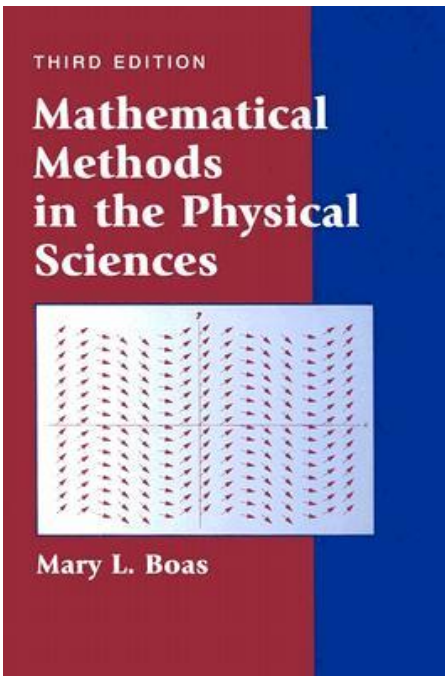

Mathematical Methods in the Physical Sciences

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Now in its third edition, ***Mathematical Concepts in the Physical Sciences, 3rd Edition*** provides a comprehensive introduction to the areas of mathematical physics. It combines all the essential math concepts into one compact, clearly written reference.

This book is intended for students who have had a two-semester or three-semester introductory calculus course. Its purpose is to help students develop, in a short time, a basic competence in each of the many areas of mathematics needed in advanced courses in physics, chemistry, and engineering. Students are given sufficient depth to gain a solid foundation (this is not a recipe book). At the same time, they are not overwhelmed with detailed proofs that are more appropriate for students of mathematics. The emphasis is on mathematical methods rather than applications, but students are given some idea of how the methods will be used along with some simple applications.

Mathematical Methods in the Physical Sciences Details

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Author	:	Mary L. Boas
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Genre	:	Science, Physics, Mathematics, Nonfiction, Reference, Textbooks

From Reader Review Mathematical Methods in the Physical Sciences for online ebook

Jurvis says

This was my bible for mastering applied mathematics. It's well-worn pages are now held together with duct tape on my shelf. Boas has a knack for creating illuminating problem sets to round out her succinct explanations. This is a good thing for dense youngsters (like myself) who don't get it as she makes it look so simple throughout each chapter. If you need a less direct lesson, turn elsewhere.

DJ says

Mathematical methods courses have traditionally been the battleground upon which engineers and physicists perish in a frustrating struggle against black-boxed equations and their dying, depressed crypt-keepers known as applied math professors. In the realm of mathematical methods book for engineers and physicists, however, this is the "one book to rule them all". After painfully attempting two or three others, I finally discovered this stellar work on a recommendation from Griffiths' Electrodynamics.

Like Griffiths, Boas anticipates each confusing element of a concept and is sure to point out easy traps before its too late and you're panicking in your final because all your Fourier coefficients are zero. There is much more here than usually covered in a single mathematical methods course and that supplementary material will come in handy in the coming years as each of you progress from baby engineers and scientists to fully fledged Edisons and Einsteins.

This book conveys the joys and wonders of mathematics in a clear and precise way to those who need it just so the most: engineers and physicists.

This book will remain in my inventory for the long journey ahead and I look forward to all the chances I'll get in the future to consult her.

Soumyaneel Manna says

Though this book has concise coverage on major portions of Mathematical Methods, it lacks depth and most derivations and proofs have been done in weird, discontinuous and too-much-reference manner. Most derivations and proofs have been done in shortcuts and most theories have been explained with crooked examples which will make you more confused.

Samuel says

Having read and practiced all the subjects covered by this book, I have to say that an astonishing amount of mathematics can be learned from this excellent piece. The physical applications of the methods are quite enlightning, making physical insight sprout from the dedicated student and intertwining it with the beautiful

mathematical foundations on which it is built.

The reader should, however, be skilled in calculus, basic proof methods and have a decent basic physics background (knowledge in classical mechanics, electromagnetism, thermodynamics and even quantum mechanics will be valuable).

A mathematician may cringe at the lack of mathematical rigor and abandon the book in search of a more advanced book on mathematical physics; this will, almost certainly, make him miss the obvious point of the book - to build intuition for the mathematics that underlies physics. This intuition cannot be built by mathematical rigor, but only by diligent practice, curiosity and thought into these physical meaning of the mathematics.

