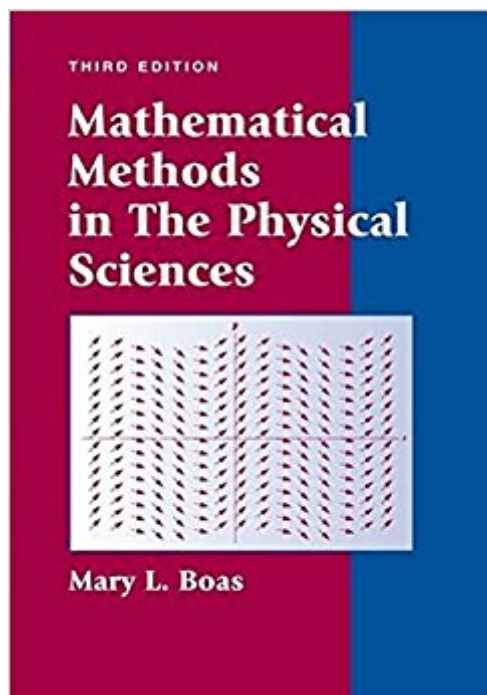# Mathematical Methods In The Physical Sciences

Synopsis

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.

Book Information

Hardcover: 864 pages

Publisher: Wiley; 3 edition (July 22, 2005)

Language: English

ISBN-10: 0471198269

ISBN-13: 978-0471198260

Product Dimensions: 7.2 x 1.3 x 10 inches

Shipping Weight: 3.4 pounds (View shipping rates and policies)

Average Customer Review: 4.2 out of 5 stars See all reviews (125 customer reviews)

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Customer Reviews

Let me start off by saying, I have essentially covered every single chapter (with the exception of the multivariable calculus section, I took a separate course on that), and every single section in a 3-quarter mathematical methods course as part of my physics undergraduate requirements. And let me repeat this again, this book will make a man out of you. After you conquer this book, you will be on your way to conquering all undergraduate physics with ease; mathematics will no longer be a problem and the real learning of physics will begin.1. Infinite Series, Power series:Great coverage of series and series representations of functions. Introduces several methods of determining convergence or divergence and techniques to convert essentially any function into a series as well

as determining accuracies in representations. These are invaluable tools to solve difficult and non-analytic functions that show up everywhere in physics.2. Complex Numbers:A great introduction to complex analysis, starts off slow and easy and picks up the tempo with powers and roots of complex functions. This chapter is missing a discussion on the argument of a function and its meaning and kind of sweeps under the rug a few more technical things that a real complex analysis course would cover but nevertheless well done.3. Linear Algebra:The linear algebra section is pretty solid as well and it went a bit further than my regular linear algebra course. The placement of planes and lines is a bit awkward and doesn't really deal with matrices in the sense that you don't need to write out matrices but still an appropriate spot.

Mathematical Methods in the Physical Sciences Level Set Methods and Dynamic Implicit Surfaces (Applied Mathematical Sciences) Physical Pharmacy: Physical Chemical Principles in the Pharmaceutical Sciences Vacuum Ultraviolet Spectroscopy II, Volume 32 (Experimental Methods in the Physical Sciences) Drug Targeting Technology: Physical Chemical Biological Methods (Drugs and the Pharmaceutical Sciences) High Throughput Screening: Methods and Protocols (Methods in Molecular Biology) (Methods in Molecular Biology, 190) Elementary Cryptanalysis: A Mathematical Approach (Mathematical Association of America Textbooks) Elementary Algebraic Geometry (Student Mathematical Library, Vol. 20) (Student Mathematical Library, V. 20) Handbook of Mathematical Functions: with Formulas, Graphs, and Mathematical Tables (Dover Books on Mathematics) A Course in Mathematical Modeling (Mathematical Association of America Textbooks) The Mathematical Olympiad Handbook: An Introduction to Problem Solving Based on the First 32 British Mathematical Olympiads 1965-1996 (Oxford Science Publications) Mathematical Apocrypha: Stories and Anecdotes of Mathematicians and the Mathematical (Spectrum) Lecture Notes on Mathematical Olympiad Courses: For Junior Section (Mathematical Olympiad Series) Transformation Groups for Beginners (Student Mathematical Library, Vol. 25) (Student Mathematical Library, V. 25) Image Processing and Acquisition using Python (Chapman & Hall/CRC Mathematical and Computational Imaging Sciences Series) Statistics for the Health Sciences: A Non-Mathematical Introduction Handbook of Writing for the Mathematical Sciences Mathematical Modeling of Collective Behavior in Socio-Economic and Life Sciences (Modeling and Simulation in Science, Engineering and Technology) Some Mathematical Questions in Biology: The Dynamics of Excitable Media (Lectures on Mathematics in the Life Sciences) Calculating the Secrets of Life: Contributions of the Mathematical Sciences to Molecular Biology