
Vector Calculus Dover Books On Mathematics

Mathematical Handbook for Scientists and Engineers
 Concise Vector Analysis
 Vector Calculus
 Vectors, Tensors and the Basic Equations of Fluid Mechanics
 Mathematics of Classical and Quantum Physics
 Algebra for Scientists & Engineers
 Student Solution Manual to Accompany the 4th Edition of Vector Calculus, Linear Algebra, and Differential Forms, a Unified Approach
 Mathematics for Physicists
 A Vector Space Approach to Geometry
 Vector Calculus
 Introduction to Vector and Tensor Analysis
 Tensor and Vector Analysis
 Introduction to Partial Differential Equations with Applications
 Tensor Calculus
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 The Absolute Differential Calculus
 Vector Calculus
 A History of Vector Analysis
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 Vector Analysis
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 Vector Analysis
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 About Vectors
 Foundations of Mathematical Analysis
 An Illustrative Guide to Multivariable and Vector Calculus
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 An Introduction to Tensor Calculus and Relativity
 An Introduction to Differential Geometry
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 Understanding Vector Calculus
 Calculus on Manifolds
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 Vector Analysis Versus Vector Calculus
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 Advanced Calculus (Revised Edition)
 Advanced Calculus of Several Variables
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Mathematical Handbook for Scientists and Engineers Springer Nature

From his unusual beginning in "Defining a vector" to his final comments on "What then is a vector?" author Banesh Hoffmann has written a book that is provocative and unconventional. In his emphasis on the unresolved issue of defining a vector, Hoffmann mixes pure and applied mathematics without using calculus. The result is a treatment that can serve as a supplement and corrective to textbooks, as well as collateral reading in all courses that deal with vectors. Major topics include vectors and the parallelogram law; algebraic notation and basic ideas; vector algebra; scalars and scalar products; vector products and quotients of vectors; and tensors. The author writes with a fresh, challenging style, making all complex concepts readily understandable. Nearly 400 exercises appear throughout the text. Professor of Mathematics at Queens College at the City University of New York, Banesh Hoffmann is also the author of

The Strange Story of the Quantum and other important books. This volume provides much that is new for both students and their instructors, and it will certainly generate debate and discussion in the classroom.

Concise Vector Analysis Westview Press

Prize-winning study traces the rise of the vector concept from the discovery of complex numbers through the systems of hypercomplex numbers to the final acceptance around 1910 of the modern system of vector analysis.

Vector Calculus Courier Corporation

Graduate-level text offers unified treatment of mathematics applicable to many branches of physics. Theory of vector spaces, analytic function theory, theory of integral equations, group theory, and more. Many problems. Bibliography.

Vectors, Tensors and the Basic Equations of Fluid Mechanics

Courier Corporation

This text combines the logical approach of a mathematical subject with the intuitive approach of engineering and physical topics. Applications include kinematics, mechanics, and electromagnetic theory. Includes exercises and answers. 1955 edition.

Mathematics of Classical and Quantum Physics Courier Corporation

An introductory textbook on the differential geometry of curves and surfaces in 3-dimensional Euclidean space, presented in its simplest, most essential form. With problems and solutions. Includes 99 illustrations.

Algebra for Scientists & Engineers Courier Corporation

This textbook focuses on one of the most valuable skills in multivariable and vector calculus: visualization. With over one hundred carefully drawn color images, students who have long struggled picturing, for example, level sets or vector fields will find these abstract concepts rendered with clarity and ingenuity. This illustrative approach to the material covered in standard multivariable and vector calculus textbooks will serve as a much-needed and highly useful companion. Emphasizing portability, this book is an ideal complement to other references in the area. It begins by exploring preliminary ideas such as vector algebra, sets, and coordinate systems, before moving into the core areas of multivariable differentiation and integration, and vector calculus. Sections on the chain rule for second derivatives, implicit functions, PDEs, and the method of least squares offer additional depth; ample illustrations are woven throughout. Mastery Checks engage students in material on the spot, while longer exercise sets at the end of each chapter reinforce techniques. An Illustrative Guide to Multivariable and Vector Calculus will appeal to multivariable and vector calculus students and instructors around the world who seek an accessible, visual approach to this subject. Higher-level students, called upon to apply these concepts across science and engineering, will also find this a valuable and concise resource.

Student Solution Manual to Accompany the 4th Edition of Vector Calculus, Linear Algebra, and Differential Forms, a Unified Approach Courier Corporation

Assuming only a knowledge of basic calculus, this text's elementary development of tensor theory focuses on concepts related to vector analysis. The book also forms an introduction to metric differential geometry. 1962 edition.