Hary Mulyadi says

Great Book!. Comprehensive mater contents. It describe from simple calculus to the math for quantum and analytic physics.

Maghfira Aulia says

Kentang, membaca buku ini harus punya motivasi di setiap lembarnya. Enam bulan membaca hanya sanggup sampai Legendre Polynomials, dan akhirnya say goodbye pada 6 bab lainnya. Tida mengerti kenapa dosen berkata ketika dia pusing dia akan membaca buku ini T.T pusing ya lebi ena tidur Pak T.T

OK JaeWoo says

12???? ??

Cerca Trova says

In general it is a good book. However, could be much better if it had more examples and exercises. Some of its concepts are really hard to digest as they are briefly explained e.g Special Functions. Still waiting for the day for someone to write a math book that could everyone understand easily.

Tom Ritman-Meer says

This was the recommended text for the core mathematics modules when I was an undergraduate at Warwick. Back then it was quite tough but still very useful as a reference. Recently I read it cover to cover and it really is one of the most enjoyable books I've read. Since it's essentially applied mathematics it doesn't get weighed down by the burden of proofs and so you simply get the beauty of the mathematics itself. The scope of this book is huge and it serves as an excellent primer to university mathematics, albeit rather lacking in proofs.

Nemo says

Found in the Prof Gerard 't Hooft's link list How to become a good theoretical physicist

A very clear and instructive introduction to the most common mathematical concepts that will appear in physics and applied mathematics.

Every chapter of the book cover a topic that probably needs a whole book- or course- to be fully appreciated, but what you can find here is enough for further studies in graduate physics.

The only negative aspect that come to mind is that I found a bit dry some of the examples and applications in the exercises.
Instead a was surprised to see that the author proved most of the "fundamental" theorems.

Probably the best use for this textbook is as reference but it gives a good intro to most undergrad mathematics 4 stars

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Daniel Cunningham says

This is a really solid review/overview of math for sciences, particularly physics (or engineering.) Basically, if you are a sophomore or junior undergraduate, this is all the math you have probably already (supposedly) learned, in a somewhat condensed form. If you have never done e.g. multiple integrals, Fourier series or transforms, or differential equations, this is probably not the book for you. I think it would be really hard to learn all those things, from the ground up, from this book. If, however, you have been through a set of calculus courses up through mutlivariable and differential eqs, then this is a great book precisely because it gives only quick quick coverage to theory and to basic breadth, and instead focuses on applying all that math you have been learning to prepare you to move through e.g. junior and senior level physics courses.

I give four stars because there are places where I did feel additional explanation -or additional worked examples- would be helpful. Like many books, it includes harder problems towards the end of each section: a few more worked examples of this relative complexity would make this a five star book. My two cents, anyway.

Devon says

All text books are sort of terrible. As much as I love to read, I can NOT learn from reading a book on the subject. I would read the chapters before class, understand nothing, then have the professor explain it in class where I would understand it much better. This book was best for looking back after class for things I had forgot about lecture- it was a way to remind me what he had talked about.

I did not do any of the example problems from this book- the professor provided a separate sheet of homework problems that I liked doing much more than those in this book.

Overall I thought that the class itself did not do much that Calculus and linear algebra classes had not. It would have made more sense just to require linear algebra than to make an entirely separate class that did practically the same thing..

Robert says

This was the recommended text for maths for my physics first Degree, as, it transpires, it is for many, many physics undergrads.

I didn't use it enough then but when I did I found it difficult. It felt like it didn't explain enough - which looking back means didn't have enough worked examples. It also covers an enormous amount of terrain for a single volume.

Now, I find it more useful - as a reference work. It probably isn't the best book for introducing the more advanced topics - they need whole books each - but for reminding oneself of forgotten but once understood topics? It can do that job.

Muhammad Siddique says

good books

Adam Lantos says

I was astonished about how good the examples are and about how much insight the author gives the reader! Pretty good book.
The only downside is that it does not prove important things sometimes. For example, the similarity of matrices relation is only "proven" through an example. Also, I found that at some point, the authors could explain things in more words to make them a bit clearer and more intuitive, although they do clarify everything through examples; I guess this is their way of explaining something and it gets the job done for most cases at the end of the day.
As far as great examples are concerned, this is the king. But for anybody-like me-wanting proofs and more mathematical insights (not only physical as this book provides in spades) I would also check out other books (like, say, one of Hassani's books).
Lastly, it must be noted that it contains A LOT of exercises, which is always a good thing.
