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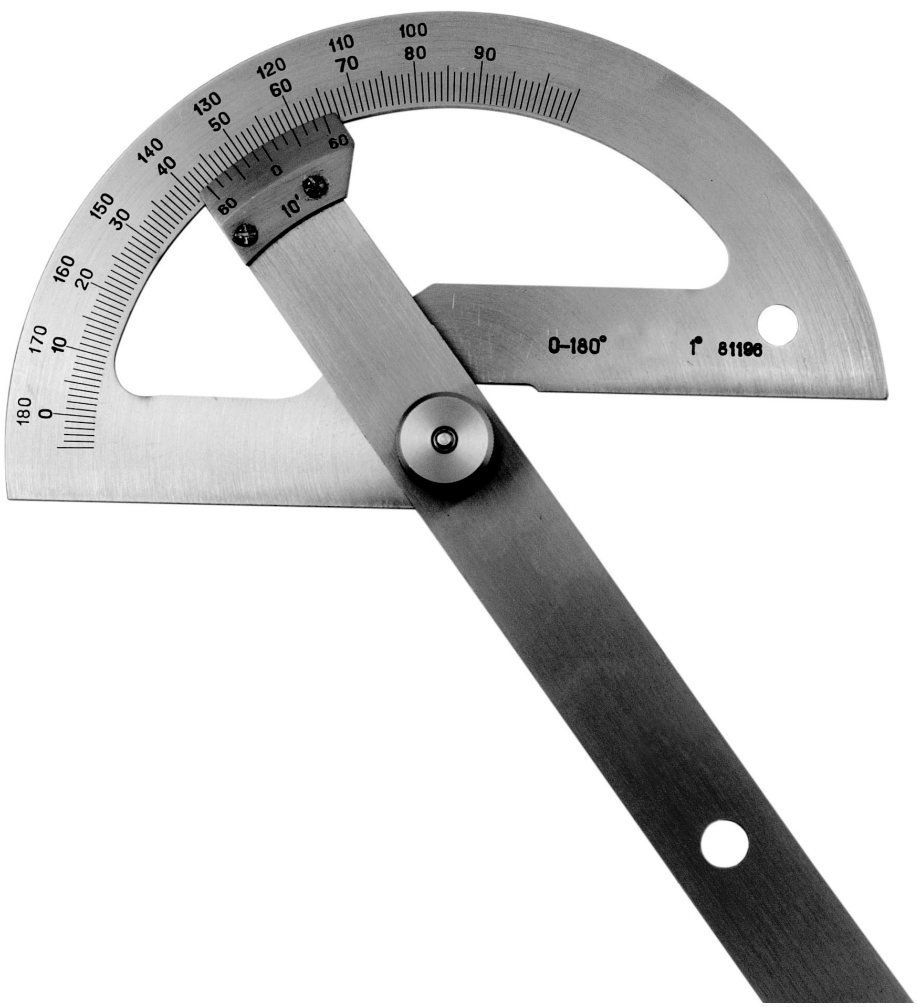
BRIEF CONTENTS

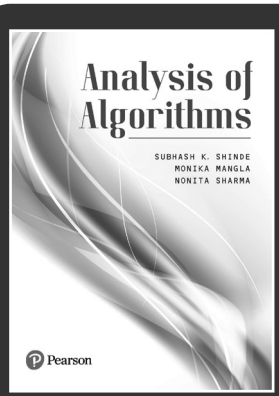
MATHEMATICS



CONTENTS

Analysis of Algorithms

Subhash K. Shinde, Monika Mangla, Nonita Sharma



ISBN: 9789390394135

Pages: 240 Year: 2021

About the Book

The purpose of this textbook is to introduce the reader to the basics of algorithms, analysis techniques, and designing of several algorithmic techniques in a simplistic and practical way. This book is especially designed to present the concepts in a naïve and easy fashion so that readers can grasp the concepts easily and can apply them for solving real-life problems. More emphasis has been laid on presenting the several mathematical concepts in a detailed and descriptive manner. The book has been specifically crafted for the subject - Design and Analysis of the Algorithms with an aim to assimilate the basics of algorithm analysis for an introductory graduate course. It can also be used as a reference for self-study by researchers in the field of Computer Science or Computer Applications. Additionally, it can serve as an exemplar guide for the students in mathematics and allied branches to understand the principles of Analysis of Algorithms and Data structures. Hence, the book serves to establish a platform to understand the fundamentals of the subject persuading its readers to strive in-depth and multidimensional knowledge of the advanced topics related to the application of subject in real life scenario.

Features

- Presentation of the concepts in the simplistic and descriptive manner.
- Numerical examples for enhanced understanding of the readers for each topic.
- Coverage of wide range of algorithmic techniques instead of focusing only on techniques.
- Inclusion of Exercise questions at the end of each chapter for self-practicing.
- Appendix at the end consisting of multiple-choice questions enabling the readers to assess their understandability.
- The book also contains programs in c language in appendix section that helps the readers to practically implement the concept

Contents

About the Author(s)

Subhash K. Shinde, Professor and Vice Principal Lokmanya Tilak College of Engineering Navi Mumbai

Monika Mangla, Head of Department for Computer Science and Engineering (AI&ML) Lokmanya Tilak College of Engineering Navi Mumbai

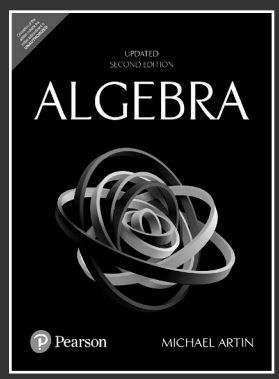
Nonita Sharma, Assistant Professor Dr B. R Ambedkar National Institute of Technology Jalandhar

Algebra, Updated, 2/e

Michael Artin

Pages: 560 Year: 2024

E-Book



ISBN: 9789353432751

About the Book

Algebra, Updated 2nd Edition by Michael Artin is ideal for the honors undergraduate or introductory graduate course. This revision of the classic text incorporates 20 years of feedback and the author's own teaching experience. It discusses concrete topics of algebra in greater detail than most texts, preparing students for the more abstract concepts; linear algebra is tightly integrated throughout.

Features

- High emphasis on concrete topics such as symmetry, linear groups, quadratic number fields, and lattices prepares students to learn more abstract concepts.
- The chapter organization emphasizes the connections between algebra and geometry at the start, with the beginning chapters containing the content most important for students in other fields.
- Treatment beyond the basics sets this book apart. Students with a reasonably mature mathematical background will benefit from the relatively informal treatments the author gives to the more advanced topics.
- Content notes in the preface include teaching tips from the author's own classroom experience.
- Challenging exercises are indicated with an asterisk, allowing instructors to easily create the right assignments for their class.

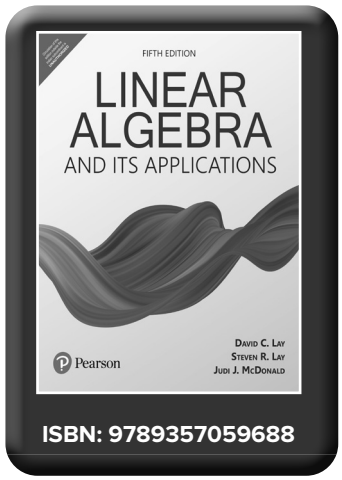
Contents

About the Author

Michael Artin (born 1934) is an American mathematician and a professor at MIT, known for his contributions to algebraic geometry. He is the son of Emil Artin. He was brought up in Indiana. In the early 1960s he spent time at the IHES in France, contributing to the SGA4 volumes of the Séminaire de géométrie algébrique, on topos theory and étale cohomology. He also worked on the question of characterising the representable functors in the category of schemes; this led to the Artin approximation theorem, in local algebra. This work also gave rise to the ideas of an algebraic space and algebraic stack, and has proved very influential in moduli theory. Additionally, he has made contributions to the deformation theory of algebraic varieties. In 2002, he won the American Mathematical Society's annual Steele Prize for Lifetime Achievement. He is currently working on non-commutative rings, especially geometric aspects.

Linear Algebra and Its Applications, 5/e

David C. Lay, Steven R. Lay, Judi J. McDonald



ISBN: 9789357059688

Pages: 576 Year: 2023

About the Book

With traditional linear algebra texts, the course is relatively easy for students during the early stages as material is presented in a familiar, concrete setting. However, when abstract concepts are introduced, students often hit a wall. Instructors seem to agree that certain concepts (such as linear independence, spanning, subspace, vector space, and linear transformations) are not easily understood and require time to assimilate. These concepts are fundamental to the study of linear algebra, so students' understanding of them is vital to mastering the subject. This text makes these concepts more accessible by introducing them early in a familiar, concrete Rn setting, developing them gradually, and returning to them throughout the text so that when they are discussed in the abstract, students are readily able to understand.

Features

- More than 25% of the exercises are new or updated, especially computational exercises.
- Linear transformations form a "thread" that is woven into the fabric of the text. Their use enhances the geometric flavor of the text.
- A modern view of matrix multiplication is presented, with definitions and proofs focusing on the columns of a matrix rather than on the matrix entries.
- Focus on visualization: Each major concept in the course is given a geometric interpretation because many students learn better when they can visualize an idea.
- Numerical Notes provide a realistic slant to the text. Students are reminded frequently of issues that arise in real-life applications of linear algebra.
- Applications are varied and relevant. Each chapter opens with an introductory vignette that sets the state for some applications of linear algebra and provides a motivation for developing the mathematics that follows.
- Exercise sets are meticulously constructed and consist of the following elements. Each section features an abundant supply of exercises, ranging from routine computations to conceptual questions to applications. Innovative questions pinpoint conceptual difficulties that the authors have found in student papers over the years.

Contents

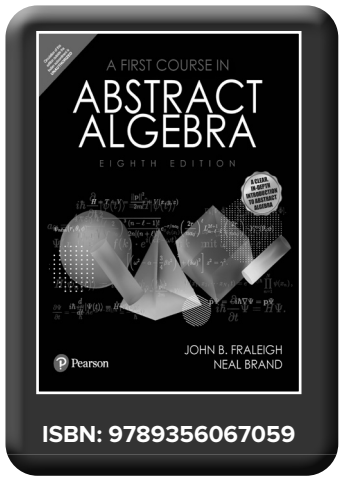
About the Author(s)

David C. Lay University of Maryland
Steven R. Lay Lee University
Judi J. McDonald Washington State University

A First Course in Abstract Algebra, 8/e

John B. Fraleigh, Neal Brand

Pages: 444 Year: 2022



ISBN: 9789356067059

About the Book

A First Course in Abstract Algebra, 8th Edition retains its hallmark goal of covering all the topics needed for an in-depth introduction to abstract algebra — and is designed to be relevant to future graduate students, future high school teachers, and students who intend to work in industry. New co-author Neal Brand has revised this classic text carefully and thoughtfully, drawing on years of experience teaching the course with this text to produce a meaningful and worthwhile update. This in-depth introduction gives students a firm foundation for more specialized work in algebra by including extensive explanations of the what, the how, and the why behind each method the authors choose.

Features

- A focus on groups, rings and fields gives students a firm foundation for more specialized work by emphasizing an understanding of the nature of algebraic structures.
- Gives clear and concise explanations of the theory, with well-thought-out examples to highlight key points and clarify more difficult concepts.
- UPDATED - Many exercises in the text have been updated, and many are new. Most exercise sets are broken down into parts consisting of computations, concepts, and theory.
- NEW - Applied topics — such as RSA encryption and coding theory as well as examples of applying Gröbner bases — have been added to the 8th Edition.
- Historical notes written by Victor Katz, an authority on the history of math, provide valuable perspective.

Contents

IX. Galois Theory

51. Introduction to Galois Theory
52. Splitting Fields
53. Separable Extensions
54. Galois Theory
55. Illustrations of Galois Theory
56. Cyclotomic Extensions
57. Insolvability of the Quintic

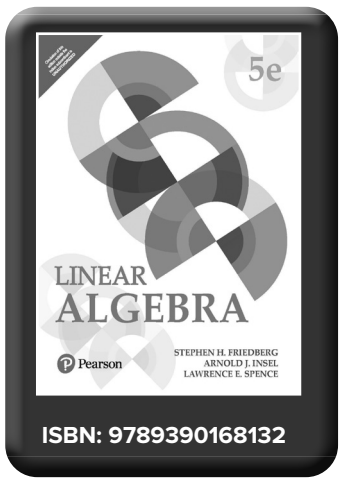
About the Author(s)

John B Fraleigh, University of Rhode Island
Neal Brand, University of North Texas

Linear Algebra, 5/e

Stephen H. Friedberg, Arnold J. Insel, Lawrence E. Spence

Pages: 616 **Year: 2022**



ISBN: 9789390168132

About the Book

This acclaimed theorem-proof text presents a careful treatment of the principal topics of linear algebra. It emphasizes the symbiotic relationship between linear transformations and matrices, but states theorems in the more general infinite-dimensional case where appropriate. Applications to such areas as differential equations, economics, geometry, and physics appear throughout, and can be included at the instructor's discretion.

This book is especially suited to a second course in linear algebra that emphasizes abstract vector spaces, although it can be used in a first course with a strong theoretical emphasis. Updates to the 5th Edition include revised proofs of some theorems, additional examples, and new exercises. Also new in this revision are online solutions for selected theoretical exercises, accessible by short URLs at point-of-use.

Features

- Revised - A streamlined presentation, with clarified exposition informed by extensive reviews from instructors.
- Revised - Proofs of some theorems have been revised for further clarification.
- New - Additional examples and exercises throughout.
- New - Online solutions to selected theoretical exercises in each section of the book:
  - These exercises each have their exercise number printed within a gray box, and the last sentence of each of these exercises gives a short URL for its online solution.
- New - Four new applications available online of the content in Sections 2.3, 5.3, 6.5, and 6.6. Short URLs at point-of-use provide easy access to this material.

Contents

1. Vector Spaces
2. Linear Transformations and Matrices
3. Elementary Matrix Operations and Systems of Linear Equations
4. Determinants
5. Diagonalization
6. Inner Product Spaces
7. Canonical Forms

About the Author(s)

Stephen H. Friedberg holds a BA in mathematics from Boston University and MS and PhD degrees in mathematics from Northwestern University, and was awarded a Moore Postdoctoral Instructorship at MIT. He served as a director for CUPM, the Mathematical Association of America's Committee on the Undergraduate Program in Mathematics. He was a faculty member at Illinois State University for 32 years, where he was recognized as the outstanding teacher in the College of Arts and Sciences in 1990. He has also taught at the University of London, the University of Missouri, and at Illinois Wesleyan University. He has authored or coauthored articles and books in analysis and linear algebra.

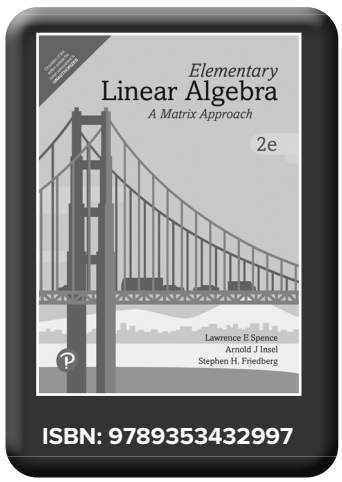
Arnold J. Insel received BA and MA degrees in mathematics from the University of Florida and a PhD from the University of California at Berkeley. He served as a faculty member at Illinois State University for 31 years and at Illinois Wesleyan University for two years. In addition to authoring and co-authoring articles and books in linear algebra, he has written articles in lattice theory, topology, and topological groups.

Lawrence E. Spence holds a BA from Towson State College and MS and PhD degrees in mathematics from Michigan State University. He served as a faculty member at Illinois State University for 34 years, where he was recognized as the outstanding teacher in the College of Arts and Sciences in 1987. He is an author or co-author of nine college mathematics textbooks, as well as articles in mathematics journals in the areas of discrete mathematics and linear algebra.

Elementary Linear Algebra, 2/e

Lawrence E. Spence, Arnold J. Insel, Stephen H Friedberg

Pages: 648 **Year: 2019**



About the Book

Based on the recommendations of the Linear Algebra Curriculum Study Group, this introduction to linear algebra offers a matrix-oriented approach with more emphasis on problem solving and applications. Throughout the text, use of technology is encouraged. The focus is on matrix arithmetic, systems of linear equations, properties of Euclidean n-space, eigenvalues and eigenvectors, and orthogonality. Although matrix-oriented, the text provides a solid coverage of vector spaces.

Features

- Examples in book are accompanied by similar practice problems that enable students to test their understanding of the material.
- Most sections include approximately twenty true/false exercises designed to test students understanding of the conceptual ideas in each section.
- For a proof-oriented course, the authors have included a significant number of accessible exercises requiring proofs, ordered according to difficulty.
- All computational exercises are designed so that the calculations involve “nice” numbers.
- The authors have added an appendix introducing MATLAB.

Contents

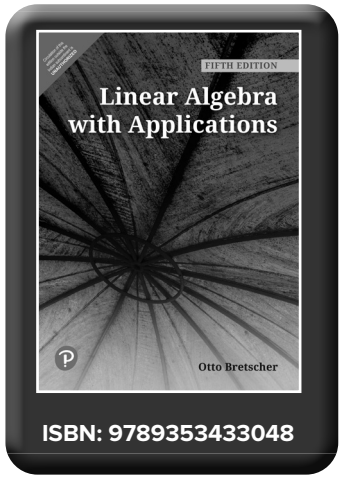
About the Author(s)

Stephen H. Friedberg, Illinois State University
Arnold J. Insel, Illinois State University
Lawrence E. Spence, Illinois State University

Linear Algebra with Applications, 5/e

Otto Bretscher

Pages: 528 Year: 2019



ISBN: 9789353433048

About the Book

Linear Algebra with Applications, Fifth Edition emphasizes linear transformations as a unifying theme. This elegant textbook combines a user-friendly presentation with straightforward, lucid language to clarify and organize the techniques and applications of linear algebra. Exercises and examples make up the heart of the text, with abstract exposition kept to a minimum. Exercise sets are broad and varied and reflect the author's creativity and passion for this course.

Features

- **Linear transformations** are introduced early in the text to make the discussion of matrix operations more meaningful and easier to navigate.
- **Visualization and geometrical interpretation** are emphasized extensively throughout the text.
- **Fifty to sixty True/False questions** conclude every chapter, testing conceptual understanding and encouraging students to read the text.
- **Historical problems** from ancient Chinese, Indian, Arabic, and early European sources add diversity to the selection of exercises.
- **Rotations, reflections, projections, and shears** are used throughout to illustrate new ideas.
- **Commutative diagrams** enable students to visualize the relations between linear transformations.

Contents

1. Linear Equations
2. Linear Transformations
3. Subspaces of Rn and Their Dimensions
4. Linear Spaces
5. Orthogonality and Least Squares
6. Determinants
7. Eigenvalues and Eigenvectors
8. Symmetric Matrices and Quadratic Forms
9. Linear Differential Equations

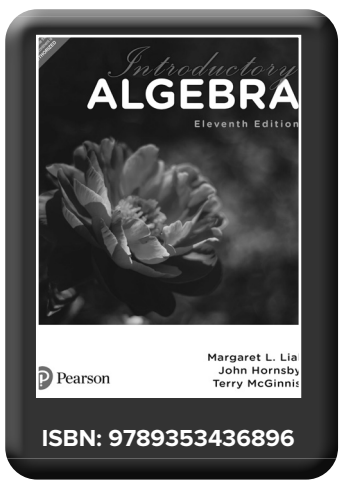
About the Author

Otto Bretscher, Colby College, Waterville

Introductory Algebra, 11/e

Marge Lial, John Hornsby, Terry McGinnis

Pages: 752 Year: 2019



ISBN: 9789353436896

About the Book

This book has helped thousands of students succeed in the **Introductory Algebra** course by combining clear, concise writing and examples with carefully crafted exercises to support skill development and conceptual understanding. Written with the developmental learner in mind, the precise, accessible writing style delivers help precisely when needed. This revision faithfully continues to support students with enhancements in the text to encourage conceptual understanding beyond skills and procedures. Student-oriented features throughout the text, including the *Relating Concepts exercises*, *Guided Solutions, and the Test Your Word Power*, make this text one of the most well-rounded and student-friendly on the market.

Features

- **Learning Objectives** begin each section, and all material is keyed to these objectives to let students and instructors know exactly what will be covered.
- An **emphasis on problem solving** is introduced

and integrated as a six-step process for solving application problems algebraically: *Read, Assign a Variable, Write an Equation, Solve, State the Answer, and Check.*

- **Margin Problems** allow students to immediately practice the example material and check their answer at the bottom of the page in preparation for the exercise sets.
- **Pointers** within examples, **Cautions** and **Notes** provide students with important, on-the-spot reminders and warnings about common pitfalls.
- **Real-Life Applications** with interesting data are used in many new or updated examples and exercises throughout the text.

Contents

1. The Real Number System
2. Equations, Inequalities, and Applications
3. Graphs of Linear Equations and Inequalities in Two Variables
4. Systems of Linear Equations and Inequalities
5. Exponents and Polynomials
6. Factoring and Applications
7. Rational Expressions and Applications
8. Roots and Radicals
9. Quadratic Equations

About the Author(s)

Marge Lial was a pioneering author and a visionary teacher who established features that are now standard in nearly all developmental math titles.

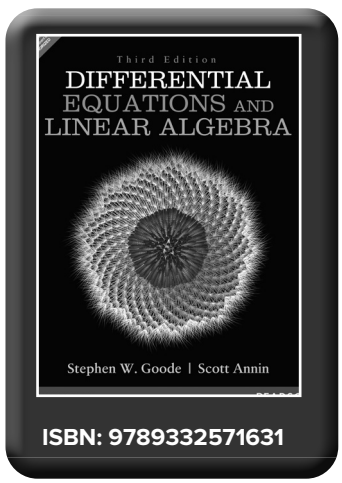
John Hornsby have experience of more than twenty-five years of teaching at the high school and university levels and fifteen years of writing mathematics textbooks.

Differential Equations and Linear Algebra, 3/e

Stephen W. Goode

E-Book

Pages: 800 **Year: 2015**



About the Book

For combined differential equations and linear algebra courses teaching students who have successfully completed three semesters of calculus. This complete introduction to both differential equations and linear algebra presents a carefully balanced and sound integration of the two topics. It promotes in-depth understanding rather than rote memorization, enabling students to fully comprehend abstract concepts and leave the course with a solid foundation in linear algebra. Flexible in format, it explains concepts clearly and logically with an abundance of examples and illustrations, without sacrificing level or rigor. A vast array of problems supports the material, with varying levels from which students/instructors can choose.

Contents

1. First-Order Differential Equations
2. Matrices and Systems of Linear Equations
3. Determinants
4. Vector Spaces
5. Linear Transformation
6. Linear Differential Equations of Order n
7. Systems of Differential Equations
8. The Laplace Transform and Some Elementary Applications
9. Series Solutions to Linear Differential Equations

Appendices

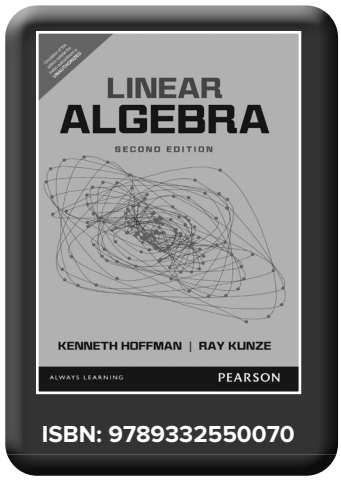
A. Review of Complex Numbers
B. Review of Partial Fractions
C. Review of Integration Techniques
D. Linearly Independent Solutions to x2yn + xp(x)y1 + q(x) y = 0
E. Answers to Odd-Numbered Exercises

About the Author(s)

Stephen W. Goode, California State University, Fullerton
Scott A. Annin, California State University, Fullerton

Linear Algebra, 2/e

Kenneth M Hoffman, Ray Kunze



ISBN: 9789332550070

Pages: 592 Year: 2015

About the Book

This introduction to linear algebra features intuitive introductions and examples to motivate important ideas and to illustrate the use of results of theorems.

Contents

About the Author(s)

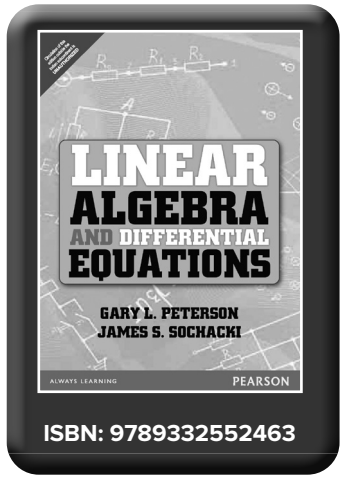
Kenneth Hoffman was a Professor of Mathematics and a former head of the mathematics department at the Massachusetts Institute of Technology (MIT).

