very mathematically rigorous point of view, it took me several chapters before I really understood what we were talking about in a sense other than developing a branch of mathematics. It's great to follow theorems and definitions, but Munkres left me sort of mystified as to why we were doing this for quite some time. On the other hand, this book is all about the why and the how.Applications of topology are presented from the get-go, usually as sections appended to the chapter that introduces the concept, so that the applications are more of an optional exploration than a focus. This really helps to motivate the reader and highlight the important concepts; it also makes it much easier to explain to a curious friend what exactly it is that you're doing.Rigorous definitions and theorems are almost always accompanied by a plainer explanation of what exactly we're working with and why, and some of the diagrams, especially in the sections on quotient maps, are invaluable in visualizing what's going on and keeping track of what's a subset of what being mapped to where. This book does a good professor's job--instead of merely regurgitating theory and leaving you to put the pieces together, it's an excellent guide to a deeper understanding of the subject.The exercises are plentiful and well-chosen. The authors gently guide the reader along the right path when asking for a new proof, and there are enough examples given to help the reader broaden her thinking to new approaches. The last several chapters go into more detail about specific topics that take the general concepts in advanced directions; this structure avoids breaking the flow of information. Overall, the text is very well-organized, and the authors have painstakingly highlighted suggested paths through

the material.This is, however, an introductory text, and it sticks mostly to point-set topology. There are a few results that I was surprised to see missing, and a few concepts that were skipped entirely (for instance, the distinction between the product topology and the box topology--the box topology is not discussed). For my purposes, it everything I could hope for--a patient discussion that expanded and clarified the topics I've already encountered using Munkres. As an introductory text, I couldn't imagine anything better.

Amazing topology book. A little bit more on knot theory woulfpd have been appreciated but overall, it is amazing

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