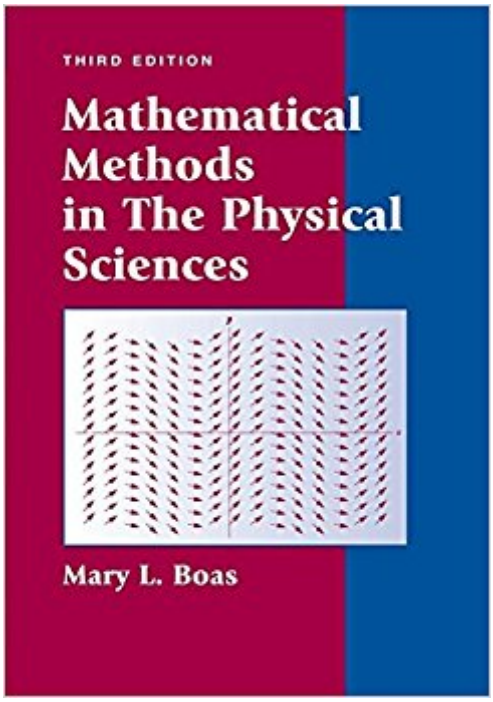
Mathematical Methods In The Physical Sciences, 3rd Edition



Synopsis

This book is intended for students who have had a two-semester or three-semester introductory calculus course.Ã Â 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.Ã Â Students are given sufficient depth to gain a solid foundation (this is not a recipe book).Ã Â At the same time, they are not overwhelmed with detailed proofs that are more appropriate for students of mathematics.Ã Â 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.

Book Information

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Customer Reviews

This book is terrible. The examples show you almost nothing, and especially in the Linear Algebra section, don’t even go into half of what you need to solve the problems. It’s overly complicated and, at least for the one I received, poorly constructed. It really needs to be like an inch or two wider so that the book will stay open instead of consistently shutting closed on you. And the pages kept falling out from the sewn binding.

Taking a Mathematical Methods course is kind of walking a grey line between math and physics - many of the parameters surrounding your actual physical problem are abstracted away to focus on the mathematics. A similar problem exists for the converse in math textbooks (particularly calculus textbooks) which try to include the details of a physical problem to set up mathematical equations.Boas' book is a happy medium, and a far cry from the horrible textbook that plagued everyone in my undergraduate course. The class actually petitioned the instructor to change the textbook from the one assigned to this one. It's a little on the easy side, but it certainly doesn't lack in the detail or rigor one would expect from a math textbook, nor does it ignore physical applications and explanations like one might expect from a math textbook. Given the price at which I purchased it, I am very happy.That said, the quality of the manufacturing is poor for the (new, unused) version I received. Leaflets of pages were actually loose and fell out of the book as I thumbed through it.. There was a hole in the middle of one of the pages - I don't even know how that happens. The entire thing feels "held together" rather than constructed. This isn't an issue for me, and as such I didn't take a star off, but ymmv.

THE GOOD THE BAD AND THE UGLY OF ITThis book is a collection of formulas and tricks with varying depth of explanation. I did not use it during a lecture course but purchased it as a reference as it had high reviews. I had had it for several years now and had had to reference it several times. It strikes me as being very compacted i.e. I had to read a few pages several times to have a topic make sense (yes I know how to read technical works but this is exceptionally so). It is as if the author had a long list of topic she need to fit in a limited amount of pages and decided to play word tetris.HOW IT STANDS UP AGAINST SIMILAR TEXTSOn some topics it is superior to volume 1 of the classic by Margenau & Murphy but certainly not comprehensively superior. Compared to the book by Mathews and Walker (which I did use for a lecture course) it is better written but without the finesse present in that peculiar text. In terms of the well known text by Arfken I do prefer it if nothing else then it is better organized. Compared with Morse and Feshbach it is a like a paperclip is to a ships anchor (who would make this comparison anyways?). Let us face the facts this is one of the few UNDERGRADUATE texts written on math methods and such is in a category of its own. As such in its own right it is well conceived.RECOMMENDATIONS IN PLACE OF THIS BOOKObtain copies of Schaum's Outline Series by Murray Spiegel in particular the ones titled:Theory and Problems of Complex Variables with an introduction to Conformal Mapping and its applicationsTheory and Problems of Vector Analysis and an Introduction to Tensor AnalysisFourier Analysis with Applications to Boundary Value ProblemsTheory and Problems of Laplace

TransformsTheory and Problems of Probability and StatisticsAlso look for the now dated (but very useful book) by Byerly (1893) entitled "An Elementary Treatise on Fourier's Series: and Spherical, Cylindrical, and Ellipsoidal Harmonics, with Applications to Problems in Mathematical Physics" it is out of copyright now (2015) so is obtainable on the internet for free.Add to this a Dover copy Farlow's Partial Differential Equations for Scientists and Engineers and you will have a much better replacement for this texts.If you can work through these and understand the material you won't need to bother with Boas's book.

I've purchased plenty of books over the years to learn or re learn math concepts to apply to science and engineering. The majority of those books either wastes too much time over simplifying things, or they continue to get bogged down by mathematical proofs.If you're a student of engineering or science and you've made it through single variable calculus you can benefit from this book. I think it's also safe to say that you're don't need things spelled out to you. You just need a clear and concise, cut to the chase, how will I use this, sort of text that doesn't kill you with proofs you don't care about. That's exactly what this classic book by Mary L. Boas provides. Easily the best study companion I've ever purchased'

I will try to be concise. I love this book. I bought this book for my "Mathematical Methods for Physics I" course, and we covered many of the chapters (with exception to the chapters regarding vector analysis, linear algebra, etc). It isn't a book written for mathematics students and it is very friendly to the engineering and physics students. The author REALLY wants you to LEARN to SOLVE problems, rather than give you history lessons on each topic (which I also love). I think this is a must-have book for physics students and of such fields. Another great book, alternative to this one or vice versa, would be Arfken's Mathematical Methods for physicists.

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