Ray Kunze held positions as an associate professor at Washington University in St. Louis and later as a professor at the University of California, Irvine (UCI), and also worked at the Institute for Advanced Study and Brandeis University.

Linear Algebra and Differential Equations

Gary L. Peterson, James S. Sochacki

Pages: 480 Year: 2015



ISBN: 9789332552463

About the Book

Linear Algebra and Differential Equations has been written for a one-semester combined linear algebra and differential equations course, yet it contains enough material for a two-term sequence in linear algebra and differential equations. By introducing matrices, determinants, and vector spaces early in the course, the authors are able to fully develop the connections between linear algebra and differential equations. The book is flexible enough to be easily adapted to fit most syllabi, including separate courses that that cover linear algebra in the first followed by differential equations in the second. Technology is fully integrated where appropriate, and the text offers fresh and relevant applications to motivate student interest.

Features

- Offers a solid foundation in both linear algebra and differential equations, with an emphasis on finding connections between the two subjects.
- Contains applications to many areas, including engineering, business, and life sciences.
- Maple exercises incorporated throughout; support is also offered to users of Mathematica and Matlab in the technology resource manual.

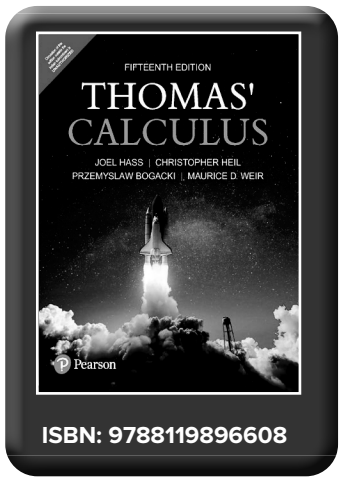
Contents

About the Author(s)

Gary L. Peterson, James Madison University
James S. Sochacki, James Madison University

Thomas' Calculus, 15/e

Maurice D. Weir, Joel Hass, Christopher Heil, Przemyslaw Bogacki



ISBN: 9788119896608

Pages: 1220 Year: 2024

E-Book Web Supplements

About the Book

Thomas' Calculus goes beyond memorizing formulas and routine procedures to help students develop deeper understanding. It guides students to a level of mathematical proficiency and maturity needed for the course, with support for those who require it through its balance of clear and intuitive explanations, current applications and generalized concepts. The 15th Edition meets the needs of students with increasingly varied levels of readiness for the calculus sequence. This revision also adds exercises, revises figures and narrative for clarity, and updates many applications with modern topics.

Features

- Many narrative clarifications and revisions have been made throughout the text.
- A new appendix on Determinants and Gradient Descent has been added, covering many topics relevant to students interested in Machine Learning and Neural Networks.
- Many updated graphics and figures have been enhanced to bring out clear visualization and mathematical correctness.
- Many exercise instructions have been clarified, such as suggesting where the use of a calculator may be needed.
- Notation of inverse trig functions has been changed throughout the text to favor arcsin notation over sin^{-1}, etc.

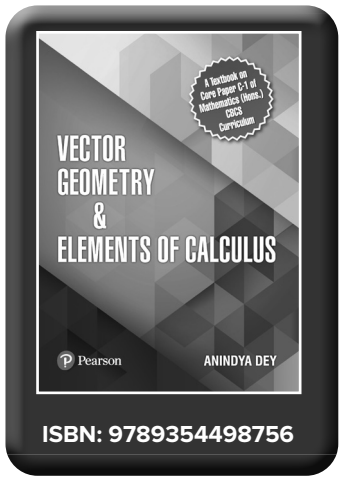
Contents

About the Author(s)

Joel R. Hass University of California, Davis,
Christopher E. Heil Georgia Institute of Technology,
Maurice D. Weir Naval Postgraduate School,
Przemyslaw Bogacki Old Dominion University

Vector Geometry and Elements of Calculus

Anindya Dey



Pages: 724 **Year: 2021**

ISBN: 9789354498756

About the Book

The present volume ***Vector Geometry and Elements of Calculus*** is primarily a textbook meant for the students beginning their academic journey with mathematics as their major subject in the CBCS curriculum. The book although consists of nine chapters on four different topics (viz. Vectors, Geometry, Calculus and Differential equations of first order) it is not just a compiled work—instead, the author claims to render some ingenuity in its representation as he has made honest attempts to twine these heterogeneous topics by making sensible yet limited use of vector and matrix algebra occasionally in the branches Geometry and Calculus and tried to invoke physical insight to what is being taught to instill a spirit of global learning into the readers. Incisive remarks put at the ends of some worked-out examples and some of the theoretical discussions are exceptionally bright features not commonly found in the popular texts.

Features

- Written based on the UGC proposed CBCS curriculum and more than 100% coverage of the topics prescribed in the core paper C- 1 [Calculus]
- Over 375 worked-out examples: 80% meant for mediocre students and 20% designed for advanced learners
- Over 350 MCQ's on the content of this book
- More than 180 figures to supplement the text
- End-of-chapter exercises of different variety for providing the learner's good practice
- Hints and Solutions to the exercises
- Bridging of different ideas of the four main areas through cross-references
- Compactness and lucidity of presentation

Contents

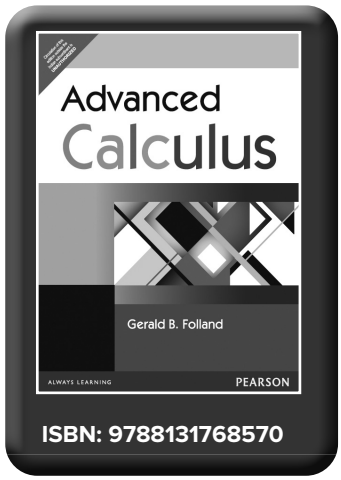
About the Author

Anindya Dey is presently working as a Senior Assistant Professor in the Department of Mathematics, St. Xavier's College (Autonomous), Kolkata. He has been teaching at the undergraduate level for more than two decades primarily the topics like Differential Equations, Linear Algebra, Probability Theory, Vector Algebra & Vector Analysis, Mechanics and Special Theory of Relativity. He has so far authored two books, viz. Metric Spaces and Complex Analysis [New Academic Science, London, UK] and Differential Equations—A Linear algebra Approach [CRC Press]. Prof. Dey completed M.Sc. & M.Phil. in Applied Mathematics from the University of Kolkata and started his research career as CSIR Fellow in the Department of Applied Mathematics, C.U. but later on moved to Indian Statistical Institute, Kolkata. Quantum Mechanics and Supersymmetry are his areas of research interest. Presently he is working on Lie group theoretic ideas related to differential equations

Advanced Calculus

Gerald B. Folland

Pages: 476 Year: 2002



ISBN: 9788131768570

About the Book

This text presents a unified view of calculus in which theory and practice reinforce each other. It covers the theory and applications of derivatives (mostly partial), integrals, (mostly multiple or improper), and infinite series (mostly of functions rather than of numbers), at a deeper level than is found in the standard advanced calculus books.

Features

- Single and Multivariable Analysis equally balanced
- A focus on calculus itself and its applications
- Numerous worked-out examples and exercises throughout
- A chapter on Fourier analysis

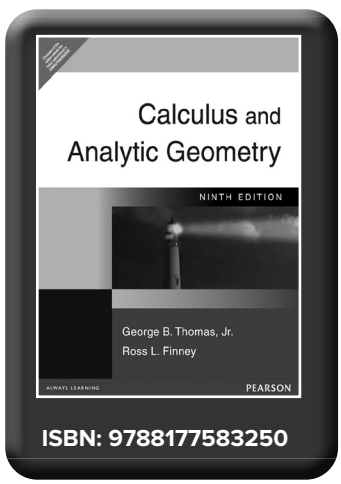
Contents

1. Setting the Stage.
2. Differential Calculus
3. The Implicit Function Theorem and Its Applications
4. Integral Calculus
5. Line and Surface Integrals; Vector Analysis
6. Infinite Series
7. Fourier Series
8. Fourier Series

Calculus & Analytical Geometry, 9/e

George B. Thomas Jr.

Pages: 1264 Year: 2006



ISBN: 9788177583250

About the Book

George Thomas' clear, precise calculus text with superior applications defined the modern-day, three-semester or four-quarter calculus course. The ninth edition of this proven text has been carefully revised to give students the solid base of material they will need to succeed in math, science, and engineering programs. This edition includes recent innovations in teaching and learning that involve technology, projects, and group work.

Features

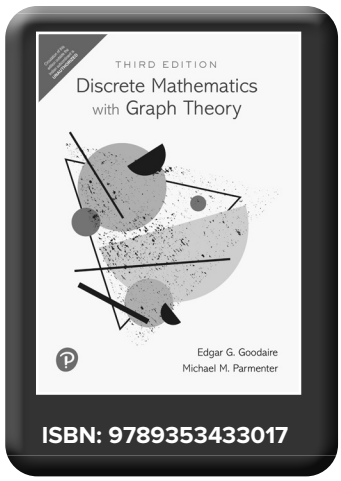
- Exercises have been reorganized to facilitate assigning a subset of the material in a section.
- New Computer Algebra System (CAS) explorations and projects that require a CAS have been included.
- Technology Connection notes appear throughout the text suggesting experiments students might do with a grapher to supplement their understanding of given topic.

Contents

1. Preliminaries
2. Limits and Continuity
3. Derivatives
4. Applications of Derivatives
5. Integration
6. Applications of Integrals
7. Transcendental Functions
8. Techniques of Integration
9. Infinite Series
10. Conic Sections, Parametrized Curves, and Polar Coordinates
11. Vectors and Analytic Geometry in Space
12. Vector-Valued Functions and Motion in Space
13. Multivariable Functions and Partial Derivatives
14. Multiple Integrals
15. Integration in Vector Fields

Discrete Mathematics with Graph Theory, 3/e

Edgar Goodaire, Michael Parmenter



ISBN: 9789353433017

Pages: 592 **Year: 2019**

About the Book

Far more "user friendly" than the vast majority of similar books, this text is truly written in a friendly, conversational, humorous style with the "beginning" reader in mind. The pace is tight, the style is light, and the text emphasizes theorem proving throughout. The authors emphasize "Active Reading," a skill vital to success in learning how to think mathematically and write clean, error-free programs.

Features

- A friendly, conversational, humorous style – Makes this top seller stimulating and engaging for the reader.
- Emphasis on writing and critical-thinking skills.
- More than 300 worked examples and 3500 exercises. The problem sets are carefully graded by level of difficulty.
- A FREE Student Solutions Manual is built into the back of the text.
- Topics in discrete math are used as a vehicle for teaching proofs.
- An unusually strong emphasis on graph theory, incorporating its coverage throughout six chapters.

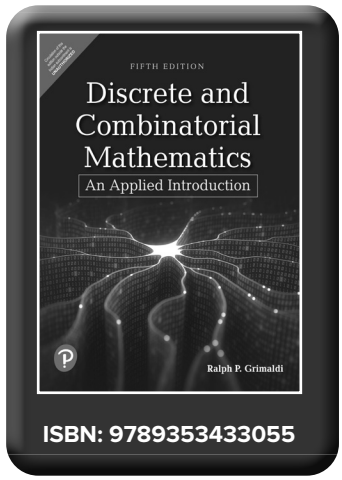
Contents

About the Author

Edgar Goodaire Honorary Research Professor (retired). PhD British Columbia, 1973 B.Sc. Toronto, 1969. CMS Distinguished Service Award, 2004.

Discrete and Combinatorial Mathematics, 5/e

Ralph P. Grimaldi



ISBN: 9789353433055

E-Book

Web Supplements

Pages: 1008 Year: 2019

About the Book

This fifth edition continues to improve on the features that have made it the market leader. The text offers a flexible organization, enabling instructors to adapt the book to their particular courses. The book is both complete and careful, and it continues to maintain its emphasis on algorithms and applications. Excellent exercise sets allow students to perfect skills as they practice. This new edition continues to feature numerous computer science applications—making this the ideal text for preparing students for advanced study.

Features

- Enhanced mathematical approach with carefully thought out examples, including many examples with computer sciences applications.
- New material on cryptology, private-key cryptosystems and public-key RSA cryptosystems.
- Expanded treatment of discrete probability.
- Includes historical reviews and biographies that bring a human element to their assignments.
- Provides chapter summaries to allow students to review what they have learned.

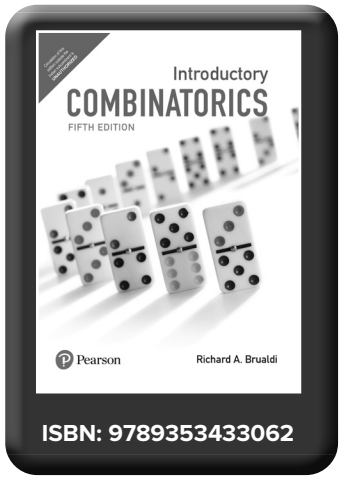
Contents

About the Author

Ralph Peter Grimaldi (born January 1943) is an American mathematician specializing in discrete mathematics who is a professor at Rose-Hulman Institute of Technology.

Introductory Combinatorics, 5/e

Richard A. Brualdi



ISBN: 9789353433062

Pages: 624 **Year: 2019**

About the Book

This trusted best-seller covers the key combinatorial ideas–including the pigeon-hole principle, counting techniques, permutations and combinations, Pólya counting, binomial coefficients, inclusion-exclusion principle, generating functions and recurrence relations, combinatorial structures (matchings, designs, graphs), and flows in networks. The 5th Edition incorporates feedback from users to the exposition throughout and adds a wealth of new exercises.

Features

- **Covers a wide range of topics:**
  - Dilworth's Theorem
  - Partitions of integers
  - Counting sequences and generating functions
  - Extensive graph theory coverage
- **A clear and accessible presentation**, written from the student's perspective, facilitates understanding of basic concepts and principles.
- **An excellent treatment of Pólya's Counting Theorem** that does not assume students have studied group theory.
- **Many worked examples** illustrate methods used.

Contents

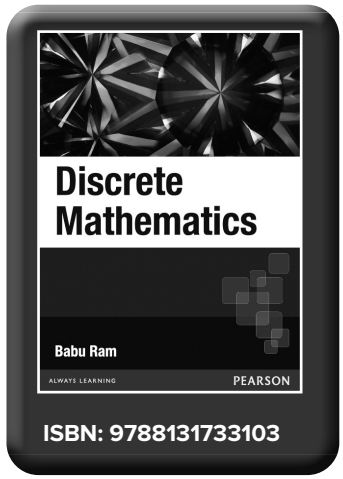
About the Author

Richard A. Brualdi is Bascom Professor of Mathematics, Emeritus at the University of Wisconsin-Madison. He served as Chair of the Department of Mathematics from 1993–1999.

Discrete Mathematics

Babu Ram

Pages: 584 Year: 2011



ISBN: 9788131733103

About the Book

Discrete Mathematics is an integral part of any undergraduate as well as post graduate courses in Computer Science and Mathematics. The syllabi of all these courses have been studied in depth and utmost care has been taken to ensure that all the essential topics in discrete structures are adequately emphasized. The book will enable the students to develop the requisite computational skills needed in software engineering.

Features

- C Programs of important algorithms
- Extensive coverage of Boolean Algebra, Algebraic Structures and Graph Theory
- 550 Solved examples and 170 practice problems with hints/answers

Contents

About the Author(s)

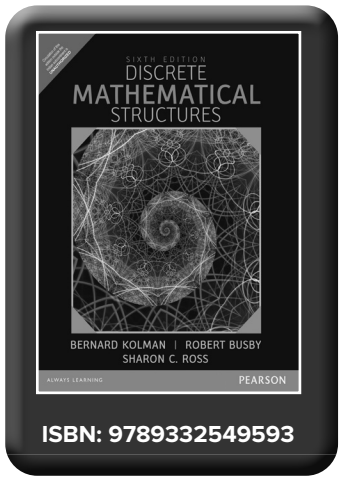
Babu Ram received his Ph.D. degree in mathematics in 1973 from Kurukshetra University, Kurukshetra, India. He was formerly Professor of Mathematics and Dean, Faculty of Physical Sciences at Maharshi Dayanand University, Rohtak and has been teaching mathematics for the past 36 years. A member of Indian Mathematical Society and the American Mathematical Society, Professor Babu Ram has published 42 research papers in Real and Functional Analysis in international journals of repute. He is on the board of reviewers of both American Mathematical Reviews and Zentralblatt fur Mathematik und ihre Grengebiete, Berlin. Presently, he is working as Director MCA at Manav Rachna International University, Faridabad.

Discrete Mathematical Structures, 6/e

Bernard Kolman, Robert Busby, Sharon C. Ross

Pages: 552 Year: 2015

E-Book



ISBN: 9789332549593

About the Book

Discrete Mathematical Structures, Sixth Edition, offers a clear and concise presentation of the fundamental concepts of discrete mathematics. Ideal for a one-semester introductory course, this text contains more genuine computer science applications than any other text in the field.

This book is written at an appropriate level for a wide variety of majors and non-majors, and assumes a college algebra course as a prerequisite.

Features

- The focus on computer science prepares students for future computer science careers.
- The emphasis on proof lays the foundation for mathematical thinking.
- Clear organization of topics prevents students from being overwhelmed. The authors treat relations and digraphs as two aspects of the same fundamental idea, which is then used as the basis of virtually all the concepts introduced in the book.
- Vignettes of mathematical history open each chapter, providing students with a practical background of how these ideas were developed.
- Additional number theory coverage provides more information on the properties of integers, including base n representations, and gives more contexts for isomorphism.
- Cryptology is explored throughout the book, introducing students to this exciting field.
- Coverage of coding provides students with a full picture of all of its aspects, including efficiency, effectiveness, and security. A set of coding exercises for each chapter is also included in Appendix C.
- Exercises emphasize multiple representations of concepts, and provide practice on reading and writing mathematical proofs.
- Experiments provide opportunities for in-depth exploration and discovery, as well as for writing and for working in groups. Topics include weighted voting systems, Petri nets, Catalan numbers, and others.
- End-of-chapter material includes Tips for Proofs, a summary of Key Ideas, and a Self-Test, which contains a set of conceptual review questions to help students identify and synthesize the main ideas of each chapter.

Contents

About the Author(s)

Bernard Kolman received his BS in mathematics and physics from Brooklyn College in 1954, his ScM from Brown University in 1956, and his PhD from the University of Pennsylvania in 1965, all in mathematics. He has worked as a mathematician for the US Navy and IBM. He has been a member of the mathematics department at Drexel University since 1964, and has served as Acting Head of the department. His research activities have included Lie algebra and perations research. He belongs to a number of professional associations and is a member of Phi Beta Kappa, Pi Mu Epsilon, and Sigma Xi.

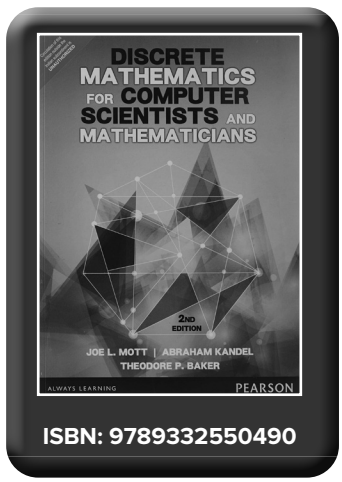
Robert C. Busby received his BS in physics from Drexel University in 1963, his AM in 1964 and PhD in 1966, both in mathematics from the University of Pennsylvania. He has served as a faculty member of the mathematics department at Drexel since 1969. He has consulted in applied mathematics and industry and government, including three years as a consultant to the Office of Emergency Preparedness, Executive Office of the President, specializing in applications of mathematics to economic problems. He has written a number of books and research papers on operator algebra, group representations, operator continued fractions, and the applications of probability and statistics to mathematical demography.

Sharon Cutler Ross received a SB in mathematics from the Massachusetts Institute of Technology in 1965, an MAT in secondary

mathematics from Harvard University in 1966, and a PhD in mathematics from Emory University in 1976. She has taught junior high, high school, and college mathematics, and has taught computer science at the collegiate level. She has been a member of the mathematics department at DeKalb College. Her current professional interests are in undergraduate mathematics education and alternative forms of assessment. Her interests and associations include the Mathematical Association of America, the American Mathematical Association of Two-Year Colleges, and UME Trends. She is a member of Sigma Xi and other organizations.

Discrete Mathematics for Computer Scientists, 2/e

Joe L Mott, Abraham Kandel



ISBN: 9789332550490

Pages: 768 **Year: 2015**

About the Book

This is a lucidly written fine-tuned introduction to discrete mathematics. It is eminently suited for students persuing BCA, MCA and B.E./B.Tech courses. Considering the importance of the subject, quite a number of universities have sought to introduce discrete mathematics as a core subject in the engineering curriculum.

Features

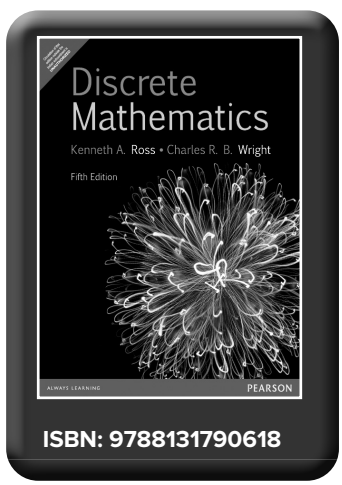
- Comprehensive discussions on graph theory, mathematical induction, Boolean algebras, logic and other proof techniques and recurrence relations have been dealt with.
- Gives good insights into graphs as a modeling tool.
- Gives better understanding of computer solutions of differential equations.
- Many worked out examples and solutions follow each section.

Contents

Discrete Mathematics, 5/e

Kenneth A Ross, Charles R. Wright

POD



ISBN: 9788131790618

Pages: 635 **Year: 2012**

About the Book

Revised for extra clarity, the distinguishing characteristic of Ross and Wright is a sound mathematical treatment that increases smoothly in sophistication. The text presents utility-grade discrete math tools so students can understand them, use them, and move on to more advanced mathematical topics

Features

- NEW - Over 270 supplementary exercises All with answers
- NEW - Full chapter on discrete probability
- NEW - Chapter on algebraic structures
- Comprehensive coverage of logic and proofs
- Full chapter on recursion

Contents

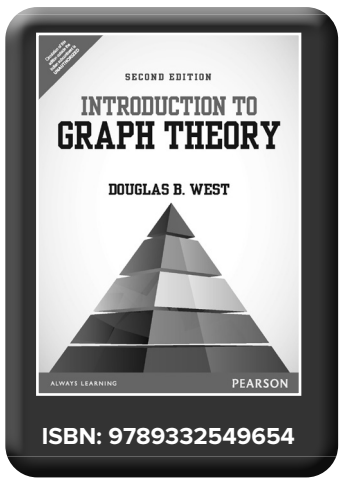
About the Author(s)

Kenneth A. Ross, University of Oregon
Charles R. Wright, University of Oregon

Introduction to Graph Theory, 2/e

Douglas B. West

Pages: 470 Year: 2015



ISBN: 9789332549654

About the Book

For undergraduate or graduate courses in Graph Theory in departments of mathematics or computer science.

This text offers a comprehensive and coherent introduction to the fundamental topics of graph theory. It includes basic algorithms and emphasizes the understanding and writing of proofs about graphs. Thought-provoking examples and exercises develop a thorough understanding of the structure of graphs and the techniques used to analyze problems. The first seven chapters form the basic course, with advanced material in Chapter 8.

Features

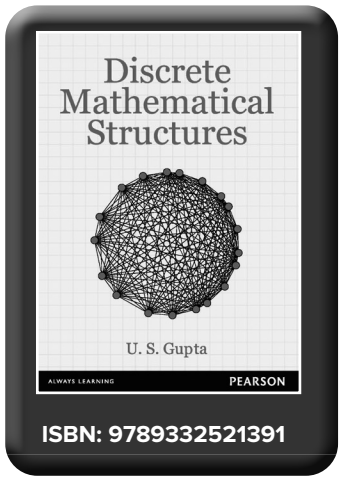
- NEW - Appendix of Mathematical Background—Appendix A presents background material on logical statements, basic set theory, equivalence relations, and elementary counting.
- Makes review material easily accessible for beginning students (Chapter 1 still discusses central proof techniques).
- NEW - Expanded and improved selection of exercises—Exercises have been added, especially easier exercises, and many exercises have been further clarified.
- Enlarged selection of easier exercises provides greater encouragement for beginning students and makes the material useful for a broader range of students.
- NEW - Reorganization of material. Some material has been reorganized to provide a smoother development and clearer focus on essential material with optional material clearly designated or removed.
- Facilitates more efficient learning by aiding instructors in designing courses and students in seeing what is important.
- NEW - Definitions more prominent. Terms being defined are in bold type and most important definitions occur in numbered items.
- Makes definitions easier for students to find.
- NEW - Hints for selected exercises—More hints have been added as Appendix C.
- Allows students to learn at their own pace; weaker students have more opportunity to be successful; stronger students have more opportunity to be stimulated.
- Logical organization—Concepts are introduced as needed, achieving a gradual increase in intellectual difficulty.
- Allows students to find fundamental results in the early sections of chapters and to master elementary concepts in preparation for later applications.
- Additional topics—Final chapter is a bridge to advanced topics.
- Provides supplementary reading for good students and flexibility in advanced courses.
- Over 400 illustrations.

