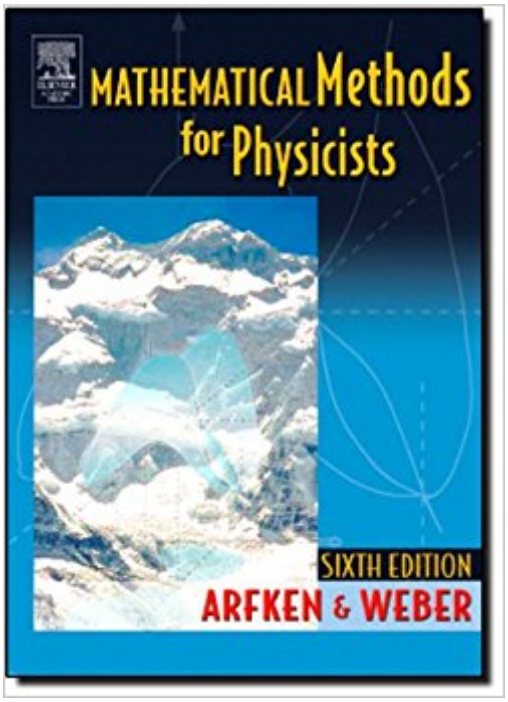
Mathematical Methods For Physicists, 6th Edition



Synopsis

This best-selling title provides in one handy volume the essential mathematical tools and techniques used to solve problems in physics. It is a vital addition to the bookshelf of any serious student of physics or research professional in the field. The authors have put considerable effort into revamping this new edition. * Updates the leading graduate-level text in mathematical physics* Provides comprehensive coverage of the mathematics necessary for advanced study in physics and engineering* Focuses on problem-solving skills and offers a vast array of exercises * Clearly illustrates and proves mathematical relationsNew in the Sixth Edition:* Updated content throughout, based on users' feedback * More advanced sections, including differential forms and the elegant forms of Maxwell's equations* A new chapter on probability and statistics* More elementary sections have been deleted

Book Information

Hardcover: 1200 pages
Publisher: Academic Press; 6th edition (July 5, 2005)
Language: English
ISBN-10: 0120598760
ISBN-13: 978-0120598762
Product Dimensions: 9.4 x 7.7 x 2.8 inches
Shipping Weight: 1.6 pounds
Average Customer Review: 3.5 out of 5 stars 77 customer reviews
Best Sellers Rank: #264,274 in Books (See Top 100 in Books) #149 inÃ Â Books > Science & Math > Physics > Mathematical Physics #919 inÃ Â Books > Textbooks > Science & Mathematics > Physics #2416 inÃ Â Books > Science & Math > Mathematics > Applied

Customer Reviews

"As to a comparison with other books of the same ilk, well, in all honesty, there are none. No other text on methods of mathematical physics is as comprehensive and as complete...I encourage the students to keep their copies as they will need it and will find it an invaluable reference resource in later studies and research." - Tristan Hubsch, Howard University

More that 90,000 copies sold!

I have been a physics professor now for nearly 18 years and this is one of the worst TEXTbooks I

have seen. It is essentially a large reference book for those that already have mastery of the topics and is of very little use as a textbook.Basic pedagogical problems abound such as: 1) Topics in many chapter sections are dependent upon other sections perhaps many chapters ahead of the current topic... and those referenced sections are in turn dependent upon other chapter sections elsewhere in the text. This leaves one to wonder if the Authors had meaningful structure of the text in mind when they wrote it. 2) There are few useful examples for students. Most of the useful information is left to the student to work out as exercises without textbook guidance. 3) Section problems are unclear as to what the Authors are asking and since students are largely left to their own devices to discover crucial concepts, the text becomes largely irrelevant.This book is a reference NOT a textbook. Students will need to have other well written Textbooks on hand such as Mary Boas's "Mathematical Methods in the Physical Sciences to make sense of the material THEN go back to this book once they have mastered a topic to see if they can glean what the authors intend.In physics, there are "status symbol" textbooks that, unfortunately, departments adopt to try to impress others of their rigor, high level and expertise. These books do little, if anything, to help students learn and therefore are poor textbooks. This is one of those books.

Most physicists I know say that while this is not the best of textbooks, it's a great reference. I sometimes ask them to refer me to a useful section. They usually can't.This book is the standard in graduate math courses for physicists. It's a shame. We buy this book for the course and then either seek out other texts (or the internet) for elaboration, or more often, we trudge through all the math that Arfken leaves out. I've rarely used any math not found in this book, but also rarely has this book been useful enough to show me how to use the math. It's sort of like a dictionary. Everything is mentioned, but if you want to learn about something, you need to know a lot more than just a definition.Boaz's undergraduate math book is a good text for this subject. Unfortunately, it doesn't go in depth enough for all of a graduate course. For the same price as Arfken, I own about a dozen Dover editions, one for each of the important sections covered in a year long course.A topic that we thoroughly exhausted but is not taught too often these days is complex analysis and the calculus of residues. Residues were much more important for solving complicated integrals before computers became so commonplace. For this, I recommend "Complex Analysis" by Tristan Needham. It's a tome of all things complex, but if you have the time, or are just curious, it's a great book.If possible, get a list of alternative sources from you professor before you take the class requiring this book. Then buy them, do not buy this awful monstrosity.

As an undergraduate student this book was difficult to follow. Explanations were incomplete and it seemed evident to me that the text was made for graduate students, but I had to use it in an undergraduate course. Essential details needed to solve problems were sometimes hidden many chapters ahead. As a reference book for graduate students it’s probably pretty good, but I didn’t enjoy learning from it one bit.

I used this book as a textbook for a Math class. Okay, I’m not a mathematician so it was suppoused to be a side course. Since I’m not precisely fluent in most of these topics I expected to learn at least the basic stuff. But, as I tried to use the book as a basis for my studies, I found only concepts and demostrations, and no clear examples about anything! I think the authors must think that putting examples in a book like this may be considered offensive by some of their most lectured readers!I recommend this book only if you are fluent in mathematics, if you already know about the topics and just want a reference book, or if you want to put your "genious" to the test trying to find out what’s going on without any kind of aid.

Go out and buy Hassani to learn all of the material in this book and much more, buy Schaum’s outlines of mathematical tables and formulae for the reference. This book is replete with minimal explanations and problems that are not the equal of the level of presentation. This is absolutly horrid as a text. I used it for a graduate math-physics course but always used other sources to learn from. I should point out that I aced the course but would have probably failed had I tried to learn from arfken.

This text is hopelessly out of date if one is serious about modern physics. The tired old approach to vector calculus should be relegated to the dustbin of history. Students need, indeed must, learn the exterior calculus of differential forms, not as graduate students but undergraduates, if they can ever hope to get to the frontier. There is so much a student of physics needs to master in advanced mathematics. In this regard it would be very useful if the classical areas such as electromagnetic theory were recast in the language of differential forms.

Years after I got this book I still find it very useful. I don’t use for Physics only for science in general. All topic are covered really well and it is a must have book if you are doing science.

This book is the Holy bible of the basics topics for a Scientist

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