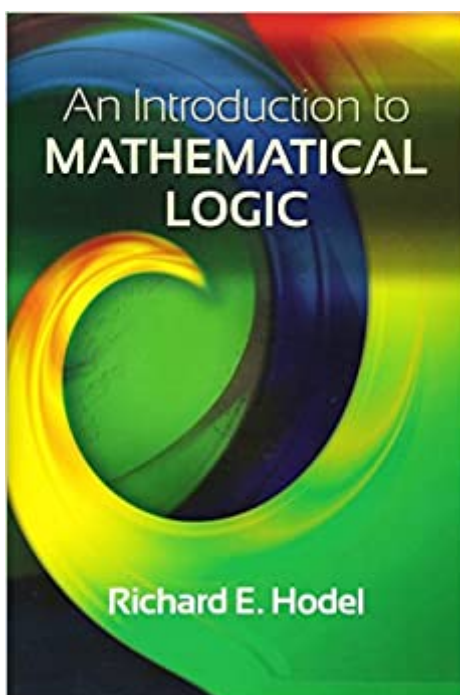


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# An Introduction To Mathematical Logic (Dover Books On Mathematics)



## Synopsis

Widely praised for its clarity and thorough coverage, this comprehensive overview of mathematical logic is suitable for readers of many different backgrounds. Designed primarily for advanced undergraduates and graduate students of mathematics, the treatment also contains much of interest to advanced students in computer science and philosophy. An introductory section prepares readers for successive chapters on propositional logic and first-order languages and logic. Subsequent chapters shift in emphasis from an approach to logic from a mathematical point of view to the interplay between mathematics and logic. Topics include the theorems of Gödel, Church, and Tarski on incompleteness, undecidability, and undefinability; a rigorous treatment of recursive functions and recursive relations; computability theory; and Hilbert's Tenth Problem. Numerous exercises appear throughout the text, and an appendix offers helpful background on number theory.

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## Customer Reviews

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functions and recursive relations; computability theory; and Hilbert's Tenth Problem. Numerous exercises appear throughout the text, and an appendix offers helpful background on number theory. Dover (2013) republication of the edition published by PWS Publishing Company, Boston, 1995. See every Dover book in print at [www.doverpublications.com](http://www.doverpublications.com)

Looks Good.

Discovered this book by coincidence, when I was looking online for some details of non-standard models of Peano Arithmetics and Skolem's result on this matter. Almost the entire chapter 6 of the book ("First order theories and Hilbert's Program") is on Google Books, and I found myself rereading other part and proofs as well, simply because of the extreme clarity of developing his arguments. There are probably more rigorous (introductory) books on mathematical logic - Enderton's "A Mathematical Introduction to Logic" comes to mind, and there are also probably more accessible (but less rigorous) introductions, say Gamut's "Logic, Language, and Meaning, Volume 1", but Hodel's Introduction to Mathematical Logic strikes a very rare balance between the two. The author is certainly rigorous enough to make this a title on mathematical logic (as opposed to a treatment from the more philosophical side), but he also has a way to cut out some of the more tedious parts for the sake of clarity. I would highly recommend this books for two groups: those who already have a basic introduction to logic and want a maximally accessible, yet thorough introduction to mathematical logic, and those who already read a book like Enderton, but feel they lack some intuitive access to some of the formal results. A note on the edition: I got the softcover / reprint, and if I could, I would rate the title 5 stars, but the print quality 4, maybe even 3. Low paper quality, narrow margins, all in all, unpleasant. Still, I'm happy to give the title itself 5 stars, but if I could order it again, would probably try to get the hardcover, maybe as a used version to save some money.

As a philosophy graduate student and mathematics undergraduate, I purchased this textbook looking for a clearer understanding of mathematical logic. I found it exceedingly clear and concise, most importantly there was much clearer than I anticipated development of the key ideas of the text. I particularly enjoyed the section on the Diophantine equations - I had not encountered that idea or material before, and now have a perspicuous view of it. Could not recommend higher for undergraduates with some mathematics background.

Book is well written, except on one parts: now and then the proofs for theorems, lemmas etc. are quite unfinished and as such demand working on them. The book itself is broad and detailed otherwisely with an excellent set of exercises and reviews of the theories from basic theories to computability and somewhat decision theory. Indeed, this one can be warmly recommed from beginners to advanged students and hobbyist alike who demand more exercises and good source book to bookstand.

The level of rigor is just right for undergraduates in mathematics, philosophy and computer science. It covers most of the basic concepts and provides careful proofs for most of the major theorems. It would be nice to add chapters on modal logic and program verification. Computer science students can benefit from such discussions.

Dr. Hodel does an excellent job of providing undergraduate students an introduction to logical thinking. It is clear, easy to follow, and there are plenty of examples to allow students to practice what they are learning. It is as if Hodel is in the room helping explain the material.

I had the good fortune of actually having Dr. Hodel for a course in logic. We were able to use locally bound copies of the text for a significant reduction in price, however, I would recommend this text regardless of cost. Its clarity is without parallel in math texts and contains a solid, introductory treatment of the material.

I don't think the \$80 plus I paid for this book was worth it

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