- Allows students to check their understanding of definitions and of steps in proofs.
- Over 1200 exercises—Ranging from relatively straightforward applications of ideas in the text to subtle problems requiring some ingenuity.
- Helps students to understand the ideas of the course and to improve their presentation of coherent arguments.
- Graduation of exercises—Denotes easier exercises by (-), harder by (+), and particularly valuable or instinctive exercises by (!).
- Aids instructor in selecting appropriate exercises and students in practicing for tests.

Contents

Discrete Mathematical Structures

U.S Gupta



ISBN: 9789332521391

Pages: 576 Year: 2014

E-Book

About the Book

Discrete Mathematical Structures provides comprehensive, reasonably rigorous and simple explanation of the concepts with the help of numerous applications from computer science and engineering.

Every chapter is equipped with a good number of solved examples that elucidates the definitions and theorems discussed. Chapter-end exercises are graded, with the easier ones in the beginning and then the complex ones, to help students for easy solving.

Features

- Over 250 unsolved questions
- Around 400 solved examples

Contents

About the Author

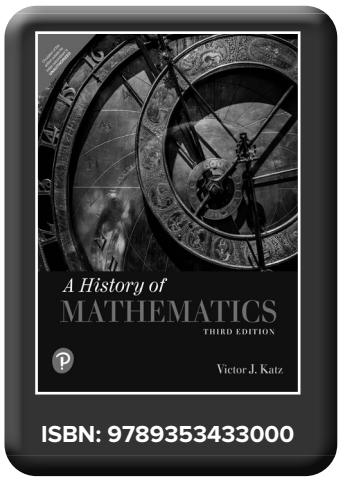
Uma Shanker Gupta joined the department of mathematics, the University of Roorkee (presently IIT-Roorkee), in 1967, after teaching for five years at Ewing Christian Degree College, Allahabad. He was awarded PhD (Mathematics) by the University of Roorkee in 1971. He has been a reviewer of many International journals like Journal of Applied Mechanics, Journal of Sound and Vibration to name a few. He became EMERITUS FELLOW in 2004 and held this position till 2006.

A History of Mathematics, 3/e

Victor J. Katz

Web Supplements

Pages: 992 Year: 2019



ISBN: 9789353433000

About the Book

A History of Mathematics, 3rd Edition, provides students with a solid background in the history of mathematics and focuses on the most important topics for today's elementary, high school, and college curricula. Students will gain a deeper understanding of mathematical concepts in their historical context, and future teachers will find this book a valuable resource in developing lesson plans based on the history of each topic.

Features

- **The flexible presentation** organizes the book by chronological period and then by topic.
- **Discussions of the important textbooks** of major time periods show students how topics were historically treated, allowing students to draw connections to modern approaches.
- **A global perspective** integrates non-Western coverage, including contributions from Chinese, Indian, and Islamic mathematicians. An additional chapter discusses the mathematical achievements of early Africa, America, and Asia.
- **Chapter openers** include a vignette and quotation to add motivation and human interest.
- **Focus essays** are boxed features that are set apart from the main narrative of the text for easy reference.
- **A chronology of major mathematicians** at the end of every chapter gives an overview of important individuals and their contribution to the field of mathematics.

Contents

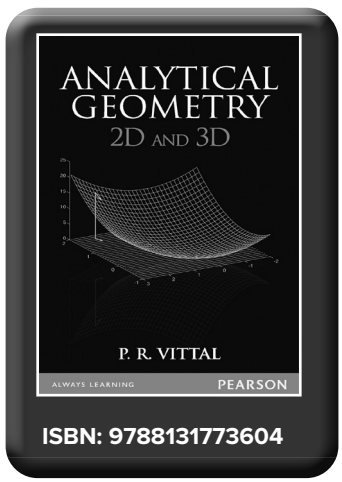
About the Author

Victor J. Katz received his PhD in mathematics from Brandeis University in 1968 and has been Professor of Mathematics at the University of the District of Columbia for many years.

Analytical Geometry: 2D and 3D

P R Vittal

Pages: 752 Year: 2013



ISBN: 9788131773604

About the Book

Designed to meet the requirements of UG students, the book deals with the theoretical as well as the practical aspects of the subject. Equal emphasis has been given to both 2D as well as 3D geometry. The book follows a systematic approach with adequate examples for better understanding of the concepts.

Contents

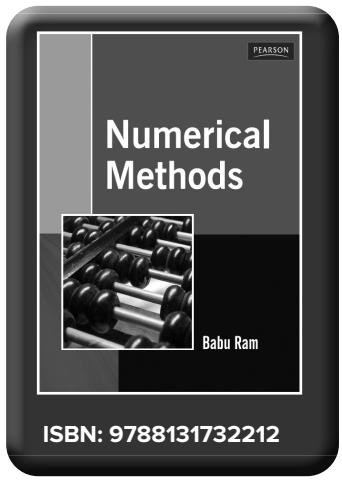
About the Author

P. R. Vittal was a postgraduate professor of mathematics at Ramakrishna Mission Vivekananda College, Chennai, from where he retired as principal in 1996. His assignments as visiting professor took him to Western Carolina University, USA. Currently, Vittal is a visiting professor at the Department of Statistics, University of Madras; The Institute of Chartered Accountants of India, Chennai; the Institute for Technology and Management, Chennai; and National Management School, Chennai, besides being a research guide for management science at BITS Pilani.

Numerical Methods

Babu Ram

Pages: 520 Year: 2010



About the Book

Numerical Methods is a mathematical tool used by engineers and mathematicians to do scientific calculations. It is used to find solutions to applied problems where ordinary analytical methods fail. This book is intended to serve for the needs of courses in *Numerical Methods* at the Bachelors' and Masters' levels at various universities.

Features

- Concise and easy-to-understand treatment of concepts
- Most of the numerical methods have been described technically along with the convergence and error propagation
- 260 solved examples
- 160 practice problems
- Error analysis using various methods
- C programs of important numerical methods

Contents

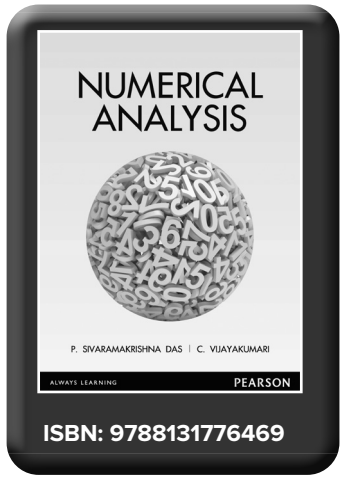
About the Author

Babu Ram received his Ph.D. degree in Mathematics in 1973 from Kurukshetra University, Kurukshetra, India. He retired from Maharshi Dayanand University, Rohtak in 2006 as Professor of Mathematics and Dean, Faculty of Physical Sciences. Currently, he is Programme Director (MCA) at Manav Rachna International University, Faridabad (Haryana). He has published 42 research papers in Real and Functional Analysis in international journals of repute.

Numerical Analysis

Sivaramakrishna Das, Vijayakumari

Pages: 768 Year: 2014



ISBN: 9788131776469

About the Book

A text book designed exclusively for the undergraduate students. With a complete presentation on theoretical and numerical derivations supported with rich pedagogy for practice. All chapters begin with theoretical presentation emphasizing the practical computation which addresses the accurate approximation. Subsequently, the book provides a detailed explanation on Errors in Numerical Computation, Algebraic and Transcendental Equations, Solution of Linear System of Equation, Curve Fitting, Initial value problem for ordinary differential equation, Boundary value problems of second order partial differential equation and Solution of difference equation with constant coefficient.

Features

- An exclusive coverage on Boundary value problems of second order partial differential equation and solution of difference equation with constant coefficient
- Over 200 line diagrams
- 400 solved problems
- 250 unsolved problems for practice.

Contents

About the Author(s)

P. Sivaramakrishna Das started his career as Assistant Professor of Mathematics at Ramakrishna Mission Vivekananda College, Chennai, his alma mater, and retired as Professor and Head of the Department of Mathematics from the same college after an illustrious career spanning 36 years. Currently, he is Professor of Mathematics, Department of Science and Humanities, K.C.G. College of Technology, Chennai.

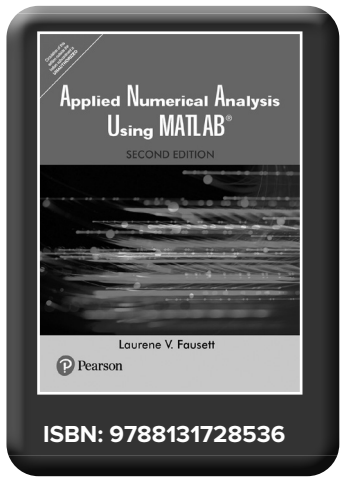
C. Vijayakumari began her career as Assistant Professor of Mathematics at Government Arts College for Women, Thanjavur, and has taught at various government arts and science colleges across Tamil Nadu before retiring as Professor of Mathematics, Queen Mary's College, Chennai, with 40 years of teaching experience behind her.

Applied Numerical Analysis Using MATLAB, 2/e

Laurene V. Fausett

Pages: 688 Year: 2009

POD



ISBN: 9788131728536

About the Book

This text is appropriate for undergraduate courses on numerical methods and numerical analysis found in engineering, mathematics & computer science departments. Each chapter uses introductory problems from specific applications. These easy-to-understand problems clarify for the reader the need for a particular mathematical technique. Numerical techniques are explained with an emphasis on why they work.

Features

- Full-page overview for each chapter " Includes two applications to introduce each chapter (except the first introductory chapter)
- End-of-chapter Beyond the Basics or Further Topics Introduce more advanced methods, often including those used by MATLAB and other professionally developed software packages.
- Chapter Wrap-Up " Includes a summary of the formulas for the basic methods presented in the chapter, suggestions for further reading, and several types of exercises.
- Practice the Techniques problems " Present fairly straightforward problems that encourage practice by handor verification of simple MATLAB programs.

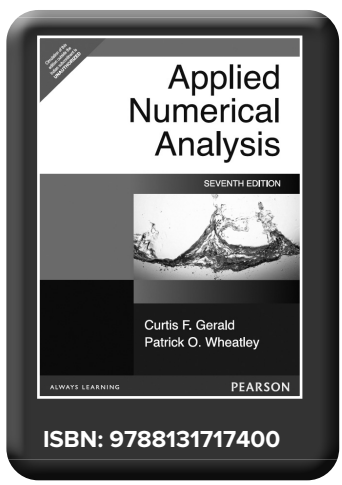
Contents

Applied Numerical Analysis, 7/e

Curtis F. Gerald

Pages: 624 Year: 2007

POD



ISBN: 9788131717400

About the Book

The seventh edition of this classic text has retained the features that make it popular, while updating its treatment and inclusion of Computer Algebra Systems and Programming Languages. The exercise sets include additional challenging problems and projects which show practical applications of the material. Also, sections which discuss the use of computer algebra systems such as Maple®, Mathematica®, and MATLAB®, facilitate the integration of technology in the course. Furthermore, the text incorporates programming material in both FORTRAN and C. The breadth of topics, such as partial differential equations, systems of nonlinear equations, and matrix algebra, provide comprehensive and flexible, coverage of all aspects of numerical analysis.

Features

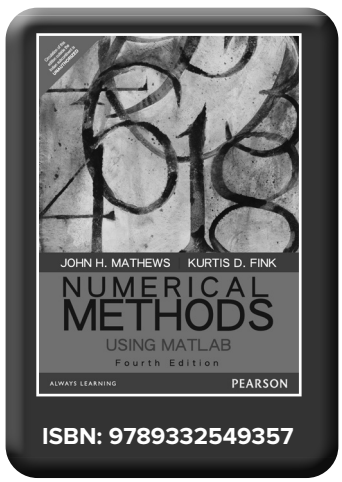
- Applied problems and applications emphasize real applications not detailed mathematical theorems
- Computer programs in either Fortran 90 or C are given at the conclusion of each chapter.
- Treats Linear systems before non-linear systems.
- The pace of topic presentation is appropriate for the audience.
- Excellent treatment of parallel processing.

Contents

1. Solving Nonlinear Equations.
2. Solving Sets of Equations.
3. Interpolation and Curve Fitting.
4. Approximation of Functions.
5. Numerical Differentiation and Integration.
6. Numerical Solution of Ordinary Differential Equations.
7. Optimization.
8. Partial Differential Equations.
9. Finite Element Analysis.

Numerical Methods Using Matlab, 4/e

John H. Mathews, Kurtis K. Fink



ISBN: 9789332549357

Pages: 696 **Year: 2015**

About the Book

This book provides a fundamental introduction to numerical analysis for undergraduate students in the areas of mathematics, computer science, physical sciences, and engineering. Knowledge of calculus is assumed.

Features

- NEW - Expanded emphasis on analysis of competing methods and issues of error.
- NEW - Rewritten chapter on numerical optimization.
- NEW - New topics for minimization of z = f(x,y) are included.
- NEW - Projects for undergraduate library research experience have been added.
- Explicit use of the software MATLAB is offered.
- Each numerical method is presented in a self-contained format.
- Balance of theory and application.
- A variety of problems to sharpen students skills with extensive problem sets with a wide variety of activities.
- A wealth of tables and graphs which illustrates computer calculations in examples making the resulting numerical approximations easier to interpret.

Contents

1. Preliminaries.
2. The Solution of Nonlinear Equations f (x) = 0.
3. The Solution of Linear Systems AX = B.
4. Interpolation and Polynomial Approximation.
5. Curve Fitting.
6. Numerical Differentiation.
7. Numerical Integration.
8. Numerical Optimization.
9. Solution of Differential Equations.
10. Solution of Partial Differential Equations.
11. Eigenvalues and Eigenvectors.

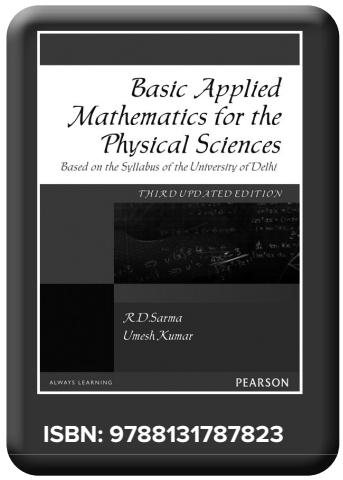
Appendix: An Introduction to MATLAB.
Answers to Selected Exercises.

About the Author(s)

John H. Mathews, *California State University, Fullerton*
Kurtis K. Fink, *Northwest Missouri State University*

Basic Applied Mathematics for the Physical Sciences Based on the syllabus of the University of Delhi, Updated 3/e

R. D. Sarma, Umesh Kumar



ISBN: 9788131787823

Pages: 440 Year: 2012

About the Book

Basic Applied Mathematics for the Physical Sciences offers an introductory course in mathematics for the undergraduate students of physical sciences and applied physical sciences in the University of Delhi. Well structured into three parts, this book presents an in-depth study of matrices, calculus and complex numbers. It provides a perfect blend of theoretical principles and numerical problems to help students enhance their understanding of mathematical concepts and their applications. A student-friendly approach and an easy-paced treatment of all relevant topics make this book useful for students of mathematics.

Features

- Completely covers the semester-wise revised syllabus of the University of Delhi
- Includes the University of Delhi's solved question papers for the years 2010-11 and 2011-12
- Mathematical concepts explained using illustrative examples, diagrams and problems from various domains of science
- More than 350 solved examples interspersed in the text
- 700 practice problems
- Statistical, logarithmic and exponential tables provided, making the text completely self-contained

Contents

About the Author(s)

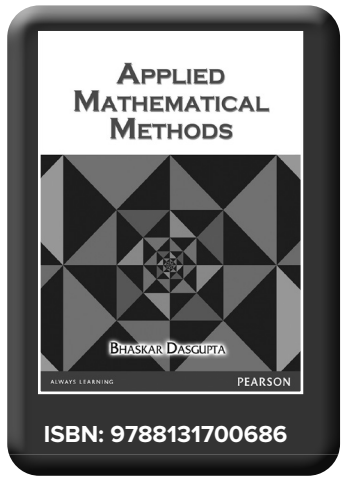
R. D. Sarma is an associate professor in the Department of Mathematics at Rajdhani College, New Delhi. He has over 19 years of teaching experience at the undergraduate and postgraduate levels. He has published 28 research papers in various international journals and has worked on several research projects under the UGC and CSIR. His primary areas of interest are fuzzy set theory and topology. He has attended several international conferences and has been involved in guiding students for their Ph.D. degrees .He has also worked as an associate professor in mathematics in the Eritrea Institute of Technology, under the aegis of the Ministry of Education, Eritrea.

Umesh Kumar is an assistant professor in the Department of Mathematics at Rajdhani College, New Delhi. He is an active member of the Mathematical Association of India and a life member of the Indian Mathematical Society and Indian Science Congress Association. His area of research is topology. He was recently awarded 'The Worshipful Company of International Bankers' Prize' for securing the first position in M.Sc. (Financial Mathematics) from King's College, London. Presently, he is deputed as a faculty member in the Cluster Innovation Centre, University of Delhi.

Applied Mathematical Methods

Bhaskar Dasgupta

Pages: 524 Year: 2006



ISBN: 9788131700686

About the Book

This book covers the material vital for research in today's world and can be covered in a regular semester course. It is the consolidation of the efforts of teaching the compulsory first semester post-graduate applied mathematics course at the Department of Mechanical Engineering at IIT Kanpur in two successive years.

Contents

42. Fourier Transforms
43. Minimax Approximation*
44. Partial Di_erential Equations
45. Analytic Functions
46. Integrals in the Complex Plane
47. Singularities of Complex Functions
48. Variational Calculus*

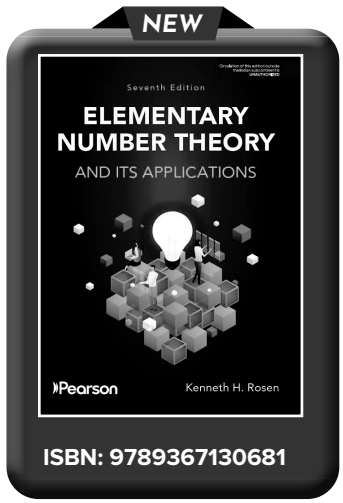
About the Author

Bhaskar Dasgupta is associate professor in the Department of Mechanical Engineering at Indian Institute of Technology Kanpur. He received his doctorate from the Indian Institute of Science, Bangalore, India in 1997. His ever-expanding research interests include topics in robotics such as serial and parallel manipulators, and motion planning methods; as well as nonlinear optimization, domain mapping, geometric modelling and protein docking. In his spare time, he takes a zealous interest in languages, literature, history and philosophy.

Elementary Number Theory, 7/e

Kenneth H. Rosen

Pages: 860 Year: 2025



About the Book

Elementary Number Theory is known for its rich exercise sets, careful and rigorous proofs, examples and applications. A full range of exercises helps students explore key concepts and push their understanding to new heights. Computational exercises and computer projects are available for Maple, Mathematica, Sage Math, and the book's many online resources. The 7th Edition is revised throughout for a presentation that is easier to teach and to learn from, while incorporating advancements and recent discoveries in number theory. Several hundred new exercises enhance the exercise sets even further.

Features

- Careful proofs explain and support a number of the key results of number theory.
- Diverse exercise levels include basic skills, intermediate (put concepts together and develop new results), challenging, and exercises using technology tools.
- Answers are provided to all odd-numbered exercises within the text, and solutions to all odd-numbered exercises are in the Student Solutions Manual.

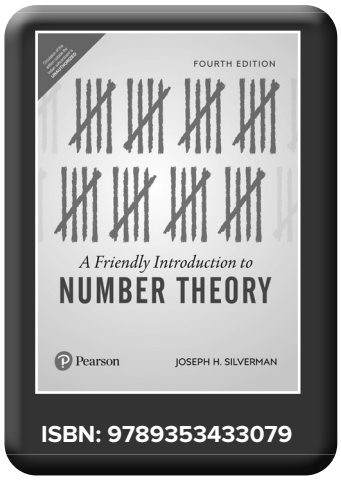
Contents

About the Author

Kenneth H. Rosen - AT&T Laboratories

A Friendly Introduction to Number Theory, 4/e

Joseph H Silverman



Pages: 424 Year: 2019

About the Book

A Friendly Introduction to Number Theory, 4th Edition is designed to introduce students to the overall themes and methodology of mathematics through the detailed study of one particular facet–number theory. Starting with nothing more than basic high school algebra, students are gradually led to the point of actively performing mathematical research while getting a glimpse of current mathematical frontiers. The writing is appropriate for the undergraduate audience and includes many numerical examples, which are analyzed for patterns and used to make conjectures. Emphasis is on the methods used for proving theorems rather than on specific results.

Features

- 50 short chapters provide flexibility and options for instructors and students. A flowchart of chapter dependencies is included in this edition.
- Five basic steps are emphasized throughout the text to help readers develop a robust thought process:
  - Experimentation
  - Pattern recognition
  - Hypothesis formation
  - Hypothesis testing
  - Formal proof
- RSA cryptosystem, elliptic curves, and Fermat's Last Theorem are featured, showing the real-life applications of mathematics.

Contents

1. What Is Number Theory?
2. Pythagorean Triples
3. Pythagorean Triples and the Unit Circle
4. Sums of Higher Powers and Fermat's Last Theorem
5. Divisibility and the Greatest Common Divisor
6. Linear Equations and the Greatest Common Divisor
7. Factorization and the Fundamental Theorem of Arithmetic
8. Congruences
9. Congruences, Powers, and Fermat's Little Theorem
10. Congruences, Powers, and Euler's Formula
11. Euler's Phi Function and the Chinese Remainder Theorem
12. Prime Numbers
13. Counting Primes
14. Mersenne Primes
15. Mersenne Primes and Perfect Numbers
16. Powers Modulo m and Successive Squaring
17. Computing k^{th} Roots Modulo m
18. Powers, Roots, and "Unbreakable" Codes
19. Primality Testing and Carmichael Numbers
20. Squares Modulo p
21. Is -1 a Square Modulo p? Is 2?
22. Quadratic Reciprocity

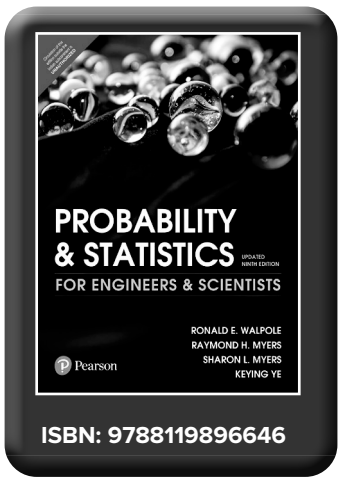
23. Proof of Quadratic Reciprocity
24. Which Primes Are Sums of Two Squares?
25. Which Numbers Are Sums of Two Squares?
26. As Easy as One, Two, Three
27. Euler's Phi Function and Sums of Divisors
28. Powers Modulo p and Primitive Roots
29. Primitive Roots and Indices
30. The Equation X4 + Y4 = Z4
31. Square–Triangular Numbers Revisited
32. Pell's Equation
33. Diophantine Approximation
34. Diophantine Approximation and Pell's Equation
35. Number Theory and Imaginary Numbers
36. The Gaussian Integers and Unique Factorization
37. Irrational Numbers and Transcendental Numbers
38. Binomial Coefficients and Pascal's Triangle
39. Fibonacci's Rabbits and Linear Recurrence Sequences
40. Oh, What a Beautiful Function
41. Cubic Curves and Elliptic Curves
42. Elliptic Curves with Few Rational Points
43. Points on Elliptic Curves Modulo p
44. Torsion Collections Modulo p and Bad Primes
45. Defect Bounds and Modularity Patterns
46. Elliptic Curves and Fermat's Last Theorem
47. The Topsy-Turvey World of Continued Fractions [online]
48. Continued Fractions, Square Roots, and Pell's Equation [online]
49. Generating Functions [online]
50. Sums of Powers [online]

About the Author

Joseph H. Silverman is a Professor of Mathematics at Brown University. He received his Sc.B. at Brown and his Ph.D. at Harvard, after which he held positions at MIT and Boston University before joining the Brown faculty in 1988.

