
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.

**ABOUT THE AUTHOR**

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NEW TO EDITION

* Matrix diagonalization has been moved from Ch. 10 to Ch. 3 and the treatment of tensors in Ch. 10 has been expanded.

* Ch. 3 also includes more detail on linear vector spaces. The discussion of basis function is continued in Ch. 7 (Fourier Series), Ch. 8 (Differential Equations), Ch. 12 (Series Solutions), and Chapter 13 (Partial Differential Equations).

* Fourier integrals have been moved to Ch. 7 (Fourier Series). The Laplace transform and an expanded treatment of the Dirac delta function have been moved to Ch. 8 (Differential Equations).

* Throughout the book, the usefulness and also the pitfall of computer algebra systems are pointed out.

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