Mathematics for Physicists Courier Corporation

This concise text is a workbook for using vector calculus in practical calculations and derivations. Part One briefly develops vector calculus from the beginning; Part Two consists of answered problems. 2020 edition.

A Vector Space Approach to Geometry Courier Corporation

This text was designed as a short introductory course to give students the tools of vector algebra and calculus, as well as a brief glimpse into the subjects' manifold applications. 1957 edition. 86 figures.

Vector Calculus Springer Science & Business Media

Vector calculus is the fundamental language of mathematical physics. It provides a way to describe physical quantities in three-dimensional space and the way in which these quantities vary. Many topics in the physical sciences can be analysed mathematically using the techniques of vector calculus. These topics include fluid dynamics, solid mechanics and electromagnetism, all of which involve a description of vector and scalar quantities in three dimensions. This book assumes no previous knowledge of vectors. However, it is assumed that the reader has a knowledge of basic calculus, including differentiation, integration and partial differentiation. Some knowledge of linear algebra is also required, particularly the concepts of matrices and determinants. The book is designed to be self-contained, so that it is suitable for a programme of individual study. Each of the eight chapters introduces a new topic, and to facilitate understanding of the material, frequent reference is made to physical applications. The physical nature of

the subject is clarified with over sixty diagrams, which provide an important aid to the comprehension of the new concepts.

Following the introduction of each new topic, worked examples are provided. It is essential that these are studied carefully, so that a full understanding is developed before moving ahead. Like much of mathematics, each section of the book is built on the foundations laid in the earlier sections and chapters.

Introduction to Vector and Tensor Analysis Courier Corporation
Indispensable for students of modern physics, this text provides the necessary background in mathematics to study the concepts of electromagnetic theory and quantum mechanics. 1967 edition.

Tensor and Vector Analysis Courier Corporation

The aim of this book is to facilitate the use of Stokes' Theorem in applications. The text takes a differential geometric point of view and provides for the student a bridge between pure and applied mathematics by carefully building a formal rigorous development of the topic and following this through to concrete applications in two and three variables. Key topics include vectors and vector fields, line integrals, regular k -surfaces, flux of a vector field, orientation of a surface, differential forms, Stokes' theorem, and divergence theorem. This book is intended for upper undergraduate students who have completed a standard introduction to differential and integral calculus for functions of several variables. The book can also be useful to engineering and physics students who know how to handle the theorems of Green, Stokes and Gauss, but would like to explore the topic further.

Introduction to Partial Differential Equations with Applications Courier Corporation

Convenient access to information from every area of mathematics: Fourier transforms, Z transforms, linear and nonlinear programming, calculus of variations, random-process theory, special functions, combinatorial analysis, game theory, much more.

Tensor Calculus Courier Corporation

This text employs vector methods to explore the classical theory of curves and surfaces. Topics include basic theory of tensor algebra, tensor calculus, calculus of differential forms, and elements of Riemannian geometry. 1959 edition.

Elementary Vector Geometry Springer Science & Business Media

Starting with an abstract treatment of vector spaces and linear transforms, this introduction presents a corresponding theory of integration and concludes with applications to analytic functions of complex variables. 1959 edition.

Differential Geometry Courier Corporation

An introduction to the differential and integral calculus of functions of several variables for students wanting more than a superficial account of the subject. Topics covered include inverse function theorem, the implicit function theorem, and the integration theorems of Green, Stokes, and Gauss.

The Absolute Differential Calculus World Scientific Publishing Company

This text explores the essentials of partial differential equations as applied to engineering and the physical sciences. Discusses ordinary differential equations, integral curves and surfaces of vector fields, the Cauchy-Kovalevsky theory, more. Problems and answers.

Vector Calculus Courier Corporation

Based on undergraduate courses in advanced calculus, the treatment covers a wide range of topics, from soft functional analysis and finite-dimensional linear algebra to differential equations on submanifolds of Euclidean space. 1976 edition.

A History of Vector Analysis Courier Dover Publications

A fascinating exploration of the correlation between geometry and linear algebra, this text also offers elementary explanations

of the role of geometry in other branches of math and science.
1965 edition.
Introduction to Linear Algebra and Differential Equations Courier
Corporation

Examines general Cartesian coordinates, the cross product,
Einstein's special theory of relativity, bases in general coordinate
systems, maxima and minima of functions of two variables, line
integrals, integral theorems, and more. 1963 edition.

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