Probability and Statistics for Engineers and Scientists, Updated 9/e

Ronald E. Walpole, Raymond H. Myers,
Sharon L. Myers, Keying Ye



ISBN: 9788119896646

Pages: 812 Year: 2024

About the Book

For junior/senior undergraduates taking probability and statistics as applied to engineering, science, or computer science. This classic text provides a rigorous introduction to basic probability theory and statistical inference, with a unique balance between theory and methodology. Interesting, relevant applications use real data from actual studies, showing how the concepts and methods can be used to solve problems in the field. This revision focuses on improved clarity and deeper understanding.

Features

- Real-life applications of the Poisson, binomial, and hypergeometric distributions generate student interest using topics such as flaws in manufactured copper wire, highway potholes, hospital patient traffic, airport luggage screening, and homeland security.
- Case studies provide deeper insight into the practicality of the concepts.
- Statistical software coverage in case studies includes SAS® and MINITAB®, with screenshots and graphics as appropriate.
- "Pot Holes" comments remind students of the bigger picture and how each chapter fits into that picture. These notes also discuss limitations of specific procedures and help students avoid pitfalls in misusing statistics.
- Class projects in several chapters provide the opportunity for students to gather their own experimental data and draw inferences from that data. These projects illustrate the meaning of a concept or provide empirical understanding of important statistical results and are suitable for either group or individual work.

Contents

About the Author(s)

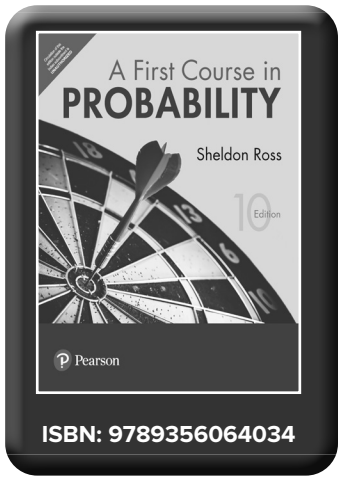
Ronald E. Walpole, Roanoke College
Raymond H. Myers, Virginia Tech
Sharon L. Myers, Radford University
Keying Ye, University of Texas at San Antonio

A First Course in Probability, 10/e

Sheldon M. Ross

Web Supplements

Pages: 524 Year: 2022



ISBN: 9789356064034

About the Book

A First Course in Probability offers an elementary introduction to the theory of probability for students in mathematics, statistics, engineering, and the sciences. Through clear and intuitive explanations, it attempts to present not only the mathematics of probability theory, but also the many diverse possible applications of this subject through numerous examples. The 10th Edition includes many new and updated problems, exercises, and text material chosen both for inherent interest and for use in building student intuition about probability.

Features

- Analysis is unique to the text and elegantly designed. Examples include the knockout tournament and multiple players gambling ruin problem, along with results concerning the sum of uniform and the sum of geometric random variables.
- Intuitive explanations are supported with an abundance of examples to give readers a thorough introduction to both the theory and applications of probability.
- Three sets of exercises are given at the end of each chapter: Problems, Theoretical Exercises, and Self-Test Problems and Exercises.
- New - Streamlined exposition focuses on clarity and deeper understanding.
- Many new and updated problems and exercises.
- New - Examples such as Example 4n of Chapter 3, which deals with computing NCAA basketball tournament win probabilities, and Example 5b of Chapter 4, which introduces the friendship paradox.
- New - Material on the Pareto distribution, on Poisson limit results, and on the Lorenz curve.

Contents

About the Author

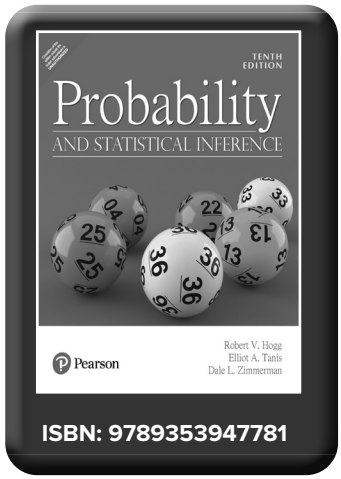
Sheldon M. Ross is a professor in the Department of Industrial Engineering and Operations Research at the University of Southern California. He received his Ph.D. in statistics at Stanford University in 1968. He has published many technical articles and textbooks in the areas of statistics and applied probability. Among his texts are A First Course in Probability, Introduction to Probability Models, Stochastic Processes, and Introductory Statistics. Professor Ross is the founding and continuing editor of the journal Probability in the Engineering and Informational Sciences, the Advisory Editor for International Journal of Quality Technology and Quantitative Management, and an Editorial Board Member of the Journal of Bond Trading and Management. He is a Fellow of the Institute of Mathematical Statistics and a recipient of the Humboldt US Senior Scientist Award.

Probability and Statistical Inference, 10/e

Robert V. Hogg, Elliot Tanis, Dale Zim

Pages: 564 Year: 2021

Web Supplements



ISBN: 9789353947781

About the Book

Advances in computing technology – particularly in science and business – have increased the need for more statistical scientists to examine the huge amount of data being collected. Written by veteran statisticians, Probability and Statistical Inference, 10th Edition emphasizes the existence of variation in almost every process, and how the study of probability and statistics helps us understand this variation. This applied introduction to probability and statistics reinforces basic mathematical concepts with numerous real-world examples and applications to illustrate the relevance of key concepts. It is designed for a two-semester course, but it can be adapted for a one-semester course. A good calculus background is needed, but no previous study of probability or statistics is required.

Features

- Approximately 25 new examples and more than 75 new exercises have been added.
- A new section (Section 2.5) on the hypergeometric distribution is provided, adding to material previously scattered throughout the first and second chapters.
- Discussion of new topics includes the index of skewness and the laws of total probability for expectations and the variance.
- New material has been added on the topics of percentile matching and the invariance of maximum likelihood estimation.
- A new section on hypothesis testing for variances also includes confidence intervals for a variance and for the ratio of two variances.

Contents

6.3 Order Statistics
6.4 Maximum Likelihood and Method of Moments Estimation
6.5 A Simple Regression Problem
6.6 Asymptotic Distributions of Maximum Likelihood Estimators
6.7 Sufficient Statistics
6.8 Bayesian Estimation

7. Interval Estimation

7.1 Confidence Intervals for Means
7.2 Confidence Intervals for the Difference of Two Means
7.3 Confidence Intervals for Proportions
7.4 Sample Size
7.5 Distribution-Free Confidence Intervals for Percentiles
7.6 More Regression
7.7 Resampling Methods

8. Tests of Statistical Hypotheses

8.1 Tests About One Mean
8.2 Tests of the Equality of Two Means
8.3 Tests for Variances
8.4 Tests About Proportions
8.5 Some Distribution-Free Tests
8.6 Power of a Statistical Test
8.7 Best Critical Regions
8.8 Likelihood Ratio Tests

9. More Tests

9.1 Chi-Square Goodness-of-Fit Tests
9.2 Contingency Tables
9.3 One-Factor Analysis of Variance
9.4 Two-Way Analysis of Variance
9.5 General Factorial and 2k Factorial Designs
9.6 Tests Concerning Regression and Correlation
9.7 Statistical Quality Control

About the Author

Robert V. Hogg (deceased), Professor Emeritus of Statistics at the University of Iowa since 2001, received his B.A. in mathematics at the University of Illinois and his M.S. and Ph.D. degrees in mathematics, specializing in actuarial sciences and statistics, from the University of Iowa. Known for his gift of humor and his passion for teaching, Hogg had far-reaching influence in the field of statistics. Throughout his career, Hogg played a major role in defining statistics as a unique academic field, and he almost literally ""wrote the book"" on the subject. He wrote more than 70 research articles and co-authored four books, including Introduction of Mathematical Statistics, 6th Edition with J. W. McKean and A.T. Craig; Applied Statistics for Engineers and Physical Scientists, 3rd Edition with J. Ledolter; and A Brief Course in Mathematical Statistics, 1st Edition with E.A. Tanis. His texts have become classroom standards used by hundreds of thousands of students.

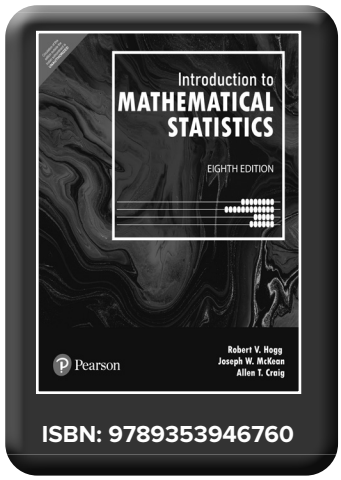
Elliot Tanis, Professor Emeritus of Mathematics at Hope College, received his M.S. and Ph.D. degrees from the University of Iowa. Tanis is the co-author of A Brief Course in Mathematical Statistics with R. Hogg and Probability and Statistics: Explorations with MAPLE, 2nd Edition with Z. Karian. He has authored over 30 publications on statistics and is a past chairman and governor of the Michigan MAA, which presented him with both its Distinguished Teaching and Distinguished Service Awards. He taught at Hope for 35 years and in 1989 received the HOPE Award (Hope's Outstanding Professor Educator) for his excellence in teaching. In addition to his academic interests, Dr. Tanis is also an avid tennis player and devoted Hope sports fan.

Dale Zimmerman is the Robert V. Hogg Professor in the Department of Statistics and Actuarial Science at the University of Iowa.

Introduction to Mathematical Statistics, 8/e

Robert V. Hogg, Allen T. Craig, Joseph W. McKean

Pages: 764 Year: 2020



ISBN: 9789353946760

About the Book

Introduction to Mathematical Statistics by Hogg, McKean, and Craig enhances student comprehension and retention with numerous, illustrative examples and exercises. Classical statistical inference procedures in estimation and testing are explored extensively, and the text's flexible organization makes it ideal for a range of mathematical statistics courses. Substantial changes to the 8th Edition – many based on user feedback - help students appreciate the connection between statistical theory and statistical practice, while other changes enhance the development

Features

- Many additional real data sets to illustrate statistical methods or compare methods.
- Expanded use of the statistical software R, a powerful statistical language which is free and can run on all three main platforms.
- Expanded discussion of iterated integrals, with added figures to clarify discussion.
- Several important topics have been added, including a subsection on the bivariate normal distribution, Tukey's multiple comparison procedure and confidence intervals for the correlation coefficients.
- Discussion on standard errors for estimates obtained by bootstrapping the sample is now included.

Contents

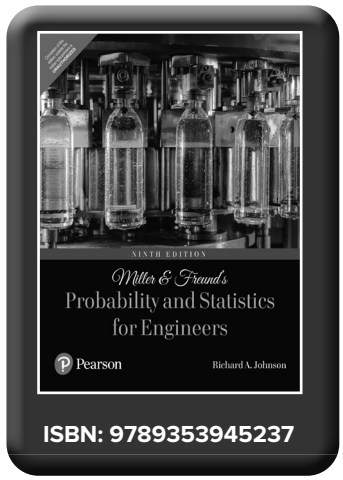
About the Author(s)

Robert V. Hogg, University of Iowa

Joeseph McKean, Allen T. Craig, Late, Professor of Statistics, University of Iowa

Miller and Freund's Probability and Statistics for Engineering, 9/e

Richard A. Johnson



ISBN: 9789353945237

Web Supplements

Pages: 560 Year: 2020

About the Book

Miller & Freund's Probability and Statistics for Engineers is rich in exercises and examples, and explores both elementary probability and basic statistics, with an emphasis on engineering and science applications. Much of the data has been collected from the author's own consulting experience and from discussions with scientists and engineers about the use of statistics in their fields. In later chapters, the text emphasizes designed experiments, especially two-level factorial design. The Ninth Edition includes several new datasets and examples showing application of statistics in scientific investigations, familiarizing students with the latest methods, and readying them to become real-world engineers and scientists.

Features

- Many new examples on important current engineering and scientific data further strengthen the text's orientation towards an applications-based introduction to statistics
- Added graphs illustrating P-values appear in several examples along with an interpretation
- More details about using R commands make it easy for students to check calculations on their own laptop or tablet, while reading an example.
- Key formulas are stressed and calculation formulas are downplayed. Computation formulas are set in the context of an application which only requires all, or mostly all, integer arithmetic, and now appear only at the end of sections. Students can then check their results with their choice of software.
- All examples are now numbered within each chapter.
- New data-based exercises feature real applications to help stimulate interest and strengthen a student's appreciation of the role of statistics in engineering applications.

Contents

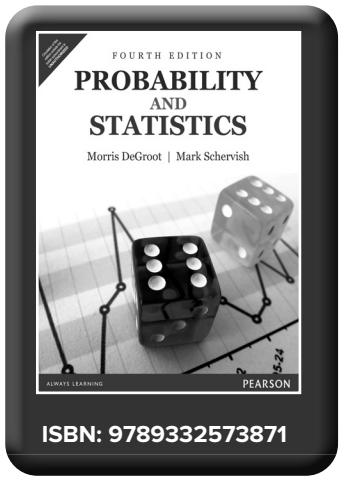
About the Author

Richard A. Johnson, University of Wisconsin–Madison

Probability and Statistics, 4/e

Morris H. DeGroot, Mark J. Schervish

Pages: 840 Year: 2016



ISBN: 9789332573871

About the Book

The revision of this well-respected text presents a balanced approach of the classical and Bayesian methods and now includes a chapter on simulation (including Markov chain Monte Carlo and the Bootstrap), coverage of residual analysis in linear models, and many examples using real data.

Probability & Statistics, Fourth Edition, was written for a one- or two-semester probability and statistics course. This course is offered primarily at four-year institutions and taken mostly by sophomore and junior level students majoring in mathematics or statistics. Calculus is a prerequisite, and a familiarity with the concepts and elementary properties of vectors and matrices is a plus.

Features

- Brief introductions in each technical section give readers a hint about what they are going to encounter, while summaries list the most important ideas.
- In addition to examples using current data, some elementary concepts of probability are illustrated by famous examples such as the birthday problem, the tennis tournament problem, the matching problem, and the collector's problem.
- Special features include sections on Markov chains, the gambler's ruin problem, and utility and preferences among gamblers. These topics are presented in an elementary fashion and can be omitted without loss of continuity.
- Optional sections of the book are indicated by an asterisk in the Table of Contents.
- Chapters 1—5 are devoted to probability and can serve as the text for a one-semester course on probability. Independence is now introduced after conditional probability.
- Chapters 6—10 are devoted to statistical inference. Both classical and Bayesian statistical methods are developed in an integrated presentation which will be useful to students when applying the concepts to the real world.

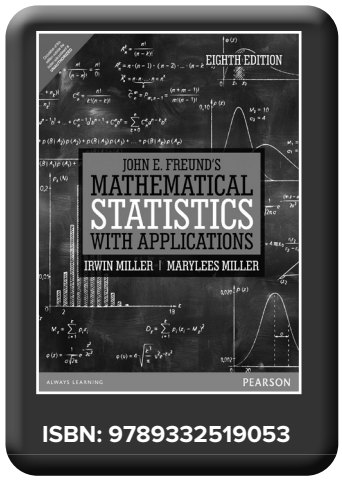
Contents

About the Author(s)

Morris H. DeGroot was a distinguished professor of statistics at Carnegie Mellon University (CMU).
Mark J. Schervish is also a professor of statistics at Carnegie Mellon University.

John E. Freund's Mathematical Statistics with Applications, 8/e

Irwin Miller, Marylees Miller



ISBN: 9789332519053

Pages: 476 Year: 2014

About the Book

John E. Freund's *Mathematical Statistics with Applications*, Eighth Edition, provides a calculus-based introduction to the theory and application of statistics, based on comprehensive coverage that reflects the latest in statistical thinking, the teaching of statistics, and current practices.

This text is appropriate for a two-semester or three-quarter calculus-based course in Introduction to Mathematical Statistics. It can also be used for a single-semester course emphasizing probability, probability distributions and densities, sampling, and classical statistical inference

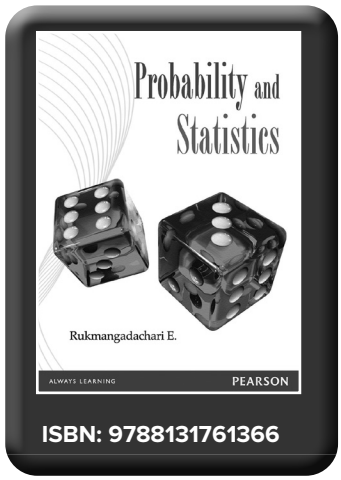
Features

- "The Theory in Practice" sections at the end of every chapter give students the chance to apply the methods they've learned.
- More than 1,200 exercises offer a wide variety to choose from in creating assignments, tests, and class work. Many of these exercises offer the opportunity to use technology so that students can understand the role of computers in factoring and analyzing statistical data.
- Comprehensive coverage of statistical theories students have appreciated for generations.
- Comprehensive appendices summarize the properties of the special probability distributions and density functions, making this text an invaluable reference.

Contents

Probability and Statistics

E. Rukmangadachari



ISBN: 9788131761366

Pages: 258 Year: 2012

About the Book

This book is designed for engineering students studying the core paper on probability and statistics during their second or third years. It includes detailed explanation of theory with numerous examples and exercises, as well as relevant references to engineering applications. Each chapter also has numerous objective type questions, and answers and hints are provided for all the exercise problems and objective type questions.

Features

- Detailed examination of special probability distributions
- A separate chapter on estimation theory
- Detailed examination of regression and correlation analysis
- A separate chapter on queuing theory

Contents

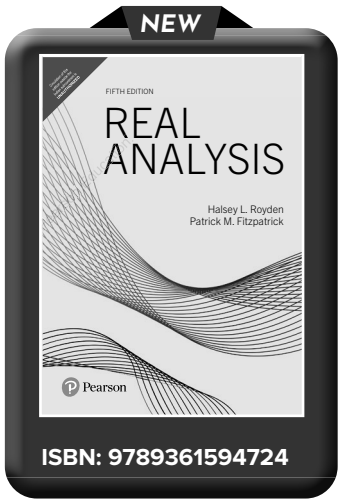
About the Author(s)

E Rukmangadachari is former head of Computer Science and Engineering as well as Humanities and Sciences at Malla Reddy Engineering College, Secunderabad. He is an MA from Osmania University, and an M.PHIL. and Ph.D. degree holder from Sri Venkateswara University, Thirupathi

Real Analysis, 5th edition

Halsey Royden, Patrick M. Fitzpatrick

EXCLUSIVE



Pages: 496 Year: 2025

About the Book

Royden's Real Analysis has contributed to educating generations of mathematical analysis students. The 5th Edition of this classic text presents some important updates while presenting measure theory, integration theory and elements of metric, topological, Hilbert and Banach spaces. An undergraduate course on the fundamental concepts of analysis is assumed.

Features

- Updated and reordered presentation
- Independent, modular chapters give instructors flexibility to cover material to suit course needs.
- Understanding of the linkages between the text's parts is fostered throughout.
- Problems range from those that confirm understanding of basic results and ideas to those that are quite challenging; many problems foreshadow future developments.
- Simpler proofs of the Vitali Covering Lemma and Lebesgue's theorem on the differentiability almost everywhere of a monotone function are provided in Part I.

Contents

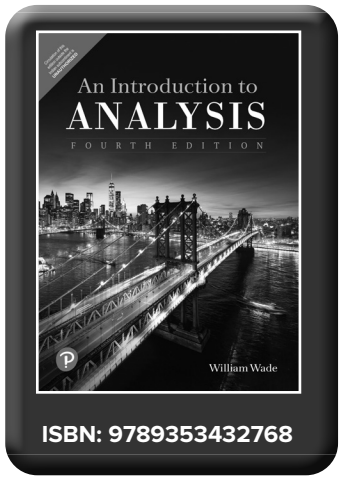
About the Author

Halsey Royden, was an American mathematician, specializing in complex analysis on Riemann surfaces, several complex variables, and complex differential geometry. Royden is the author of a popular textbook on real analysis.

Patrick Fitzpatrick began scientific research as an undergraduate at UC Berkeley, where he focused on observational and computational astrophysics. During his PhD at MIT, he became interested in the intersection of astrophysics and high energy theoretical physics, focusing on cosmic inflation and dark matter.

An Introduction to Analysis, 4/e

William Wade



ISBN: 9789353432768

Pages: 696 Year: 2019

About the Book

This text prepares students for future courses that use analytic ideas, such as real and complex analysis, partial and ordinary differential equations, numerical analysis, fluid mechanics, and differential geometry. The book is designed to challenge advanced students while encouraging and helping weaker students. Offering readability, practicality and flexibility, Wade presents fundamental theorems and ideas from a practical viewpoint, showing students the motivation behind the mathematics and enabling them to construct their own proofs.

Features

- The **practical focus** explains assumptions so that students learn the motivation behind the mathematics and are able to construct their own proofs.
- **Theoretical exercises** of medium difficulty have been added throughout the book.
- **New True/False questions** in the first six chapters confront common misconceptions that students sometimes acquire at this level.
- **Early introduction of the fundamental goals of analysis** refers and examines how a limit operation interacts with algebraic operation.
- **Separate coverage of topology and analysis** presents purely computational material first, followed by topological material in alternate chapters.
- **More than 200 worked examples and 600 exercises** encourage students to test comprehension of concepts, while using techniques in other contexts.

Contents

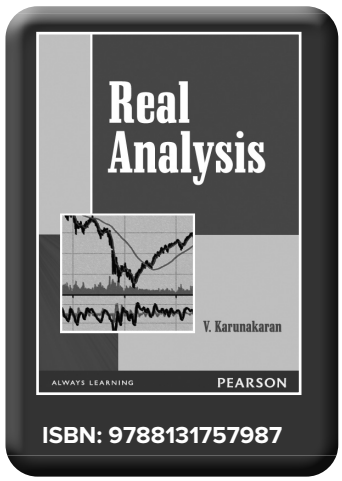
About the Author

William Wade received his PhD in harmonic analysis from the University of California—Riverside. He has been a professor of the Department of Mathematics at the University of Tennessee for more than forty years. During that time, he has received multiple awards including two Fulbright Scholarships, the Chancellor's Award for Research and Creative Achievements, the Dean's Award for Extraordinary Service, and the National Alumni Association Outstanding Teaching Award.

Real Analysis

V. Karunakaran

Pages: 600 Year: 2011



About the Book

This text book is designed for an undergraduate course on mathematics. It covers the basic material that every graduate student should know in the classical theory of functions of real variables, measures, limits and continuity. This text book offers readability, practicality and flexibility. It presents fundamental theorems and ideas from a practical viewpoint, showing students the motivation behind mathematics and enabling them to construct their own proofs.

Features

- Comprehensive coverage of sequence and series
- Detailed coverage of topics like measure theory, set theory, limits and continuity
- The theory is well explained, with an equal number of theorems and examples for all topics, including Lp spaces, real number system, measure theory and sequence and series
- A very flexible presentation with a uniform writing style and notation, covering the material in small sections, which allows instructors and students to adapt this book to their syllabus

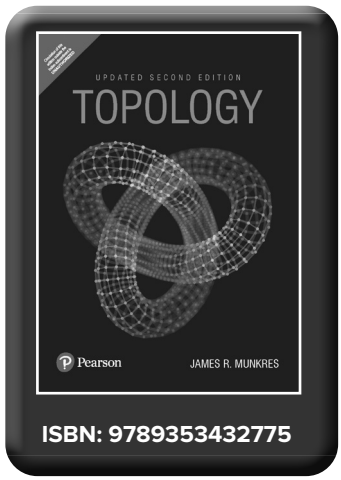
Contents

About the Author

V. Karunakaran has 35 years of research experience specializing in real, complex and functional analysis. He was a life member of the Indian Mathematical Society, Association of Mathematics Teachers of India, a fellow of the Forum D'Analystes, Chennai, and a regular reviewer for Zentralblatt für Mathematik.

Topology, Updated 2/e

James R. Munkres



ISBN: 9789353432775

Pages: 556 Year: 2021

About the Book

This text is designed to provide instructors with a convenient single text resource for bridging between general and algebraic topology courses. Two separate, distinct sections (one on general, point set topology, the other on algebraic topology) are each suitable for a one-semester course and are based around the same set of basic, core topics. Optional, independent topics and applications can be studied and developed in depth depending on course needs and preferences.

Features

- New! Greatly expanded, full-semester coverage of algebraic topology—Extensive treatment of the fundamental group and covering spaces. What follows is a wealth of applications—to the topology of the plane (including the Jordan curve theorem), to the classification of compact surfaces, and to the classification of covering spaces. A final chapter provides an application to group theory itself.
- Follows the present-day trend in the teaching of topology which explores the subject much more extensively with one semester devoted to general topology and a second to algebraic topology.
- Advanced topics—Such as metrization and imbedding theorems, function spaces, and dimension theory are covered after connectedness and compactness.
- Order of topics proceeds naturally from the familiar to the unfamiliar—Begins with the familiar set theory, moves on to a thorough and careful treatment of topological spaces, then explores connectedness and compactness (with their many ties to calculus and analysis), and then branches out to the new and different topics mentioned above.
- Many examples and figures—Exploits six basic counterexamples repeatedly.
- Exercises—Varied in difficulty from the routine to the challenging.

