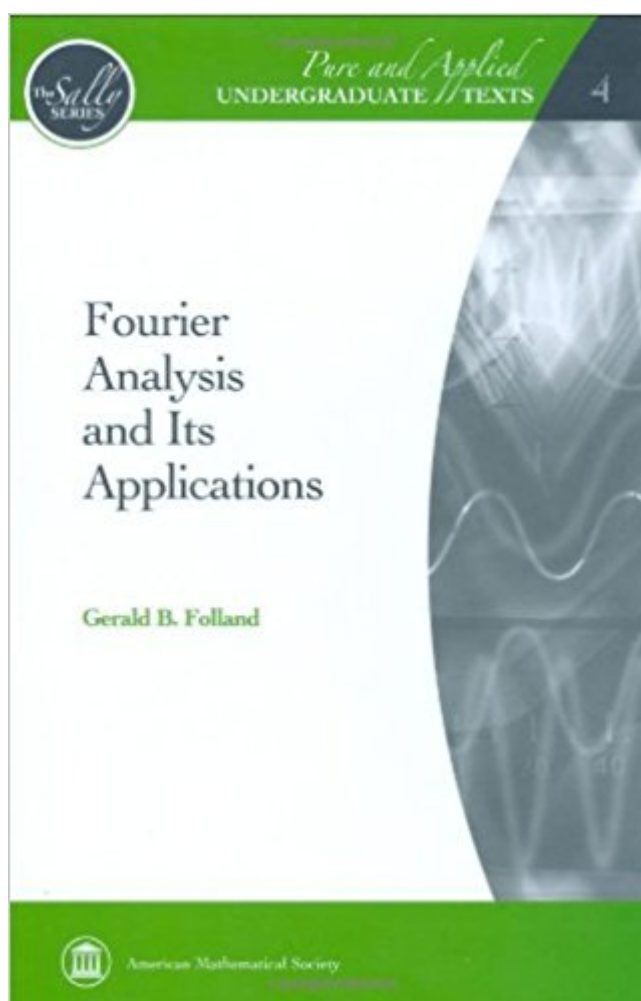


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# Fourier Analysis And Its Applications (Pure And Applied Undergraduate Texts)



## Synopsis

This book presents the theory and applications of Fourier series and integrals, eigenfunction expansions, and related topics, on a level suitable for advanced undergraduates. It includes material on Bessel functions, orthogonal polynomials, and Laplace transforms, and it concludes with chapters on generalized functions and Green's functions for ordinary and partial differential equations. The book deals almost exclusively with aspects of these subjects that are useful in physics and engineering, and includes a wide variety of applications. On the theoretical side, it uses ideas from modern analysis to develop the concepts and reasoning behind the techniques without getting bogged down in the technicalities of rigorous proofs.

## Book Information

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## Customer Reviews

With the same mastery as in his Real analysis, the author now offers us this excellent textbook on Fourier analysis: Fourier series, orthogonal systems, Bessel functions, Fourier and Laplace transforms, which are all very powerful mathematical tools in many a scientific domain. Without being exhaustive and without falling into a profusion of boring details, it nevertheless gives a panorama of these topics that is as complete as the framework of the book allows. Thus this text, which is designed for courses at the advanced undergraduate level and beyond, will also serve as a useful reference book. ---- Mathematical Reviews

Great quality. Not a pure harmonic analysis book, though, just as the title states.

I've been asked to teach a course on Fourier analysis, I knew nothing on the subject so I took about 15 books on this subject and went over all of them. My conclusion was that Folland's book is the best!. He explain the theory yet never forget for a minute the intuitive side of the subject. The book contains almost all the important issues and notions of the subject. If you have a solid background in vector calculus and you know some basic facts about ODE this is a very good book to learn the subject from. Moreover the book give the reader some of the important motivations to the basic ideas of functional analysis such as generating functions distributions it gives the connection also between linear algebra and the basic ideas that lies at the foundations for understanding normed function spaces and more. Moreover the book draw the line , in a very elegant way, between functional analysis PDE and Fourier analysis. Main subjects are: Fourier series, orthogonal sets Fourier and Laplace transforms, convolution, generating functions, Green functions, and more. Very recommended!.

Concepts are not hidden under obscure mathematical notation: they are stated explicitly in plain english and illustrated with examples. I read a couple of other books on this topic (and PDE) without really understanding the subtleties. With this book everything becomes magically clear and obvious -as you read- and don't feel like you need take another course in real analysis to understand this topic. Bonus: you get solutions to exercices.

Thank God for this book. Folland is the grand-master of my life. I'm a grad student in applied math, studying for qualifying exams, and this book has been extremely helpful to me because it is perfectly rigorous and also crystal clear. When I say Folland is The One, I am referring to The Matrix. This book is that good. His treatment of distributions (otherwise known as "generalized functions") is especially nice.

The book wasn't quite new as advertised. It had pen marks on a few pages, but other than that it was in perfect condition. The book itself is great as long as you have a good background in mathematics. A lot of prior knowledge is assumed, as it should be. There is a nice balance of detail and brevity. The book is nicely bound and the print is very easy on the eyes.

Very good for the money . Fast shipping too

I am simply writing this here to confirm what others have said about this excellent book. That is all that I have to say.

Im somewhat baffled by all of the 5 star reviews of this book. I can agree that the theory is very good. In fact, it's so good that the book consists almost exclusively of theory. But what is UTTERLY lacking here is concrete, easy explaining examples of how to actually apply the fancy theory to solve the assignments. What good is the theory if there is no explanation on how to use it? No step by step methods. No explaining examples. Where other books often start by easy learning assignments to make sure the student grasps the general knowledge, this book jumps straight into hard "show this"-proof assignments. Let's face it - this book needs a complete makeover. The paper is almost yellowish as if its 30 years old. It completely lacks good illustrative figures and good graphs to help visually grasp this abstract theory. Only black ink. It's like reading a novel - a novel of theory where the author expects the reader to simply understand without basic examples. The book has A LOT to learn from "Fundamentals of differential equations and boundry value problems (international edition)" by Nagle, Saff, Snyder. We were warned that this book was horrible by the students in the year above us - and they were right. Seriously, there HAS TO BE a better book on this interesting and important field of mathematics! If you go with this one, expect to waste many hours banging your head against the wall just to figure out how to get started on the assignments and actually use the theory. /Daniel (studying engineering physics)

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