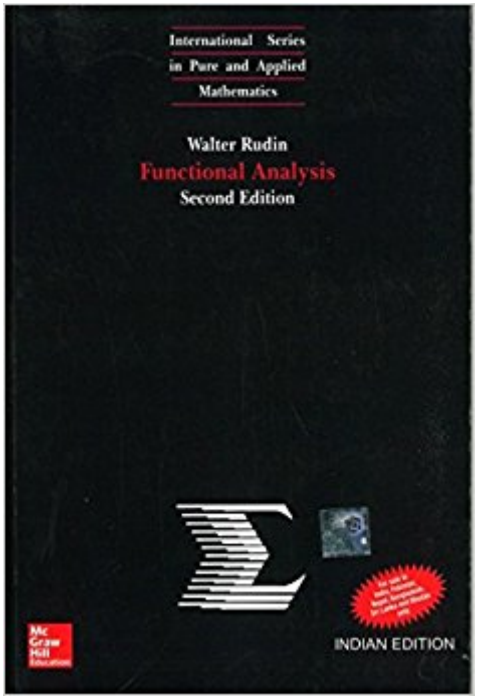
Functional Analysis



Synopsis

Nice product in english and printed in black and white on Non glossy paper. Paperback edition.

Book Information

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Customer Reviews

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Rudin’s book is no doubt one of the classical works in the area, but this economical edition is too "economical". The paper is so thin that you can clearly see every word on the back and the next page. But considering the very high price for the original edition (even the second-hand one), it’s a practical choose if you cannot or don’t want to borrow from a library.

No problem. Exactly what I needed, and delivered in an incredibly short time.

Rudin was the master. My understanding is that this is the third of his books and I certainly got that impression. It is written well but I wouldn’t think it to be a good first book on functional analysis. Having said that, if one desires to master the subject, reading this book and working the problems therein will do exactly that.

The author presents the right material and in a logical order. I have used it as a textbook for a graduate functional analysis class (basic functional analysis, function spaces, distributions and PDEs) and I use it often for reference. The other third of the book is a clear presentation of spectral theory and Banach algebras.

Great and delivered before time.

I bought it used in very good condition, but it seems pretty new! Exceelent. Thanks.

This is a well-written book that covers an astoundingly large number of ideas. Some of the proofs Rudin gives demand verifications he does not give, but it is apparent to the reader what needs to be checked and if you do check these things you will not find technicalities that Rudin ignored. (Often experienced mathematicians omit parts of proofs they consider standard and in fact if we fully work out the proof we see that what was written is logically out of order, e.g. statements P and then Q are made when in fact Q needs to be established first to prove P, and therefore rightly frustrates a reader.)The first three chapters are on topological vector spaces generally and locally convex spaces in particular. These structures are not part of the standard graduate course in functional analysis, which deals only with Banach spaces and Hilbert spaces and may give a uselessly specialized proof of the spectral theorem merely for bounded self-adjoint compact operators, while in fact what one genuinely needs the spectral theorem for is unbounded self-adjoint operators (which Rudin gives in Chapter 13). Moreover, it is impossible even to talk rigorously about distributions without the machinery of locally convex spaces and FrÃƒÂ©chet spaces; in a course on partial differential equations it is common to avoid talking about what it means to say that a distribution is continuous, or to give an inadequate and ad-hoc explanation involving sequences of test functions.Aside from the chapters on topological vector spaces and locally convex spaces, another glory of this book are the chapters on distributions, tempered distributions, and linear partial differential operators. The proof of Sobolev's lemma (Theorem 7.25) is meticulous. In the chapter on linear partial differential operators, the Malgrange-Ehrenpreis theorem and the elliptic regularity theorem are proved, and I think that this single chapter would teach one more about how to think about partial differential equations than Lawrence Evans' unwieldy monograph.There is even a chapter on Tauberian theory, which gives probably the most structural proof of the prime number theorem that exists.The rest of the book is on Banach algebras, in particular the Gelfand transform, and operators on Hilbert spaces. The spectral theorem is proved for unbounded normal operators in a Hilbert space, and results about strongly continuous one-parameter semigroups are proved, like the Hille-Yosida theorem.The biggest requirement to use this book is first to know measure theory, both abstract measures and Borel measures. The next biggest requirement is the Cauchy integral formula from complex analysis. For both of these, it would be useful to have Rudin's "Real and

Complex Analysis" on your desk while you read this book.

Great Job, thanks

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