Contents

About the Author

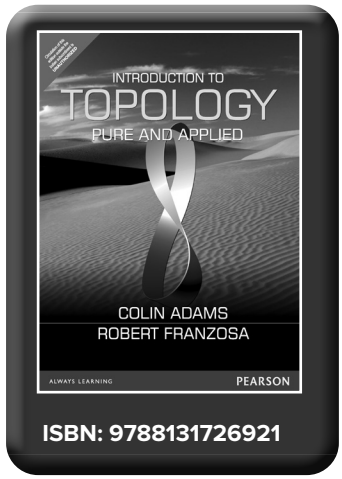
James Raymond Munkres is a Professor Emeritus of mathematics at MIT and the author of several texts in the area of topology, including Topology, Analysis on Manifolds, Elements of Algebraic Topology, and Elementary Differential Topology.

Introduction to Topology

Colin Adams, Robert Franzosa

POD

Pages: 512 Year: 2009



ISBN: 9788131726921

About the Book

This book introduces topology as an important and fascinating mathematics discipline. Students learn first the basics of point-set topology, which is enhanced by the real-world application of these concepts to science, economics, and engineering as well as other areas of mathematics. The second half of the book focuses on topics like knots, robotics, and graphs. The text is written in an accessible way for a range of undergraduates to understand the usefulness and importance of the application of topology to other fields.

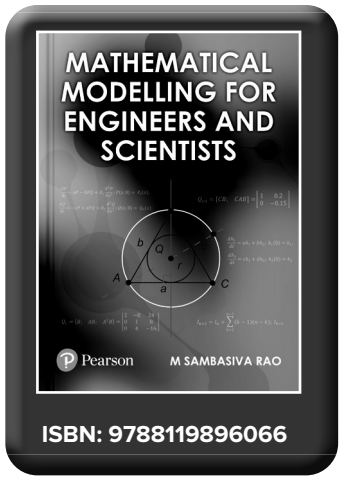
Features

- Theoretical and applied approach- the authors focus on the basic concepts of
- Intuitive and accessibly written text
- Rigorous presentation of the mathematics with intuitive descriptions and discussions to increase student understand.
- Examples of real world application keep students engrossed in the material
- Numerous figures allow students to visualize and understand the material presented

Contents

Mathematical Modeling for Engineers and Scientists

M Sambasiva Rao



ISBN: 9788119896066

Pages: 984 Year: 2024

About the Book

This book offers a comprehensive introduction to mathematical modeling, a vital tool for understanding and solving real-world problems in science, engineering, and applied sciences. Designed for senior undergraduate engineering students and postgraduates in applied mathematics, it guides readers through the process of constructing and utilizing mathematical models. Covering essential mathematical concepts such as differential equations, optimization, and statistics, the book focuses on the formulation and solution of practical problems across diverse fields like engineering, technology, and research. Through clear explanations, practice problems, and solutions, it provides a solid foundation for students and professionals seeking to apply mathematics to real-world challenges.

Features

- Provides a step-by-step approach to constructing and utilizing mathematical models for real-world problems in science and engineering.
- Covers essential mathematical tools like differential equations, optimization, and statistics, necessary for problem-solving in applied sciences.
- Includes practice problems and solutions, helping students develop a deeper understanding of mathematical formulations and their applications.

Contents

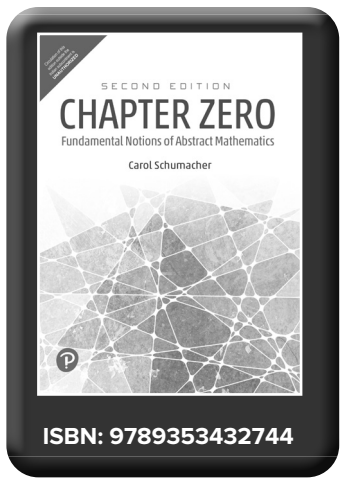
About the Author

M Sambasiva Rao is Professor of Mathematics at MVGR College of Engineering, Andhra Pradesh, India.

Chapter Zero, 2/e

Carol Schumacher

Web Supplements



Pages: 256 Year: 2019

ISBN: 9789353432744

About the Book

Chapter Zero: Fundamental Notions of Abstract Mathematics is designed for the sophomore/junior level Introduction to Advanced Mathematics course. Written in a modified R.L. Moore fashion, it offers a unique approach in which students construct their own understandings. However, while students are called upon to write their own proofs, they are also encouraged to work in groups. The text also offers "proof sketches" and helpful technique tips to help students as they develop their proof writing skills.

Features

- NEW! Coverage of Isomorphisms and Graph Theory.
- Exercise sections have been improved by smoothing out the grade of difficulty.
- Proof Sketches are woven throughout the early chapters of the text, assisting students with proof techniques.
- Logic is used as a tool for analyzing the content of mathematical assertions and for constructing valid mathematical proofs.
- Rigorous axiomatic treatment of set theory is introduced in Appendices A and B.

Contents

About the Author

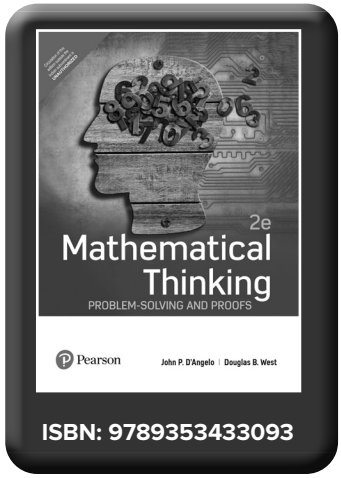
Carol Schumacher, Professor of Mathematics, Kenyon College.

Mathematical Thinking: Problem-Solving and Proofs, 2/e

John D'Angelo, Douglas B. West

Web Supplements

Pages: 440 Year: 2019



ISBN: 9789353433093

About the Book

This text is designed to prepare students *thoroughly* in the logical thinking skills necessary to understand and communicate fundamental ideas and proofs in mathematics—skills vital for success throughout the upper class mathematics curriculum. It begins by discussing mathematical language and proof techniques including induction, applies them to easily-understood questions in elementary number theory and counting, and then develops additional techniques of proof via important topics in discrete and continuous mathematics. The stimulating exercises are *acclaimed for their exceptional quality*.

Features

- **Emphasis on understanding rather than manipulation**—Stresses full comprehension rather than rote symbolic manipulation for mastery of proof techniques and mathematical ideas.
- **Engaging examples**—Interesting applications introduce and motivate the underlying mathematics.
- **Hints for selected exercises**—Provides immediate hints for some exercises and hints for others in an appendix.
- **Superior exercise sets**—Offers over 850 exercises ranging from relatively straightforward applications of ideas in the text to subtle problems requiring some ingenuity.
- **Gradation of exercises**—Distinguishes easier exercises by (–), harder by (+), and particularly valuable or instructive exercises by (!).

Contents

About the Author

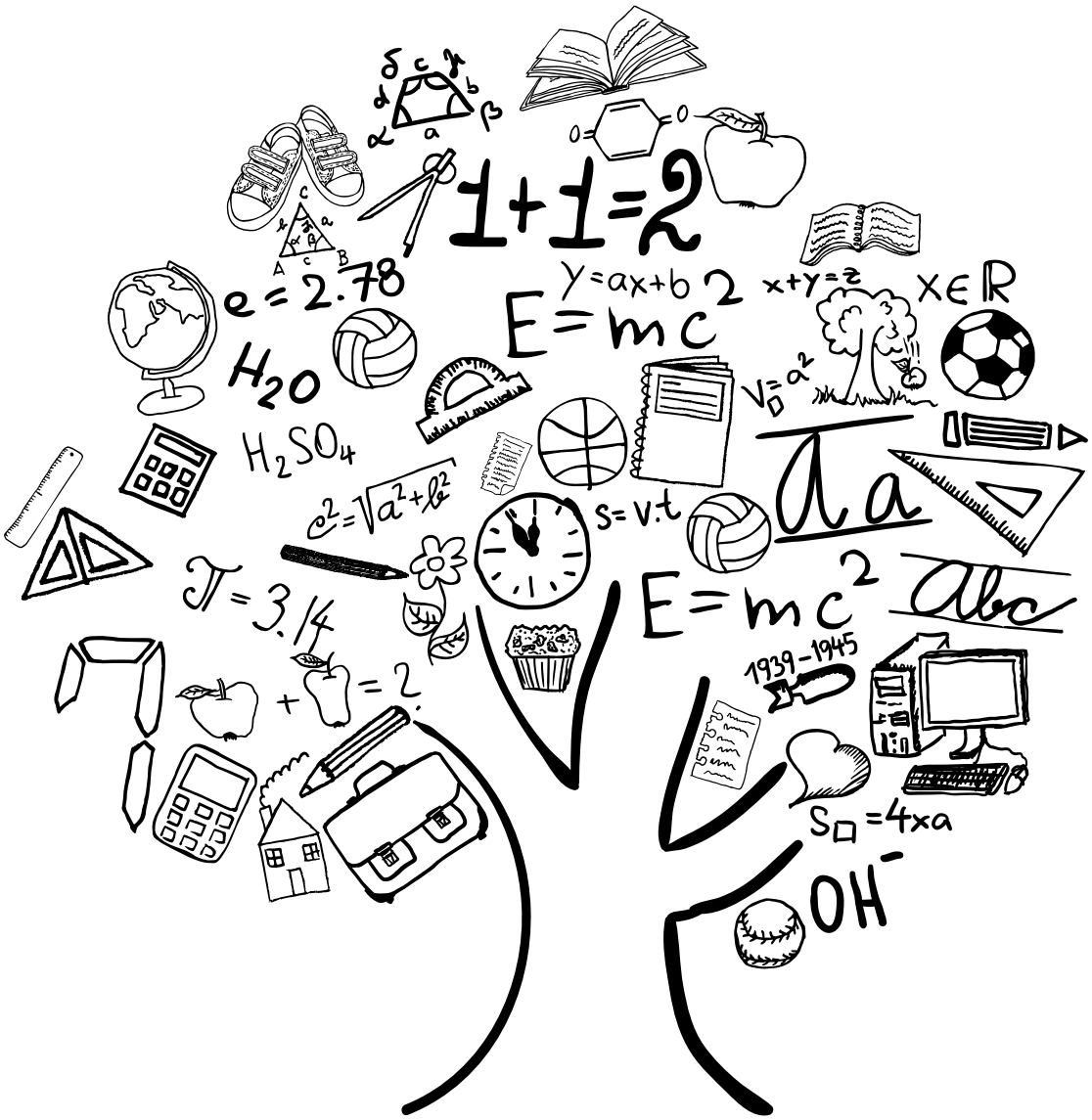
John D'Angelo Vice President of Facilities Management at Northwestern University.
Douglas West is a professor of graph theory at University of Illinois at Urbana-Champaign.

Author Index

ISBN	Author	Title	Price	Page
9788131726921	Adams / Franzosa	Introduction to Topology	1090	49
9789353432751	Artin	Algebra, Updated, 2/e	680	3
9789353433048	Bretscher	Linear Algebra with Applications, 5/e	740	8
9789353433062	Brualdi	Introductory Combinatorics, 5/e	820	17
9789353433093	D'Angelo / West	Mathematical Thinking: Problem-Solving and Proofs, 2/e	660	52
9788131776469	Das / Vijayakumari	Numerical Analysis	960	27
9788131700686	Dasgupta	Applied Mathematical Methods	1320	31
9789332573871	DeGroot / Schervish	Probability and Statistics, 4/e	2100	42
9789354498756	Dey	Vector Geometry and Elements of Calculus	590	13
9788131728536	Fausett	Applied Numerical Analysis Using MATLAB, 2/e	1290	28
9788131768570	Folland	Advanced Calculus	990	14
9789356067059	Fraleigh / Brand	A First course in abstract algebra, 8/e	1110	5
9789390168132	Friedberg / Insel / Spence	Linear algebra, 5/e	630	6
9788131717400	Gerald	Applied Numerical Analysis, 7/e	1190	28
9789353433017	Goodaire / Parmenter	Discrete Mathematics with Graph Theory, 3/e	730	15
9789332571631	Goode	Differential Equations and Linear Algebra, 3/e	1160	9
9789353433055	Grimaldi	Discrete and Combinatorial Mathematics, 5/e	1070	16
9789332521391	Gupta	Discrete Mathematical Structures	700	23
9789332550070	Hoffman / Kunze	Linear Algebra, 2/e	530	10
9789353946760	Hogg / Craig / McKean	Introduction to Mathematical Statistics, 8/e	1330	40
9789353947781	Hogg / Tanis / Zim	Probability and Statistical Inference, 10/e	920	38
9789353945237	Johnson	Miller and Freund's Probability and Statistics for Engineering, 9/e	860	41
9788131757987	Karunakaran	Real Analysis	660	47
9789353433000	Katz	A History of Mathematics, 3/e	1140	24
9789367130681	Kenneth H. Rosen	Elementary Number Theory, 7/e	1095	33
9789332549593	Kolman / Busby / Ross	Discrete Mathematical Structures, 6/e	860	19
9789357059688	Lay / Lay / McDonald	Linear Algebra and Its Applications, 5/e	950	4

ISBN	Author	Title	Price	Page
9789353436896	Lial / Hornsby / McGinnis	Introductory Algebra, 11/e	970	8
9789332549357	Mathews / Fink	Numerical Methods Using Matlab, 4/e	920	29
9789332519053	Miller / Miller	John E. Freund's Mathematical Statistics with Applications, 8/e	1330	43
9789332550490	Mott / Kandel	Discrete Mathematics for Computer Scientists, 2/e	990	20
9789353432775	Munkres	Topology, Updated 2/e	650	48
9789332552463	Peterson / Sochacki	Linear Algebra and Differential Equations	920	11
9788131733103	Ram	Discrete Mathematics	960	18
9788131732212	Ram	Numerical Methods	730	26
9788119896066	Rao	Mathematical Modeling for Engineers and Scientists	929	50
9789356064034	Ross	A First course in Probability, 10/e	970	37
9788131790618	Ross / Wright	Discrete Mathematics, 5/e	1320	20
9789361594724	Royden / Fitzpatrick	Real Analysis, 5/e	795	45
9788131761366	Rukmangadachari	Probability and Statistics	430	44
9788131787823	Sarma / Kumar	Basic Applied Mathematics for the Physical Sciences, Based on the syllabus of the University of Delhi, Updated 3/e	580	30
9789353432744	Schumacher	Chapter Zero, 2/e	410	51
9789390394135	Shinde / Mangla / Sharma	Analysis of algorithms	370	2
9789353433079	Silverman	A Friendly Introduction to Number Theory, 4/e	580	34
9789353432997	Spence / Insel / Friedberg	Elementary Linear Algebra, 2/e	790	7
9788177583250	Thomas Jr.	Calculus & Analytical Geometry, 9/e	1150	14
9788131773604	Vittal	Analytical Geometry: 2D and 3D	690	25
9789353432768	Wade	An Introduction to Analysis, 4/e	850	46
9788119896646	Walpole / Myers / Myers / Ye	Probability and Statistics for Engineers and Scientists, Updated 9/e	1040	36
9788119896608	Weir / Hass / Heil / Bogacki	Thomas' Calculus, 15/e	1180	12
9789332549654	West	Introduction to Graph Theory, 2/e	830	21

*All Prices are subject to change without notice

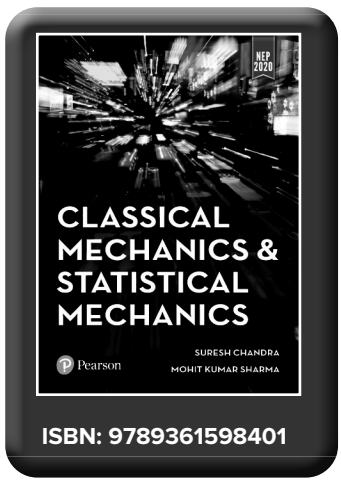


Physics

CONTENTS

Classical Mechanics & Statistical Mechanics

Suresh Chandra, Mohit Kumar Sharma



ISBN: 9789361598401

Pages: 196 Year: 2024

E-Book Web Supplements

About the Book

As per National Education Policy-2020 Common Minimum Syllabus for all U.P. State Universities/ Colleges. This textbook is designed according to the NEP-2020 syllabus for the Classical Mechanics and Statistical Mechanics course. The content is organized systematically, covering a range of essential topics including Constrained Motion, Lagrangian Formalism, Hamiltonian Formalism, Central Force, Macrostate & Microstate, Concept of Ensemble, Distribution Laws, and Applications of Statistical Distribution Laws.

Features

- Student-Friendly Language: Concepts are explained in a clear and accessible manner to facilitate understanding.
- Supportive Exercises: Each topic is complemented by exercises and review questions to reinforce learning.
- Objective Questions: Chapter-wise objective questions are included to aid in revision and self-assessment.

Contents

About the Author(s)

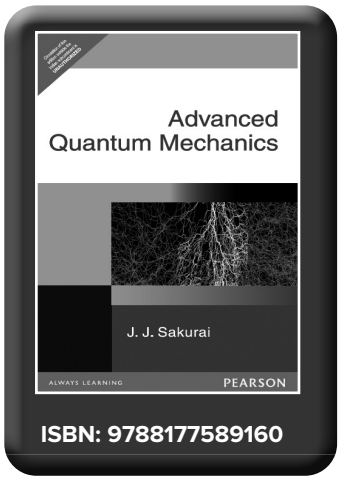
Prof. (Dr.) Suresh Chandra, AvH Fellow (Germany), FRAS (London), FMAS (Pune), President of Physical Sciences section of 108th Indian Science Congress Association, Kolkata (Govt. of India). Currently, Professor of Physics & Deputy Director Amity Center for Astronomy & Astrophysics, Amity Institute of Applied Sciences Amity University, Uttar Pradesh.

Dr. Mohit Kumar Sharma, M.Sc., M.Phil., Ph.D. (Physics), Young Scientist Awardee (ISCA, 2014) National Postdoctoral Fellow, SERB, DST, New Delhi (2017 – 2019).

Advanced Quantum Mechanics

J. J. Sakurai

Pages: 336 Year: 2006



About the Book

This widely-regarded classic presents the major advances in the fundamentals of quantum physics. No familiarity with relativistic quantum mechanics or quantum field theory is presupposed, but the reader is assumed to be familiar with non-relativistic quantum mechanics, classical thermodynamics and classical mechanics.

Contents

About the Author

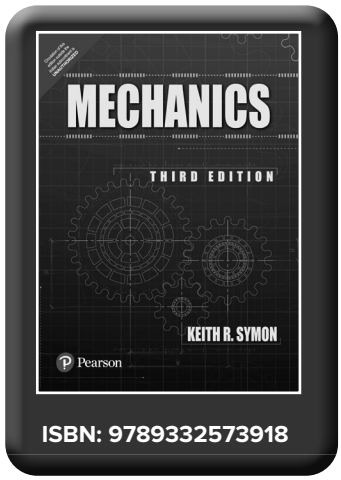
The late J. J. Sakurai, noted theorist in particle physics, was born in Tokyo, Japan, in 1933. He received his B.A. from Harvard University in 19565, and his Ph. D. from Cornell University in 1958. Appointed assistant professor at the University of Chicago, he worked there until he became a professor at the University of California, Los Angeles in 1970. Sakurai died in 1982 while he was a visiting professor at CERN in Geneva, Switzerland.

Mechanics, 3/e

Keith R. Symon

Pages: 656 Year: 2016

POD



ISBN: 9789332573918

About the Book

This text is intended as the basis for an intermediate course in mechanics at the undergraduate level. Such a course, as essential preparation for advanced work in physics, has several major objectives. It must develop in the student a thorough understanding of the fundamental principles of mechanics. It should treat in detail certain specific problems of primary importance in physics, for example, the harmonic oscillator and the motion of a particle under a central force

Features

- The treatment throughout the book is intended to emphasize the modern point of view with mathematical rigor
- The examples treated in the text have been worked out so as to integrate as far as possible, the mathematical treatment with physical interpretation
- Two chapters on the theory of relativity has been added in this edition.
- The problems at end of each chapter requires more or less physical ingenuity in addition to an understanding of the text.

Contents

About the Author

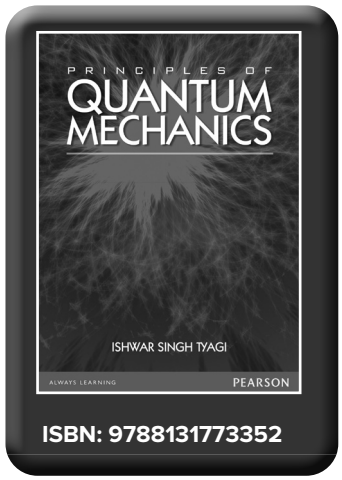
Keith R. Symon, University of Wisoconsin

Principles of Quantum Mechanics

Ishwar Singh Tyagi

Pages: 584 Year: 2013

E-Book



ISBN: 9788131773352

About the Book

Any course in physics cannot be completed without learning quantum mechanics. This subject helps in understanding the individual behaviour of the subatomic particles that constitute all forms of matter. Principles of Quantum Mechanics comprehensively covers all relevant topics to meet the requirements of both undergraduate and postgraduate students of physics. The initial chapters of the book introduce the basic fundamentals of the subject to help the first-time learners and the later chapters cover aspects that will prepare them to apply quantum mechanics to understand the various physical phenomena, for example, the working of micro- and nano-devices. The book includes a detailed discussion on why classical mechanics, which is applicable at macroscopic level, cannot be applicable at microscopic level.

Contents

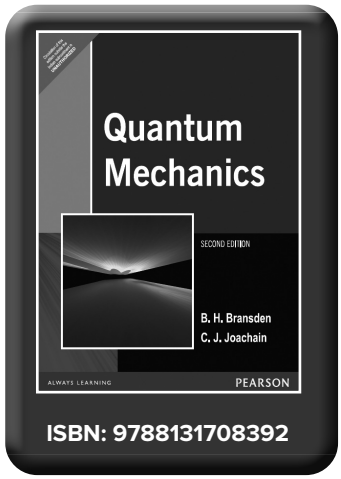
About the Author

Ishwar Singh Tyagi, is Emeritus Fellow at the Physics Dept. of IIT Roorkee. After completing his Ph.D. in 1976 from the University of Roorkee (now IIT Roorkee) he joined the Department of Physics as a faculty member in 1977 and became professor in 1996. His assignments as post-doctoral as well as visiting scientist took him to the New University of Ulster (NUU), Coleraine, in North Ireland and the Freie Universitat Berlin.

Quantum Mechanics, 2/e

B. H. Bransden, C. J. Joachain

Pages: 808 Year: 2006



ISBN: 9788131708392

About the Book

This book gives a modern, comprehensive introduction to the principles of quantum mechanics, to the main approximation methods and to the application of quantum theory to a wide variety of systems. The needs of students having an average mathematical ability are kept very much in mind, with the avoidance of complex mathematical arguments and any undue compression of material.

Features

- Comprehensive coverage of core material in quantum mechanics.
- Full and detailed explanations to help students of average mathematical ability.
- Additional topics covered in this edition include: Feynman's path integrals; the Berry phase; quantum dots; quantum jumps; and Bose-Einstein condensation.
- New chapter on relativistic quantum mechanics.
- Problems set to help students monitor their progress and increase understanding.

Contents

About the Author(s)

B.H. Bransden, Department of Physics, University of Durham

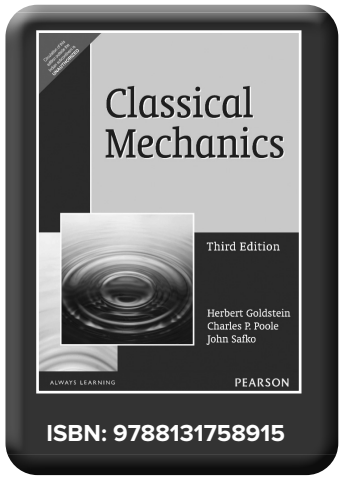
C.J. Joachain, Physique Theorique, Universite Libre de Bruxelles University of Wisoconsin

Classical Mechanics, 3/e

Herbert Goldstein, Charles P. Poole, John Safko

Pages: 664 Year: 2011

E-Book



ISBN: 9788131758915

About the Book

For 30 years, this classic text has been the acknowledged standard in classical mechanics courses. *Classical Mechanics* enables students to make connections between classical and modern physics " an indispensable part of a physicist's education. The authors have updated the topics, applications, and notations to reflect today's physics curriculum. They introduce students to the increasingly important role that nonlinearities play in contemporary applications of classical mechanics. New numerical exercises help students develop skills in the use of computer techniques to solve problems in physics. Mathematical techniques are presented in detail so that the text remains fully accessible to students who have not had an intermediate course in classical mechanics.

