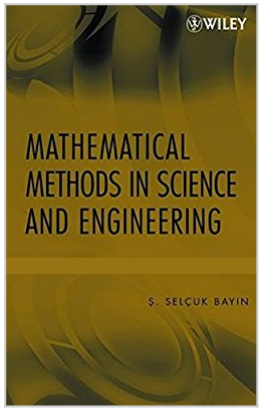

Mathematical Methods in Science and Engineering

By S. Selcuk Bayin

Mathematical Methods in Science and Engineering By S. Selcuk Bayin

An innovative treatment of mathematical methods for a multidisciplinary audience

Clearly and elegantly presented, Mathematical Methods in Science and Engineering provides a coherent treatment of mathematical methods, bringing advanced mathematical tools to a multidisciplinary audience. The growing interest in interdisciplinary studies has brought scientists from many disciplines such as physics, mathematics, chemistry, biology, economics, and finance together, which has increased the demand for courses in upper-level mathematical techniques. This book succeeds in not only being tuned in to the existing practical needs of this multidisciplinary audience, but also plays a role in the development of new interdisciplinary science by introducing new techniques to students and researchers.

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There are a growing number of research areas in applied sciences, such as earthquakes, rupture, financial markets, and crashes, that employ the techniques of fractional calculus and path integrals. The book's two unique chapters on these subjects, written in a style that makes these advanced techniques accessible to a multidisciplinary audience, are an indispensable tool for researchers and instructors who want to add something new to their compulsory courses.

Mathematical Methods in Science and Engineering includes:
* Comprehensive chapters on coordinates and tensors and on continuous groups and their representations
* An emphasis on physical motivation and the multidisciplinary nature of the methods discussed
* A coherent treatment of carefully selected topics in a style that makes advanced mathematical tools accessible to a multidisciplinary audience
* Exercises at the end of every chapter and plentiful examples throughout the book

Mathematical Methods in Science and Engineering is not only appropriate as a text for advanced undergraduate and graduate physics programs, but is also appropriate for engineering science and mechanical engineering departments due to its unique chapter coverage and easily accessible style. Readers are expected to be familiar with topics typically covered in the first three years of science and engineering undergraduate programs. Thoroughly class-tested, this book has been used in classes by more than 1,000 students over the past eighteen years.

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Review
" The book is written in a clear and attractive style. It is rich in content, with a wide ranging coverage, and will be useful not only as a text book for students of physical sciences and engineering but also as a reference book for them."
Prof. Teodora-Liliana Radulescu (Craiova), ZENTRALBLATT MATH, an:1180.00002.

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"The book is well written and thorough…" (*CHOICE*, February 2007)

From the Back Cover
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