Features

- The classical approach of this leading text book has been revised and updated
- A section on the Euler and Lagrange exact solutions to the three-body problem
- A section on the damped driven oscillator as an example of the workings of the Josephson junction
- Chapter on canonical perturbation theory has been streamlined and the mathematics has been simplified
- Approximately 45 new problems, mostly in Chapters 1–8 and 11.
- Problems sets are now divided into "Derivations" and "Exercises"
- Solutions for 19 select problems have been provided in Appendix C

Contents

About the Author(S)

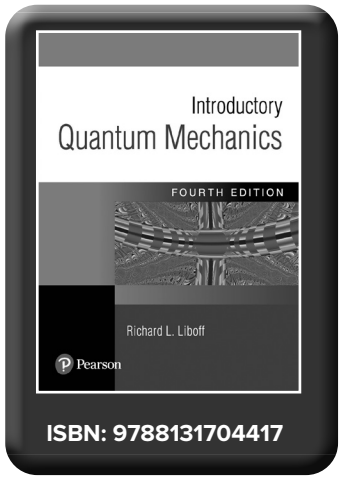
Herbert Goldstein, Columbia University

Charles P. Poole Jr., University of South Carolina

John L. Safko, University of South Carolina

Introductory Quantum Mechanics, 4/e

Richard L. Liboff



ISBN: 9788131704417

Pages: 896 **Year: 2006**

About the Book

Careful and detailed explanations of challenging concepts, and comprehensive and up-to-date coverage in this best-selling quantum mechanics text, continue to set the standard in physics education. In this new edition, a new chapter on the revolutionary topic of quantum computing (not currently covered in any other text at this level) and thorough updates to the rest of the text bring it up to date.

Features

- Introductory Quantum Mechanics, Fourth Edition is well known for its wealth of great problems (869 in total).
- Comprehensive coverage makes the book adaptable to any course.
- The book uses precise presentation and careful use of appropriate math.
- A new chapter on the revolutionary topic of quantum computing and numerous revisions throughout the rest of the book bring it up to date.
- More than 30 new problems have been added.

Contents

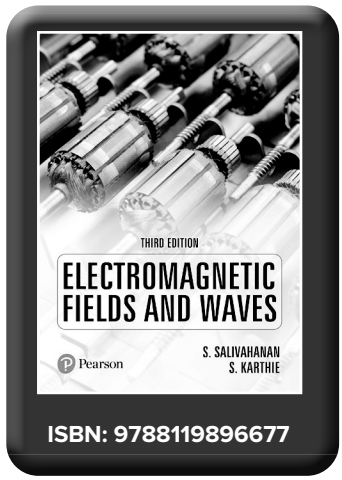
About the Author

Richard L. Liboff, is presently a Professor of Applied Physics, Applied Math, and Electrical Engineering at Cornell University. He has served as visiting professor at numerous universities and was awarded a Fulbright Scholarship in 1984 in support of a Visiting Professorship of Physics at Tel Aviv University. He has written over 100 scientific articles and has authored four textbooks. His research specialties include condensed-matter theory, kinetic theory, applied math, and elements of astrophysics.

Electromagnetic Fields and Waves

S. Salivahanan, S. Karthie

Pages: 796 Year: 2024



ISBN: 9788119896677

About the Book

Electromagnetic fields and waves elucidates the fundamentals of electromagnetic fields for B.E/B. Tech courses in Electrical and Electronics Engineering, Electronics and Communication Engineering, Electronics and Telecommunication Engineering, M.Sc. (Electronics), B.Sc. (Physics), AMIE, Grade IETE degree programs and competitive examinations. The book comprises ten chapters arranged sequentially and presented in simple reader-friendly language. To aid understanding, numerous numerical problems with step-by-step solutions are provided. Each chapter concludes with a set of review questions to help readers to test their understanding of the subject.

Features

- Presents the concepts in a simple and lucid manner providing clear explanations ideal for beginner readers.
- Detailed coverage of topics like static and dynamic fields, and their applications in electromagnetics.
- Encourages self-learning through numerous step-by-step solved examples
- Offers excellent pedagogy with 300 illustrations, 575 solved examples and 930 review questions

Contents

About the Author

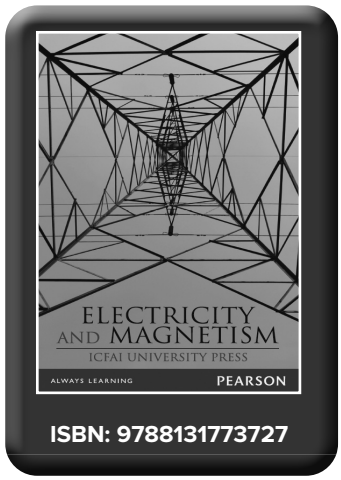
S. Salivahanan, Vice Chancellor, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai.

S. Karthie, Associate Professor, ECE, SSN College of Engineering, Chennai.

Electricity and Magnetism

ICFAI University Press

Pages: 440 Year: 2012



ISBN: 9788131773727

About the Book

Electricity and Magnetism is designed for undergraduate courses in Physics. It comprehensively covers the topics of electricity and magnetism and brings out the relationship between the two forces with adequate emphasis on principles, theory and pedagogy. Illustrations are specially made to suit classroom presentation. Written in a simple and lucid language, the book progresses from the basic laws, which help the students to stay focused on the key tenets, without getting lost in the maze of intricate details

Features

- It traces the origin of electromagnetic radiations, starting from the first principles.
- In-depth coverage of Current, Resistance and Electric Circuits, Gauss's Law and Magnetism
- Electric Charge and Electric Field and Electric Potential discussed in detail
- Student centric pedagogy with 90 solved examples and over 120 exercises.

Contents

1. Electric Charge and Electric Field
2. Electric Potential
3. Current, Resistance and Electric Circuits
4. Gauss's Law
5. Capacitance and Dielectrics
6. Magnetism
7. Sources of Magnetic field
8. Electromagnetic Induction
9. Inductance
10. Alternating Current
11. Electromagnetic Waves

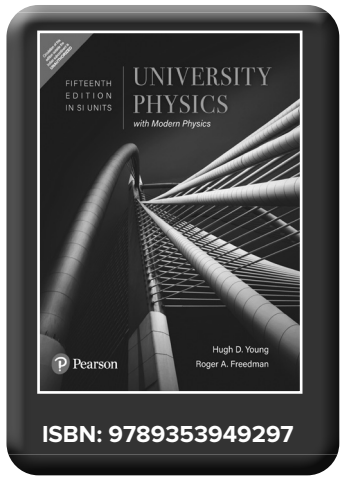
About the Author

ICFAI University Press, Hyderabad

University Physics with Modern Physics, 15/e

Roger A. Freedman, Hugh D. Young

Pages: 1608 Year: 2021



About the Book

University Physics has been revered for its emphasis on fundamental principles and its applications since its first edition. The new 15th Edition of University Physics with Modern Physics, now in SI Units, draws on insights from several users to help students see patterns and make connections between problem types. Students learn to recognize when to use similar steps in solving the same problem type and develop an understanding for problem solving approaches, rather than simply plugging values into an equation. This edition addresses students' tendency to focus on the objects and situations posed in a problem, rather than recognizing the underlying principle or the problem type.

Features

- New—Key Example Variation Problems in the new Guided Practice section based on worked examples, build in difficulty by changing scenarios, swapping knowns and unknowns, and adding complexity to provide a wide range of related problems that use the same basic approach to solve.
- New—Key Concept statements appear at the end of every example, providing a summary of the key idea used in the solution to consolidate what was most important and what can be broadly applied to other problems.
- A research-based Problem-Solving Approach—Identify, Set Up, Execute, Evaluate—used in every example to teach students to tackle problems thoughtfully rather than cutting straight to the math.
- Expanded—Challenge Problems significantly stretch students by requiring sophisticated reasoning, often involving multiple steps or concepts.
- Expanded—Cumulative Problems promote advanced problem-solving techniques by covering knowledge and skills from previous chapters to be integrated with understanding from the current chapter.
- Hallmark Pedagogy:
- Annotated Key Equations
- Caution Paragraphs
- Visual Summaries
- Problem-Solving Strategies
- Bridging Problems
- Conceptual Examples
- Biosciences-Related Problems
- Data Problems
- Passage Problems
- Test your understanding

Contents

About the Author(s)

Roger A. Freedman, is a Lecturer in Physics at the University of California, Santa Barbara. He was an undergraduate at the University of California campuses in San Diego and Los Angeles and did his doctoral research in nuclear theory at Stanford University under the direction of Professor J. Dirk Walecka. Dr. Freedman came to UCSB in 1981 after three years of teaching and doing research at the University of Washington

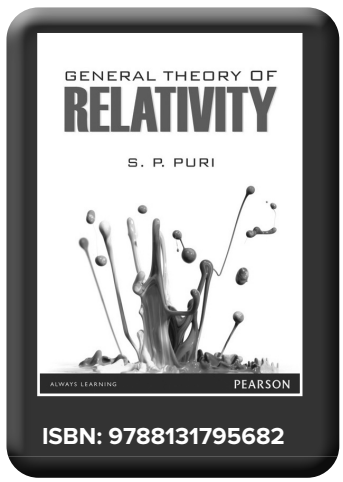
Hugh D. Young, was Emeritus Professor of Physics at Carnegie Mellon University. He earned both his undergraduate and graduate degrees from that university. He earned his Ph.D. in fundamental particle theory under the direction of the late Richard Cutkosky. Dr. Young joined the faculty of Carnegie Mellon in 1956 and retired in 2004. He also had two visiting professorships at the University of California, Berkeley.

A. Lewis Ford, is Professor of Physics at Texas A&M University. He received a B.A. from Rice University in 1968 and a Ph.D. in chemical physics from the University of Texas at Austin in 1972. After a one-year postdoc at Harvard University, he joined the Texas A&M physics faculty in 1973 and has been there ever since. Professor Ford has specialized in theoretical atomic physics—in particular, atomic collisions. At Texas A&M he has taught a variety of undergraduate and graduate courses, but primarily introductory physics.

General Theory of Relativity

S P Puri

Pages: 368 Year: 2013



ISBN: 9788131795682

About the Book

General Theory of Relativity is the generalization of special relativity to include gravitation. It emphasizes that the law of Physics must be same for all observers and thereby extended it to non-inertial frames. This text is intended as a textbook for the students of Physics at the undergraduate and postgraduate level. It gives equal importance to the mathematical and physical aspects of general theory of relativity and hence strengthening the foregrounds.

Features

- Detailed study of Tensor analysis
- In-depth coverage on cosmology
- An introductory chapter on Special Theory of Relativity
- 36 figures, 18 solved problems and 82 unsolved problems with answers

Contents

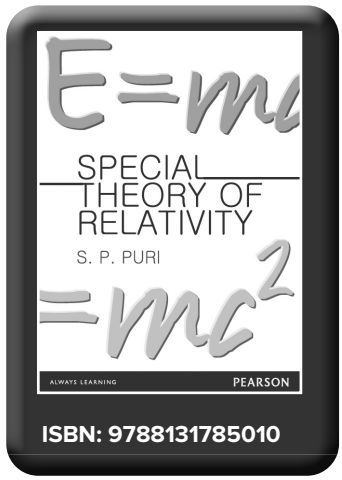
About the Author

SP Puri, is a former U.G.C Emeritus Fellow. He was also a Professor and Chairman at Department of Physics in Panjab University, Chandigarh.

Special Theory of Relativity

S P Puri

Pages: 232 Year: 2013



ISBN: 9788131785010

About the Book

Special Theory of Relativity is primarily intended as a textbook for the students of physics at the undergraduate level. Examining developments in the field as well as the predictions of special relativity that have taken place since 1959, its comprehensive coverage includes engaging explanations of the mathematical treatment as well as the applications of the special theory of relativity.

Features

- Includes applications of special theory of relativity in a chapter
- 45 solved problems and 100 unsolved problems for practice
- Answers to unsolved problems included

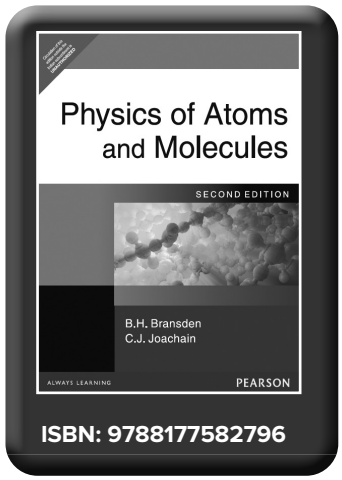
Contents

About the Author

S. P. Puri, is a former U.G.C. Emeritus Fellow, was Professor and Chairman, Department of Physics, Punjab University, Chandigarh.

Physics of Atoms and Molecules, 2/e

B.H. Bransden, C. J. Joachain



Pages: 1128 Year: 2005

ISBN: 9788177582796

About the Book

The study of atomic and molecular physics is a key component of undergraduate courses in physics, because of its fundamental importance to the understanding of many aspects of modern physics. The aim of this new edition is to provide a unified account of the subject within an undergraduate framework, taking the opportunity to make improvements based on the teaching experience of users of the first edition, and cover important new developments in the subject.

Features

- Revised material on molecular structure and spectra.
- Extended material on electronic and atomic collisions.
- A new chapter describing applications based on the use of the maser and the laser, including laser spectroscopy, laser cooling and trapping of atoms, Bose Einstein condensation, atom lasers and atomic systems in intense laser fields.
- A new chapter describing other applications, including magnetic resonance, atom optics, atoms in cavities, ions in traps, atomic clocks and astrophysics.
- Revised appendices include new material on molecules and updated tables of physical constants.
- Solutions of selected problems.

Contents

About the Author(s)

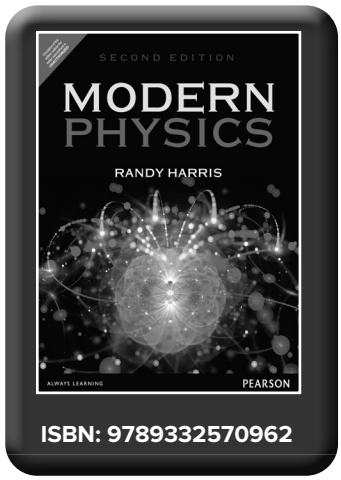
B.H. Bransden, Department of Physics, University of Durham

C.J. Joachain, Physique Theorique, Universite Libre de Bruxelles

Modern Physics, 2/e

Randy Harris

Pages: 640 Year: 2016



ISBN: 9789332570962

About the Book

Modern Physics, Second Edition provides a clear, precise, and contemporary introduction to the theory, experiment, and applications of modern physics. Ideal for both physics majors and engineers, this eagerly awaited second edition puts the modern back into modern physics courses. Pedagogical features throughout the text focus the reader on the core concepts and theories while offering optional, more advanced sections, examples, and cutting-edge applications to suit a variety of students and courses. Critically acclaimed for his lucid style, in the second edition, Randy Harris applies the same insights into recent developments in physics, engineering, and technology.

Features

- A contemporary approach that incorporates recent developments in physics and up-to-date applications in engineering and technology make the physics relevant and engaging.
- Critically acclaimed for a lucid and precise style, the book carefully balances concepts, theory, experimental data, and theory. It strives for complete exposition of fundamental ideas while addressing common misconceptions.
- Progress and Applications sections survey current applications of the theories described in the chapter. Students see how what they learn applies to their chosen career and the opportunities available for professional physicists and engineers.
- Worked Examples in the text carefully walk students step-by-step through solving problems to better prepare them to tackle the end-of-chapter problems.
- Optional/Advanced sections are clearly labeled so that professors can pick and choose sections to optimally match the level, scope, and emphasis of their course.
- Chapter Outlines and brief introductions give students a learning roadmap to the chapter ahead.
- Chapter Summaries now incorporate a Basic Equations section to show how each equation relates to the key topics in the chapter, and to one another.
- Challenge Problems are highlighted so professors can easily build assignments of ideal level, and know where they can push their best students.

Contents

About the Author

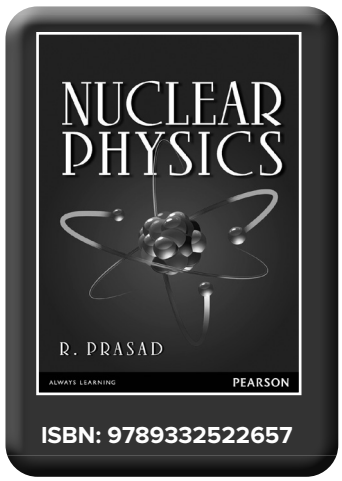
Randy Harris, University of California, Davis

Nuclear Physics

R Prasad

Pages: 504 Year: 2014

POD E-Book



ISBN: 9789332522657

About the Book

Nuclear Physics provides a clear and concise introduction to the subject. Fundamentals aside, the book reviews the evolution of the subject from its emergence to its present-day advancements and critically examines the future directions of nuclear and particle physics. The book brings together the essence of nuclear, particle and cosmic ray physics, serving as an ideal text for undergraduate students.

Features

- Exclusive chapters on elementary particles and cosmic rays
- Focus on contemporary developments like heavy ion reactions, in-complete fusion, neutrino oscillations, big accelerators, colliding beam experiments & Higg's particle
- Over 220 illustrations
- Rich pedagogy comprising over 300 multiple choice questions and problems for practice

Contents

About the Author

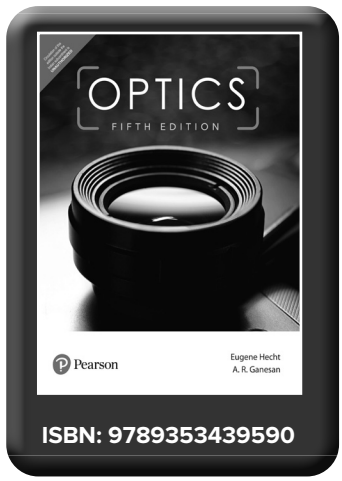
R. Prasad, has more than 40 years experience of teaching physics and nuclear physics to graduate and postgraduate students. He is an ex-professor of nuclear physics at the Aligarh Muslim University, Aligarh, India.

Throughout his career, Prof. Prasad supervised half a dozen Ph.D, about two dozen M.Phil, large number of M.Sc projects, eleven research projects funded by various agencies in India and carried out post doctoral research at many international and national institutes/universities including the First Institute of Experimental Physics, University of Hamburg, Germany and Atom Institute, Technical Universities of Austria, Vienna, Austria among many. He has also attended and chaired sessions of a large number of international and national conferences, seminars and symposia and delivered invited talks. He has published more than 80 research papers in various reputed international and national journals and presented six science-based television films under the UGC higher education programme. He is a recipient of prestigious DAAD (German) Fellowship, Post-doc fellowship of the Government of Austria, and Emeritus fellowship of UGC, India. He is a life member of many academic societies of the country.

Optics, 5/e

Eugene Hecht, A. R. Ganesan

Pages: 752 Year: 2020



ISBN: 9789353439590

About the Book

Optics, Fifth Edition is distinguished by three core imperatives: up-to-date content in line with the ever-evolving technological advances in the Optics field a modern approach to discourse including studies on photons, phasors, and theory and improvements and revisions to the previous edition's pedagogy including over one hundred new worked examples. Sustaining market leadership for over twenty years, this edition continues to demonstrate range and balance in subject matter. The text is grounded in traditional methodology, while providing an early introduction to the powerful perspective of the Fourier theory, which is crucial to present-day analysis. Electron and neutron diffraction patterns are pictured alongside the customary photon images, and every piece of art has been scrutinized for accuracy and altered where appropriate to improve clarity.

Features

New to this edition

- UPDATED! New illustrations, photos, and revised art are included throughout the text, enhancing the already outstanding visual pedagogy of the book.
- UPDATED! Promoting the balance of theory and instrumentation, this comprehensive text provides students with a classical background to ensure success in their field.
- Anon-mathematical introduction sets the stage for traditional presentation in Optics.
- Traditional discussion of interference is extended, using phasors to graphically represent electric-field amplitudes, giving students an alternative way to visualize and understand core elements.
- Graphical analysis is used in addition to the standard, mathematical treatment of Fourier series to conceptually show what the integrals are actually doing to promote student comprehension.
- A complete Wave Motion section includes helical waves and an added section on Twisted Light.
- Divergence and Curl Comprehension ensures students' understanding of the physical correspondence of divergence and curl in simple terms.
- Understanding Negative Refraction is an active area of contemporary research, which is explained in refined yet simple terms along with a brief introduction to the basic physics involved.
- Constructing Refracted Rays highlights the method devised by Huygens Optics and allows a convenient way to appreciate refraction in anisotropic crystals.
- The Geometrical Optics is a collection of new art which clearly illustrates the behavior of lenses and mirrors, along with additional remarks on fiberoptics; including the subsections Virtual Objects, Focal-Plane Ray Tracing, and Holey/ Microstructured Fibers.
- Fourier Optics includes a new subsection, Two-Dimensional Images, and contains a remarkable series of illustrations depicting how spatial frequency components combine to create images.
- The Modern Optics contains an enriched and updated treatment of lasers accompanied by tables and illustrations and includes a subsection on Optoelectronic Image Reconstruction.

Contents

9. Interference
10. Diffraction
11. Fourier Optics
12. Basics of Coherence Theory
13. Modern Optics: Lasers and Other Topics

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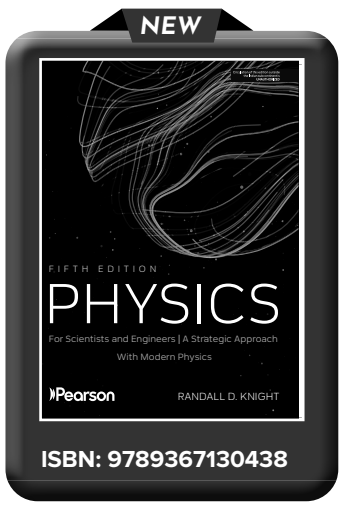
Eugene Hecht, Adelphi University
A. R. Ganesan Professor, Department of Physics, Indian Institute of Technology Madras, Chennai

Physics Fundamentals

Physics for Scientists and Engineers: A Strategic Approach with Modern Physics, 5/e

Randall D Knight



Pages: 1356 Year: 2025

EXCLUSIVE

About the Book

Physics for Scientists and Engineers incorporates Physics Education Research and cognitive science best practices that encourage conceptual development, problem-solving skill acquisition and visualization. Knight stresses qualitative reasoning through physics principles and development of problem-solving skills using a systematic, scaffolded approach. This practical introduction to physics relates physics to everyday life and includes models, modeling and advanced topics.

Features

- Looking Back Pointers direct students to the exact point in a previous chapter to use when they need to apply or review concepts.
- Visual chapter summaries are explicitly hierarchical in design to help students connect the ideas,organize their knowledge and see the big picture.
- Optional topics include rocket propulsion, gyroscopes and precession, wave equation including for electromagnetic waves, speed of sound in gases and interference of light.
- Tactics Boxes give step-by-step procedures for developing skills (drawing free-body diagrams, using ray tracing).

Contents

9. Work and Kinetic Energy
10. Interactions and Potential Energy
11. Impulse and Momentum

III. APPLICATIONS OF NEWTONIAN MECHANICS

12. Rotation of a Rigid Body
13. Newton's Theory of Gravity
14. Fluids and Elasticity

IV. OSCILLATIONS AND WAVES

15. Oscillations
16. Traveling Waves
17. Superposition

V. THERMODYNAMICS

18. A Macroscopic Description of Matter
19. Work, Heat, and the First Law of Thermodynamics
20. The Micro/Macro Connection
21. Heat Engines and Refrigerators

VI. ELECTRICITY AND MAGNETISM

22. Electric Charges and Forces
23. The Electric Field 2
4. Gauss's Law
25. The Electric Potential
26. Potential and Field
27. Current and Resistance
28. Fundamentals of Circuits
29. The Magnetic Field
30. Electromagnetic Induction
31. Electromagnetic Fields and Waves
32. AC Circuits

VII. OPTICS

33. Wave Optics
34. Ray Optics
35. Optical Instruments

VIII. RELATIVITY AND QUANTUM PHYSICS

36. Relativity
37. The Foundations of Modern Physics
38. Quantization
39. Wave Functions and Uncertainty
40. One-Dimensional Quantum Mechanics
41. Atomic Physics
42. Nuclear Physics

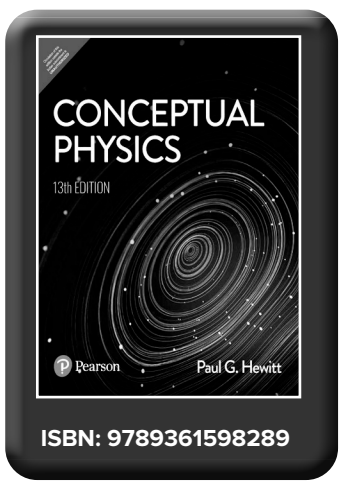
About the Author

Randall D Knight - California Polytechnic State University-San Luis Obispo

Conceptual Physics, 13/e

Paul G. Hewitt

Pages: 916 **Year: 2024**



ISBN: 9789361598289

About the Book

Paul Hewitt's best-selling Conceptual Physics defined the liberal arts physics course over 30 years ago and continues as the benchmark. Hewitt's text is guided by the "principle of concepts before calculations" and is famous for engaging students with real-world analogies and imagery to build a strong conceptual understanding of physical principles, ranging from classical mechanics to modern physics. The 13th Edition continues to make physics delightful for students with informative and fun Hewitt-Drew-It screencasts, updated content and applications, and new engaging activities.

Features

- Current applications and topics include digital technology, environment, and energy. These topics are at the forefront of everyone's consciousness these days and an intelligent awareness of their scientific foundations will give rise to better decision making in the political arena and keep students aware of current events.
- Chapter Openers feature updated photos to reflect the diversity found in the sciences today and include new photos and descriptions of professors and those in industry.
- End-of-Chapter sections align to Bloom's Taxonomy with all end-of-chapter material falling into Bloom's taxonomy categories.

- Check Yourself and Check Your Answer boxes embedded within the text help students gauge their level of understanding of the material just covered.
- Practicing Physics boxes allow students to work through a problem or experiment based on the material covered in each chapter.
- Conceptual Think and Rank end of chapter exercises help students master important concepts.

Contents

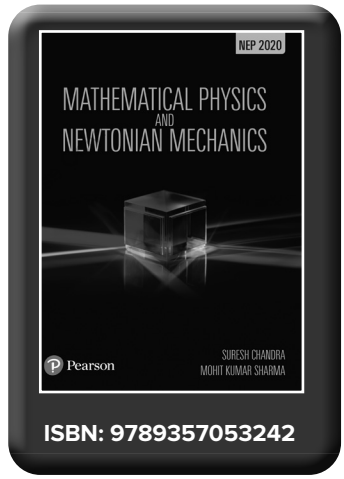
About the Author

Paul G. Hewitt, Former silver-medal boxing champion, sign painter, uranium prospector, and soldier, Paul began college at the age of 27, with the help of the GI Bill. He pioneered the conceptual approach to teaching physics at the City College of San Francisco. He has taught as a guest teacher at various middle schools and high schools, the University of California at both the Berkeley and Santa Cruz campuses, and the University of Hawaii at both the Manoa and Hilo campuses. He also taught for 20 years at the Exploratorium in San Francisco, which honored him with its Outstanding Educator Award in 2000. He is the author of Conceptual Physics and a co-author of Conceptual Physical Science and Conceptual Physical Science Explorations (with John Suchocki and Leslie Hewitt)

Mathematical Physics and Newtonian Mechanics

Suresh Chandra, Mohit Kumar Sharma

Pages: 516 Year: 2023



ISBN: 9789357053242

About the Book

This textbook is designed to meet the syllabus requirements of the undergraduate students of physics as per the Common Minimum Syllabus prescribed for all Uttar Pradesh State Universities and Colleges under the recommended National Education Policy 2020, for the paper on Mathematical Physics and Newtonian Mechanics and the lab course on Mechanical Properties of Matter. The topics are discussed in a methodical way and a number of topics such as Pseudo-Vector, Pseudo-Scalar, Wedge Product of Vectors, etc, have been discussed in a very systematic and simple manner to suit the beginner learners.

Features

- The concepts are explained in a student-friendly language
- Topics are supported by exercises and review questions for better understanding
- Includes a lab manual on Mechanical properties of Matter

Contents

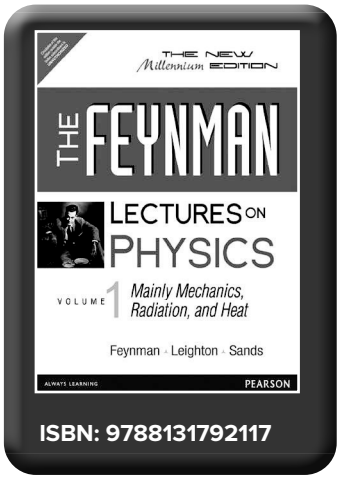
About the Author(s)

Prof. (Dr.) Suresh Chandra, AvH Fellow (Germany), FRAS (London), FMAS (Pune), President of Physical Sciences section of 108th Indian Science Congress Association, Kolkata (Govt. of India). Currently, Professor of Physics & Deputy Director Amity Center for Astronomy & Astrophysics, Amity Institute of Applied Sciences Amity University, Uttar Pradesh.

Dr. Mohit Kumar Sharma, M.Sc., M.Phil., Ph.D. (Physics), Young Scientist Awardee (ISCA, 2014) National Postdoctoral Fellow, SERB, DST, New Delhi (2017 - 2019). Currently, Assistant Professor (Physics), Sunderdeep Group of Institution , Dasna, Ghaziabad (U.P.)

The Feynman Lectures on Physics: Volume I: The New Millennium Edition: Mainly Mechanics, Radiation, and Heat

Richard P. Feynman, Robert B. Leighton, Matthew Sands



Pages: 560 **Year: 2012**

ISBN: 9788131792117

About the Book

Timeless and collectible, *The Feynman Lectures on Physics* are essential reading, not just for students of Physics, but for anyone seeking an insightful introduction to the field from the inimitable Richard P. Feynman.

When I look at The Feynman Lectures on Physics, I feel a very personal sense of closeness to them," said Feynman, looking back at the origins of these books. Ranging from Newton's laws through the special theory of relativity, optics, statistical mechanics, and thermodynamics, the lectures collected in Volume I of *The Feynman Lectures on Physics* stand as a monument to clear exposition and deep insightand to Feynman's deep connection with the field.

Contents

About the Author(s)

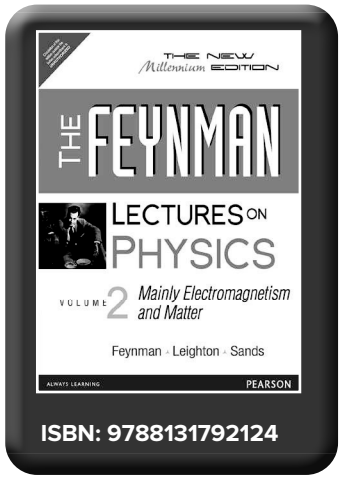
Richard P. Feynman was a professor of physics at Caltech from 1959 to 1988. In 1965 he shared a Nobel Prize in Physics for his work on the development of quantum electrodynamics.

Robert B. Leighton was a physicist and astronomer, an esteemed teacher and textbook author, and professor at Caltech for many years.

Matthew Sands has been a professor at Caltech, deputy director of the Stanford Linear Accelerator Centre, and vice chancellor for science at the University of California, Santa Cruz.

The Feynman Lectures on Physics: Volume II: The New Millennium Edition: Mainly Electromagnetism and Matter

Richard P. Feynman, Robert B. Leighton, Matthew Sands



Pages: 592 Year: 2012

About the Book

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When I look at The Feynman Lectures on Physics, "I feel a very personal sense of closeness to them," said Feynman, looking back at the origins of these books. Ranging from Gauss's law and Maxwell's electrodynamics to waveguides, dielectrics, magnetic materials, and elasticity, the lectures collected in Volume II of *The Feynman Lectures on Physics* stand as a monument to clear exposition and deep insightand to Feynman's deep connection with the field.

Contents

About the Author(s)

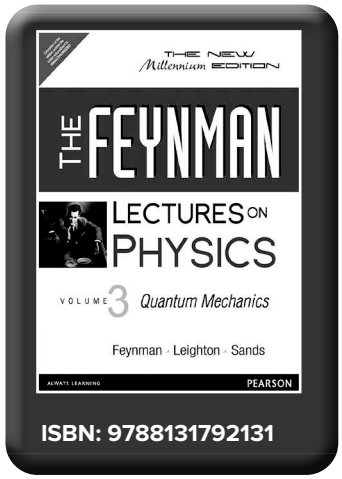
Richard P. Feynman was a professor of physics at Caltech from 1959 to 1988. In 1965 he shared a Nobel Prize in Physics for his work on the development of quantum electrodynamics.

Robert B. Leighton was a physicist and astronomer, an esteemed teacher and textbook author, and professor at Caltech for many years.

Matthew Sands has been a professor at Caltech, deputy director of the Stanford Linear Accelerator Centre, and vice chancellor for science at the University of California, Santa Cruz.

The Feynman Lectures on Physics: Volume III: The New Millennium Edition: Quantum Mechanics

Richard P. Feynman, Robert B. Leighton, Matthew Sands



Pages: 400 Year: 2012

ISBN: 9788131792131

About the Book

Timeless and collectible, *The Feynman Lectures on Physics* are essential reading, not just for students of Physics, but for anyone seeking an insightful introduction to the field from the inimitable Richard P. Feynman.

When I look at The Feynman Lectures on Physics, I feel a very personal sense of closeness to them," said Feynman, looking back at the origins of these books. Ranging from probability amplitudes to spin, two-state systems, propagation in a crystal lattice, semiconductors, symmetry, and conservation laws, the lectures collected in Volume III of *The Feynman Lectures on Physics* stand as a monument to clear exposition and deep insightand to Feynman's deep connection with the field.

Contents

About the Author(s)

Richard P. Feynman was a professor of physics at Caltech from 1959 to 1988. In 1965 he shared a Nobel Prize in Physics for his work on the development of quantum electrodynamics.

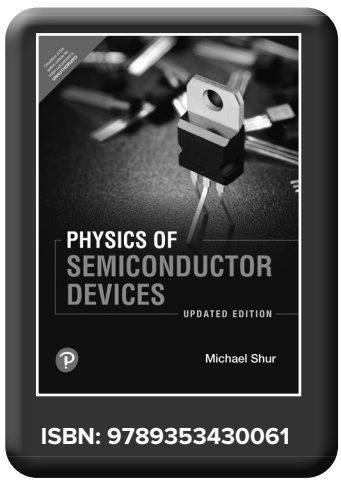
Robert B. Leighton was a physicist and astronomer, an esteemed teacher and textbook author, and professor at Caltech for many years.

Matthew Sands has been a professor at Caltech, deputy director of the Stanford Linear Accelerator Centre, and vice chancellor for science at the University of California, Santa Cruz.

Physics of Semiconductor Devices, Updated edition

Michael Shur

E-Book



ISBN: 9789353430061

Pages: 664 Year: 2019

About the Book

This book provides a practical introduction to the basics of semiconductor physics as well as insights into important developments, such as amorphous silicon, compound semiconductor technologies, and novel heterostructure transistors.

Features

- Implements all theories and models discussed in microcomputer programs
  - Providing readers with a useful "toolbox" for the modeling and simulation of semiconductor devices.
- Includes detailed appendices with useful information on semiconductor parameters which help readers to solve practical problems related to the analysis, design, and characterization of different semiconductor devices.
- Includes over 35 microcomputer programs and nearly 150 problems.

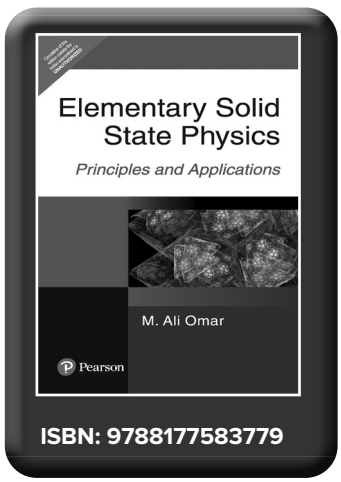
Contents

About the Author

Michael Shur, University of Virginia.

Elementary Solid State Physics: Principles and Applications

M. Ali Omar



ISBN: 9788177583779

Pages: 669 **Year: 2005**

About the Book

The volume is intended to serve as a general text in solid state physics for undergraduates in physics, applied physics, engineering, and other related scientific disciplines. It covers a wide range of topics with as many practical applications as possible.

Contents

About the Author

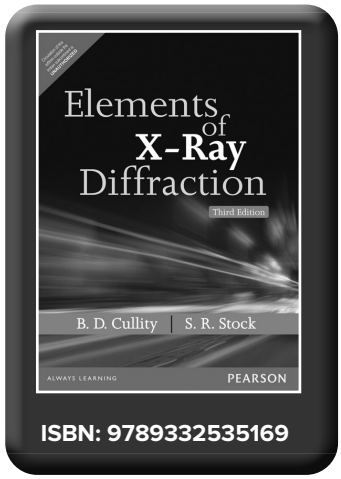
M. Ali Omar, Lowell Technological Institute

Elements of X-Ray Diffraction, 3/e

B. D. Cullity and S. R. Stock

Pages: 656 Year: 2014

E-Book



ISBN: 9789332535169

About the Book

This revision of a classical text is intended to acquaint the reader, who has no prior knowledge of the subject, with the theory of x-ray diffraction, the experimental methods involved, and the main applications. The text is a collection of principles and methods designed directly for the student and not a reference tool for the advanced reader

Features

- No metallurgical data are given beyond that necessary to illustrate the diffraction methods involved.
- X-ray diffraction is stressed rather than metallurgy.
- The book is divided into three main parts—Fundamentals; experimental methods; and applications.
- The subject of crystal structure is approached through, and, based on, the concept of the point lattice (Bravais lattice), because the point lattice of a substance is so closely related to its diffraction pattern.
- The book is written entirely in terms of the Bragg law and can be read without any knowledge of the reciprocal lattice.

Contents

About the Author(s)

B.D. Cullity (Deceased) University of Notre Dame
S.R. Stock, Georgia Institute of Technology

AUTHOR INDEX

ISBN	Author	Title	Price	Page
9788131708392	Bransden / Joachain	Quantum Mechanics, 2/e	1450	6
9788177582796	Bransden / Joachain	Physics of Atoms and Molecules, 2/e	1490	15
9789361598401	Chandra / Kumar Sharma	Classical Mechanics & Statistical Mechanics	340	2
9789357053242	Chandra / Sharma	Mathematical Physics and Newtonian Mechanics, 1/e	680	22
9789332535169	Cullity / Stock	Elements of X-Ray Diffraction, 3/e	1030	28
9788131792117	Feynman / Leighton / Sands	The Feynman Lectures on Physics: Volume I: The New Millennium Edition: Mainly Mechanics, Radiation, and Heat	830	23
9788131792124	Feynman / Leighton / Sands	The Feynman Lectures on Physics: Volume II: The New Millennium Edition: Mainly Electromagnetism and Matter	830	24
9788131792131	Feynman / Leighton / Sands	The Feynman Lectures on Physics: Volume III: The New Millennium Edition: Quantum Mechanics	830	25
9789353949297	Freedman / Young	University Physics with Modern Physics, 15/e	1650	11
9788131758915	Goldstein / Poole / Safko	Classical Mechanics, 3/e	1000	7
9789332570962	Harris	Modern Physics, 2/e	1020	16
9789353439590	Hecht / Ganesan	Optics, 5/e	970	18
9789361598289	Hewitt	Conceptual Physics, 13/e	1120	20
9788131773727	ICFAI University Press	Electricity and Magnetism	630	10
9789367130438	Knight	Physics for Scientists and Engineers: A Strategic Approach with Modern Physics, 5/e	2350	19
9788131704417	Liboff	Introductory Quantum Mechanics, 4/e	1330	8
9788177583779	Omar	Elementary Solid State Physics: Principles and Applications	1200	27
9789332522657	Prasad	Nuclear Physics	790	17
9788131795682	Puri	General Theory of Relativity	660	12

ISBN	Author	Title	Price	Page
9788131785010	Puri	Special Theory of Relativity	530	14
9788177589160	Sakurai	Advanced Quantum Mechanics	1050	3
9788119896677	Salivahanan / Karthie	Electromagnetic Fields and Waves	780	9
9789353430061	Shur	Physics of Semiconductor Devices, Updated edition	950	23
9789332573918	Symon	Mechanics, 3/e	1160	4
9788131773352	Tyagi	Principles of Quantum Mechanics	790	5

*All Prices are subject to change without notice

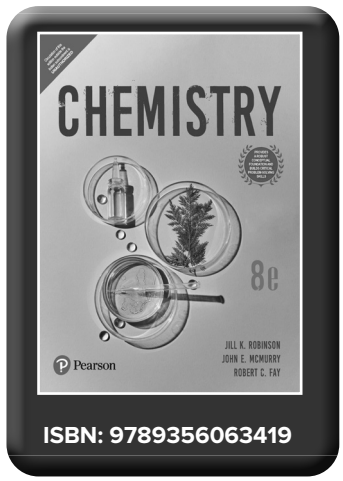
Chemistry

CONTENTS

Chemistry, 8/e

Jill Kirsten Robinson, John E. McMurry

Pages: 744 Year: 2022



ISBN: 9789356063419

About the Book

Robinson/McMurry/Fay's **Chemistry**, known for a concise and united author voice, conceptual focus, extensive worked examples, and thoroughly constructed connections between organic, biological, and general chemistry, highlights the application of chemistry to students' lives and careers. Lead author Jill Robinson strengthens the student orientation by creating more engaging, active learning opportunities for students and faculty. With the 8th Edition, Robinson draws upon her exceptional teaching skills to provide new interactive experiences that help identify and address students' preconceptions.

Features

- New and Updated - Worked Examples provide more than any other text on the market and are tightly integrated into the text's flow and concise narrative.
- Updated - End-of-Chapter Problems have been reviewed and analyzed by author Jill Robinson for accuracy and to ensure each problem is tied to a learning objective in the end-of-chapter Study Guide. All End-of-Chapter problems now tie to specific examples throughout the text, supporting the intuitive flow of material.
- Updated - Inquiry sections highlight the importance of chemistry, promote student interest, and deepen student understanding of the content by showcasing problems that revisit several chapter concepts.
- Conceptual Problems: Conceptual understanding is a primary focus of this book.
- Conceptual problems are intended to help with the critical skill of visualizing the structure and interactions of atoms and molecules while probing the understanding of key principles rather than the ability to correctly use numbers in an equation.
- Excellent Pedagogy
- Big Idea- Questions Figure It Out- Questions
- Practice Problems Apply Problems
- Inquiry sections Conceptual Problems
- Key Terms Key Equations
- Section Problems Multiconcept Problems
- End-of-Chapter- Practice Test End-of-Chapter-Study Guide

Contents

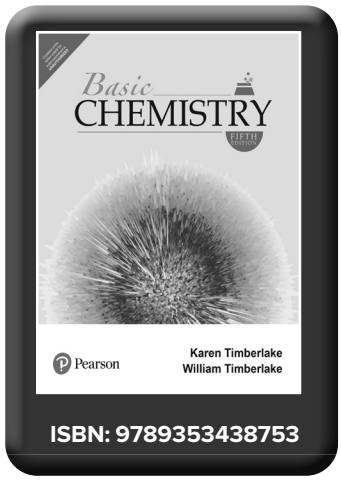
About the Author(s)

Jill Kirsten Robinson, Indiana University
John E. McMurry, Cornell University, Robert C. Fay, Cornell University

Basic Chemistry, 5/e

Karen C Timberlake

Pages: 724 Year: 2020



About the Book

Basic Chemistry introduces students to the essential scientific and mathematical concepts of general chemistry. With accessible language and a moderate pace, the text is easy-to-follow for first-time chemistry students, as well as those hoping to renew their studies of the subject. In the Fifth Edition, Bill and Karen Timberlake carefully develop core ideas while relating them to the possibility of future careers. The book guides students through basic chemistry problem solving with engaging visuals and a focus on developing the math skills necessary to be successful in the course. End of chapter questions strategically promote integration of cumulative ideas, allowing students to develop a strong foundation for learning chemistry and encouraging them to continue their studies in the field.

Features

- **Guides to Problem Solving (GPS)** illustrate the steps needed to solve a problem and provide a visual guide for students to use in solving future problems.
- **NEW! "Try It First" feature** precedes the Solution section of each Sample Problem, encouraging students to work on the problem before reading the given Solution and helping them learn to recall new ideas.
- **NEW! Connect features** specify information that relates the Given and Need sections in Analyze the Problems to help students identify and connect the components within a word problem and set up a solution strategy.
- **NEW! Follow-Up Stories** provide follow-up to the discussion in the chapter opener and include application questions.
- **Analyze the Problems** convert a word problem into components for problem solving.

Contents

1. Chemistry in Our Lives
2. Chemistry and Measurements
3. Matter and Energy
4. Atoms and Elements
5. Electronic Structure of Atoms and Periodic Trends
6. Ionic and Molecular Compounds
7. Chemical Quantities
8. Chemical Reactions
9. Chemical Quantities in Reactions
10. Bonding and Properties of Solids and Liquids
11. Gases
12. Solutions
13. Reaction Rates and Chemical Equilibrium
14. Acids and Bases
15. Oxidation and Reduction
16. Nuclear Chemistry
17. Organic Chemistry
18. Biochemistry

About the Author

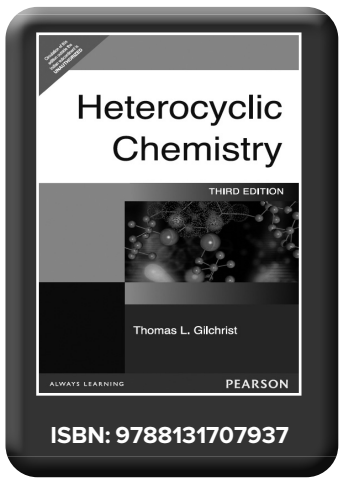
Karen C. Timberlake is Professor Emerita of chemistry at Los Angeles Valley College, where she taught chemistry for allied health and preparatory chemistry for 36 years. She received her bachelor's degree in chemistry from the University of Washington and her master's degree in biochemistry from the University of California at Los Angeles.

Professor Timberlake has been writing chemistry textbooks for 35 years. During that time, her name has become associated with the strategic use of pedagogical tools that promote student success in chemistry and the application of chemistry to real-life situations. More than one million students have learned chemistry using texts, laboratory manuals, and study guides written by Karen Timberlake.

Heterocyclic Chemistry, 3/e

Thomas L. Gilchrist

Pages: 432 Year: 2006



ISBN: 9788131707937

About the Book

This popular text has been completely revised to reflect recent advances in the subject. Deals with the properties of ring systems and general methods of synthesis, providing a unique overview of the subject area. Includes a guide to the naming of the ring systems, invaluable to those unfamiliar with the area.

Features

- Includes recent examples of organometallic reagents which are increasingly used in the synthesis and reactions of heterocyclic compounds.
- New reaction schemes illustrating the use of heterocycles as synthetic intermediates.

Contents

About the Author

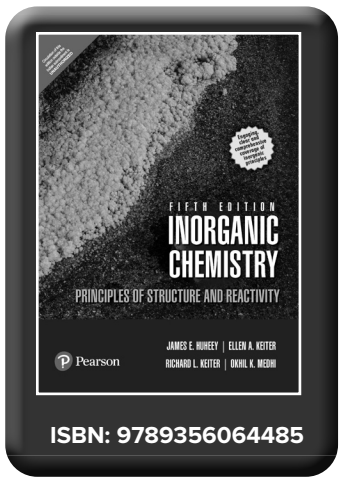
Thomas. L. Gilchrist, University of Liverpool

Inorganic Chemistry, 5/e

James E. Huheey, Ellen A. Keiter, Richard L. Keiter, Okhil K. Medhi

Pages: 968 Year: 2022

E-Book



ISBN: 9789356064485

About the Book

For nearly half a century, this impeccable text has been revered for its clear and precise explanations, thoughtfully chosen examples, superior illustrations and time-tested exercise sets. This classic in its field has been substantially revised and includes the latest findings in the discipline. Its user-friendly approach and straightforward slang, patterned on professional literature, gives students a comprehensive look at the discipline and introduces them to such exciting topics as bioinorganic chemistry and solid-state chemistry.

Features

- Prepares students for current work in chemistry through its up-to-date, accurate coverage
- Rewritten chapters with new sections on hydrogen as an alternative fuel, environmental aspects of main group elements, metallic nanomaterials and much more
- Comprehensive coverage of bonding, solid state chemistry, organometallic chemistry and coordination chemistry
- Invaluable resource for students preparing for competitive examinations

Contents

About the Author(s)

James E. Huheey, University of Maryland

Ellen A. Keiter, Eastern Illinois University

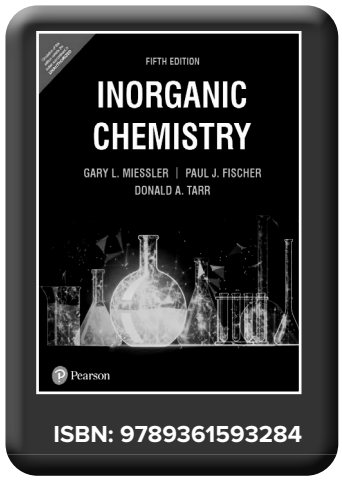
Richard L. Keiter, Eastern Illinois University

Okhil K. Medhi Gauhati University

Inorganic Chemistry, 5/e

Gary L. Miessler | Paul J. Fischer | Donald A. Tarr

Pages: 704 Year: 2025



ISBN: 9789361593284

About the Book

Inorganic Chemistry, 5e delivers the essentials of inorganic chemistry at just the right level for today's classroom—neither too advanced for beginners nor too basic for more experienced learners. Strong coverage of atomic theory and an emphasis on physical chemistry provide a firm theoretical foundation, while a reorganized presentation of molecular orbital and group theory enhances clarity. With updates to rapidly evolving content areas, a strengthened visual presentation, and the addition of co-author Paul Fischer, this highly readable text is now more valuable than ever.

Features

- Updated Content with Contemporary Topics: Expanded discussions on modern subjects such as frustrated Lewis pairs, hydrogen bonding guidelines, metal–organic frameworks, pincer ligands, and C–H activation.
- Enhanced Visuals: Molecular orbital and structural images have been updated using molecular modeling and CIF files for greater clarity and accuracy.
- Improved Pedagogy: Additions include the projection operator method (for nonlinear molecules), group electronegativity, expanded Frost diagrams, and magnetic susceptibility content.
- More Real-World Relevance: Around 15% new end-of-chapter problems, many drawing on recent literature, promote critical thinking and application.

Contents

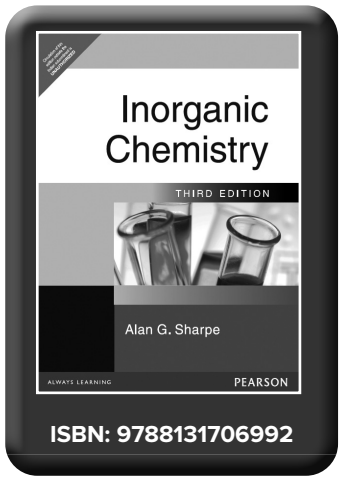
About the Author(s)

Gary L. Miessler, St. Olaf College
Paul J. Fischer, -Macalester College
Donald A. Tarr, St. Olaf College

Inorganic Chemistry, 3/e

Alan G. Sharpe

Pages: 702 Year: 2006



ISBN: 9788131706992

About the Book

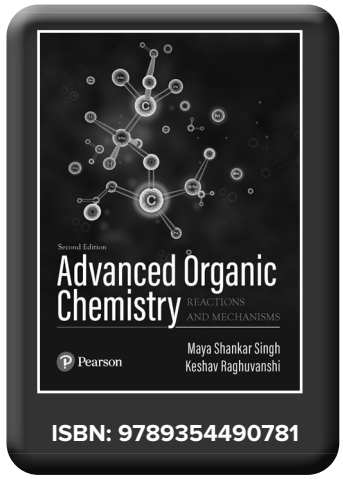
The 3rd edition of ***Inorganic Chemistry*** provides an excellent introduction to the subject. The fully revised text takes account of important advances, and a new larger format provides accessibility. The exercises have been updated and new outline solutions have been added. In this edition, the author has increased emphasis on solid state chemistry and expanded the treatment of aqueous and non-aqueous solutions.

Contents

Advanced Organic Chemistry: Reactions & Mechanisms, 2/e

Maya Shankar Singh, Keshav Raghuvanshi

Pages: 696 Year: 2021



About the Book

Advanced Organic Chemistry – Reactions and Mechanisms, 2e – written in a simple and honest way this book is extremely pleasant to follow the language of chemistry via structures and equations. The book is developed to initiate fundamental ideas rather than on the sequential presentation of facts and is articulated with the two most important sorts of chemistry that exist—the chemistry that is known as life, and the chemistry as practiced by chemists solving real problems in laboratories. Each chapter contains only those topics and reactions that are needed to understand the intellectual roots of organic chemistry as it is currently practiced. All topics covered are either 'fundamental' or 'advanced'. Fundamental sections address the needs of upper-level undergraduates, while the advanced sections are intended for graduate-level/ senior audiences. The problems at the end of each chapter represent application of concepts to new structures and circumstances, rather than review of material explicitly presented in the text. These problems are designed in such a way that students can test themselves on the material just covered before proceeding to the next section. Chapters like theory, mechanism, synthesis, structure, and stereochemistry are discussed throughout the book in a qualitative to semi quantitative tone.

Features

- It is written in an informal and honest way that makes it extremely pleasant to follow the language of chemistry via structures and equations
- Examples based on interesting/famous molecules or chemical problems are presented throughout the book
- Specific examples are included at each stage to illustrate the mechanism under discussion.
- Chemists present chemistry in terms of structural diagrams and for this reason all reactions have been drawn using curly arrows—the handwriting of chemistry
- A rich graphic design, which does a great job bringing some of the more abstract concepts of Organic Chemistry closer to the students.
- End of chapter summaries reinforce/ emphasize the student's comprehension of the key points.

Contents

About the Author(s)

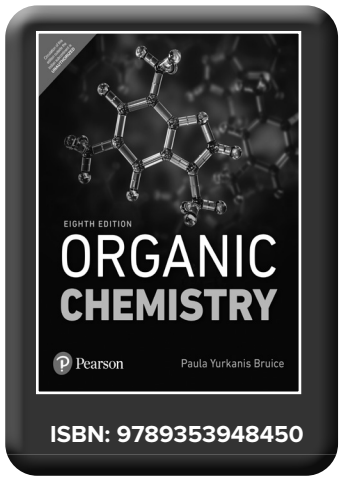
Maya Shankar Singh (FNA, FASc, FNASc), JC Bose National Fellow, Department of Chemistry, Institute of Science, Banaras Hindu University, Varanasi, India

Keshav Raghuvanshi, Chemical and Biomolecular Engineering, North Carolina State University, Raleigh, NC 27695-7905, USA

Organic Chemistry, 8/e

Paula Yurkanis Bruice

Pages: 1368 Year: 2020



ISBN: 9789353948450

About the Book

Paula Bruice's presentation in Organic Chemistry, Eighth Edition provides mixed-science majors with the conceptual foundations, chemical logic, and problem-solving skills they need to reason their way to solutions for diverse problems in synthetic organic chemistry, biochemistry, and medicine. The Eighth Edition builds a strong framework for thinking about organic chemistry by unifying principles of reactivity that students will apply throughout the course, discouraging memorization. With more applications than any other textbook, Dr. Bruice consistently relates structure and reactivity to what occurs in our own cells and reinforces the fundamental reason for all chemical reactions–electrophiles react with nucleophiles. New streamlined coverage of substitution and elimination, updated problem-solving strategies, synthesis skill-building applications and tutorials guide students throughout fundamental and complex content in both the first and second semesters of the course.

Features

The textbook bridges The gap between organic chemistry and biochemistry. Because bioorganic chemistry is The bridge between organic chemistry and biochemistry, The text emphasizes that The organic reactions that chemists carry out in The laboratory are similar to those performed by nature inside a cell. These connections are especially important to biological science majors. -Revised, accuracy-checked text provides increased exam relevancy. -Improved visuals and organization engage students with difficult subject matter, organizes The chapter content and improves ease of use. -Strengthened emphasis on The strategies needed to solve problems and master The content. -New and restructured features give students additional conceptual and skill building support. -Organizing What We Know about The reactions of organic Compounds Table. -Content Updates and Revisions to The Table of Contents streamline and improve clarity in The presentation.

Contents

23. The Organic Chemistry of the Coenzymes, Compounds Derived from Vitamins
24. The Organic Chemistry of the Metabolic Pathways
25. The Organic Chemistry of Lipids
26. The Chemistry of the Nucleic Acids

Part 8: Special Topics in Organic Chemistry

27. Synthetic Polymers
28. Pericyclic Reactions

Appendices

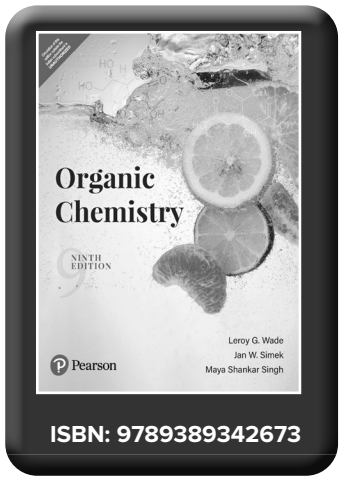
About the Author

Paula Yurkanis Bruice is from the University Of California, Santa Barbara. Bruice earned her Ph.D. in chemistry from the University of Virginia. She then received an NIH postdoctoral fellowship for study in the Department of Biochemistry at the University of Virginia Medical School and held a postdoctoral appointment in the Department of Pharmacology at the Yale School of Medicine. Paula has been a member of the faculty at the University of California, Santa Barbara since 1972, where she has received the Associated Students Teacher of the Year Award, the Academic Senate Distinguished Teaching Award, two Mortar Board Professor of the Year Awards, and the UCSB Alumni Association Teaching Award. Her research interests center on the mechanism and catalysis of organic reactions, particularly those of biological significance.

Organic Chemistry, 9/e

Leroy G. Wade, Jr., Jan William Simek, Maya Shankar Singh

Pages: 1578 Year: 2020



ISBN: 9789389342673

About the Book

Organic Chemistry, Ninth Edition gives students a contemporary overview of organic principles and the tools for organizing and understanding reaction mechanisms and synthetic organic chemistry with unparalleled and highly refined pedagogy. This text presents key principles of organic chemistry in the context of fundamental reasoning and problem solving. Authored to complement how students use a textbook today, new Problem Solving Strategies, Partially Solved Problems, Visual Reaction Guides and Reaction Starbursts encourage students to use the text before class as a primary introduction to organic chemistry as well as a comprehensive study tool for working problems and/or preparing for exams.

Features

- New chapters on Phenols and Quinones and Asymmetric Synthesis.
- Green Chemistry is emphasized with presentation of less-toxic, and environmentally friendly reagents.
- Enriched and updated treatment of Acid/Base Chemistry, Study of Chemical Reactions, Steriochemistry, Alkyl Halides, Alkenes, Dienes, Alkynes, Thiols, Aromatic Compounds, Amines, and Polymers.
- Over 100 new problems include more synthesis problems and problems based on recent literature.
- Over 80 Mechanism boxes help students understand how specific reactions occur by zooming in on each individual step in detail.
- Updated art throughout to provide consistency and clarity in the text, giving detailed representations of molecular and orbital art.

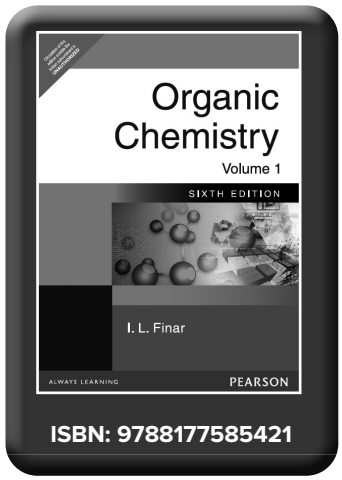
Contents

About the Author(s)

Leroy G. Wade, Whitman College
Jan W. Simek, Cal Poly State University
Maya Shankar Singh, Department of Chemistry, Institute of Science, Banaras Hindu University

Organic Chemistry, Volume 1, 6/e

I. L. Finar



Pages: 966 **Year: 2005**

ISBN: 9788177585421

About the Book

In the sixth edition of Dr. Finar's best-selling student text, a great deal of material has been rewritten and many new topics have been added. The arrangement of the subject matter is based on homologous series and SI units have been used throughout the text.

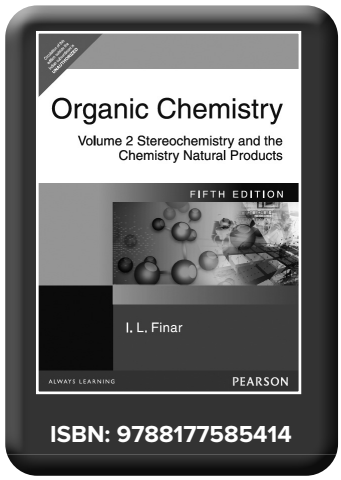
Contents

About the Author

The late **Dr. Finar** was Principal Lecturer in Organic Chemistry at the Polytechnic of North London.

Organic Chemistry, Volume 2: Stereochemistry and the Chemistry Natural Products, 5/e

I. L. Finar



ISBN: 9788177585414

Pages: 956 Year: 2005

About the Book

Organic Chemistry is a well-established two-volume textbook for students studying chemistry at degree level. Volume 2 carries the material of Volume 1: Fundamental Principles to a more advanced level. The author provides a comprehensive introduction to the relationship between physical properties and chemical structures, and then proceeds to a detailed account of stereochemistry. The later chapters are devoted to the most typical compounds of natural products and the problems involved. A selected number of reading references are given at the end of each chapter.

Contents

About the Author

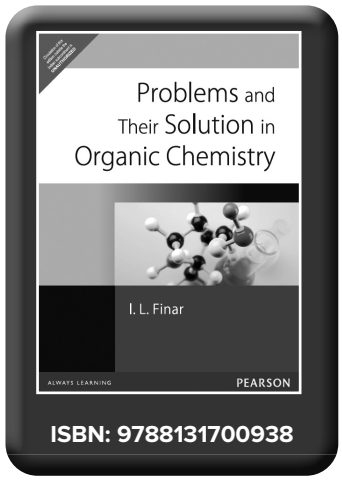
The late **Dr. Finar** was Principal Lecturer in Organic Chemistry at the Polytechnic of North London.

Problems and Their Solution in Organic Chemistry

I. L. Finar

Pages: 360 Year: 2006

POD



ISBN: 9788131700938

About the Book

The first part of this book collects together the questions set out at end of each chapter in the authors Textbook of Organic Chemistry, Volume 1 (sixth edition). The second part of this book gives the possible solutions, which are linked with an explanation of the sort of reasoning used in order to arrive at one of the answers. In many cases, several answers are given for one question; and in each set of questions, there is at least one which involves the completion of equations. The result is a book which can be used independently of the main volume. This book helps in acquiring a better understanding of the basic principles of organic chemistry and in revising a large amount of the subject matter quickly.

Contents

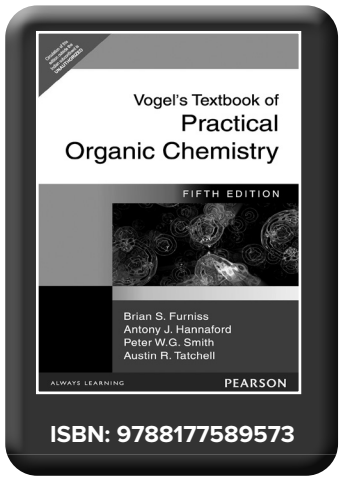
About the Author

The late **Dr. Finar** was Principal Lecturer in Organic Chemistry at the Polytechnic of North London.

Vogel's Textbook of Practical Organic Chemistry, 5/e

Brian S. Furniss, Antony J. Hannaford,
Peter W.G. Smith, Austin R. Tatchell

Pages: 1544 Year: 2006



ISBN: 9788177589573

About the Book

Still recognized as the definitive text on practical topics related to organic chemistry, this text is relied upon by undergraduates, postgraduate students, and professional organic chemists. Topics covered include the structural and theoretical principles required when designing a synthesis; the disconnection or synthon approach; the principles of retrosynthetic analysis applied to relevant aliphatic, aromatic, alicyclic and heterocyclic compounds; and developments in reaction techniques.

Features

- An introductory chapter on the structural and theoretical principles required when designing a synthesis.
- The disconnection on synthon approach now integrated into the text , and the principles of retrosynthetic analysis applied to relevant aliphatic, aromatic, alicyclic and heterocyclic compounds.
- Synthesis methodology is expanded to cover a range of new reagents, including oxidants and reductants; reagents for asymmetric synthesis; and those derived from lithium, boron, silicon, phosphorous and suphur.
- Recent developments in reaction techniques which include: handling of air-sensitive and moisture-sensitive compounds; new chromatographic procedures; phase transfer catalysis; and solid support reagents.
- Over 100 new experiments selected from the literature to illustrate new reagents and techniques, and the operation of protection, selectivity and control in synthesis.
- A more detailed treatment of carbon-13 n.m.r. spectroscopy, and the interpretation of spectroscopic data for many of synthesized compounds.

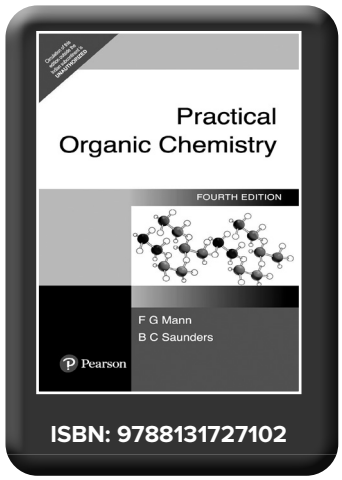
Contents

About the Author(s)

Brian S. Furniss-, The School of Chemistry, Thames Polytechnic, London
Antony J. Hannaford-, The School of Chemistry, Thames Polytechnic, London
Peter W.G. Smith- The School of Chemistry, Thames Polytechnic, London
Austin R. Tatchell- The School of Chemistry, Thames Polytechnic, London

Practical Organic Chemistry

F.G. Mann, B.C. Saunders



ISBN: 9788131727102

Pages: 600 **Year: 2009**

About the Book

This book has proved useful for research as well as for teaching purpose The fourth edition of this book was distinguished from its predecessors by a greater emphasis on semi-micro methods and modern techniques and reactions. While updating the book in several important aspects, namely, chromatography, reaction mechanism, and safety and first-aid measures.

Contents

Part I: Methods and Manipulation
Part II: Preparations
Part III: Reactions and Identification of Organic Compounds
Part IV: Quantitative Analysis
Part V: Simple Enzyme Reactions

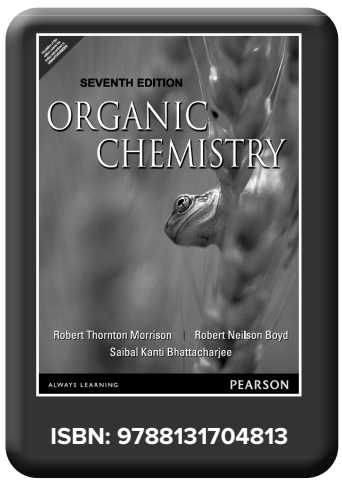
About the Author(s)

Frederick George Mann, Sc-D. (Cantab.), D.Sc. (Lond.), F.R.I.C., F.R.S. Fellow, Trinit Y College, Cambridge, University Emeritu S Reader in Organic Chemistry

Bernard Charles Saunders, C.B.E., M.A., Sc.D. (Cantab.), D.Sc. (Lond.), F.R.I.C., F.R.C. Path.

Organic Chemistry, 7/e

Robert Thornton Morrison, Robert Neilson Boyd, Saibal Kanti Bhattacharjee



ISBN: 9788131704813

Pages: 1508 **Year: 2010**

About the Book

As in the earlier editions, the book conveys the important fundamentals and principles of the subject in a simple and easily understandable manner.

Contents

Part 1: Fundamentals of Organic Chemistry

1. Structures of Organic Compounds
2. Structural Theory
3. Symmetry of Organic Molecules (Molecular Dissymmetry)
4. Types of Reactions of Organic Compounds
5. Alkanes, Cycloalkanes and Aromatic Hydrocarbons
6. Part 2: Chemistry of Functional Groups Alkenes
7. Alkynes
8. Alkyl Halides Nucleophilic Substitutions, SN Reactions
9. Aryl Halides Nucleophilic Aromatic Substitution (SNAr Reactions)
10. Alcohols and Ethers
11. Phenols
12. Aldehydes and Ketones Nucleophilic Addition
13. Carboxylic Acids
14. Functional Derivatives of Carboxylic Acids Nucleophilic Acyl Substitution
15. Amines

Part 3: Special Topics

16. Heterocyclic Compounds
17. Purification and Identification of Organic Compounds: Spectroscopic Analysis of Organic Compounds
18. Organic Synthesis
19. Oxidation and Reduction Electroorganic Synthesis

20. Molecular Orbitals; Orbital Symmetry (Pericyclic Reactions)
21. Organic Photochemistry
22. Synthetic Organic Compounds of Commercial Importance: Synthetic Dyes and Macromolecules
23. Symphoria (Anchimeric Assistance) Neighboring Group Effects. Catalysis by Transition Metal Complexes
24. Introduction to Supramolecular Chemistry Host–Guest Chemistry

Part 4: (Biomolecules and Bioorganic Chemistry)

25. Lipids Fats, Steroids, Terpenes, and Prostaglandins
26. Carbohydrates I: Monosaccharides. Carbohydrates II: Disaccharides and Polysaccharides
27. Alkaloids
28. Amino Acids and Proteins Molecular Biology
29. Enzymes, Co-Enzymes and Vitamins
30. Nucleic Acids Nucleotides, Polynucleotides and Nucleosides
31. Drugs Chemotherapeutic and Pharmacodynamic Agents

Part 5: Contemporary and Future Organic Chemistry

32. Nanoparticles (Size-Dependent Chemistry)
33. Future Devices and Challenges of Chemistry of this Century Molecular Machines or Nanomachines

About the Author(s)

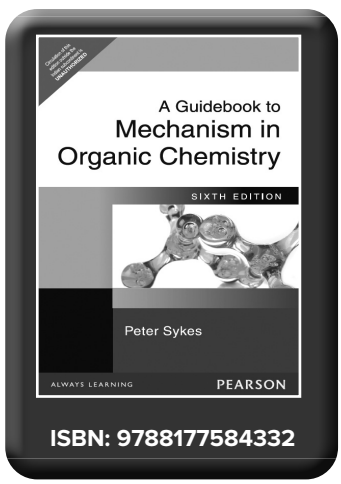
Robert Thornton Morrison, New York University

Robert Neilson Boyd, New York University

Saibal Kanti Bhattacharjee, Gauhati University

A Guidebook to Mechanism in Organic Chemistry, 6/e

Peter Sykes



Pages: 428 **Year: 2005**

ISBN: 9788177584332

About the Book

This classic textbook on mechanistic organic chemistry, characterized by its clarity, careful choice of examples, and its general approach designed to lead to a greater understanding of the subject matter. The book is aimed clearly at the needs of the student, with a thorough understanding of, and provision for, the potential conceptual difficulties he or she is likely to encounter. The book's success in achieving these goals is reflected in the opinion of one reviewer who says, "Sykes remains the bible of mechanistic organic chemistry for thousands of undergraduates, and there is certainly no English language publication of which I am aware which comes even close to challenging it in terms of clarity and coverage."

Features

- New – topics introduced in this edition : ipso aromatic substitution; the mechanistic borderline in nucleophilic substitution; more use of activation parameters; Dimorth's ET parameter; Hammett's Ã³x and spectroscopic data; and 13C n.m.r. in biogenesis.
- New – thoroughly revised text with improved explanations, more examples and increased clarity.

Contents

1. Structure, Reactivity, and Mechanism.
2. Energetics, Kinetics, and the Investigation of Mechanism.
3. The Strengths of Acids and Bases.
4. Nucleophilic Substitution at a Saturated Carbon Atom.
5. Carbocations, Electron-deficient N and O Atoms and Their Reactions.
6. Electrophilic and Nucleophilic Substitution in Aromatic Systems.
7. Electrophilic and Nucleophilic Addition to C=C.
8. Nucleophilic Addition to C=O.
9. Elimination Reactions.
10. Carbanions and Their Reactions.
11. Radicals and Their Reactions.
12. Symmetry Controlled Reactions.
13. Linear Free Energy Relationships.

About the Author

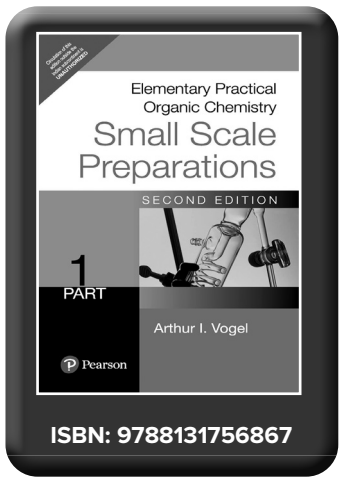
Peter Sykes, FRSC was a British chemist and a former fellow and vice-master of Christ's College, Cambridge. He is the author of the undergraduate-level organic chemistry textbook A Guidebook to Mechanism in Organic Chemistry.

Elementary Practical Organic Chemistry: Small Scale Preparations Part 1, 2/e

POD

Arthur I. Vogel

Pages: 456 **Year: 2010**



ISBN: 9788131756867

Features

- Experimental Techniques
- Mechanism of all reactions described
- Introduction of a number of reactions and experimental procedures of general interest

Contents

1. **1.** Theory of General Technique
2. **2.** Experimental Technique
3. **3.** Aliphatic Compounds
4. **4.** Aromatic Compounds
5. **5.** Miscellaneous Compounds and Miscellaneous Reactions

About the Author

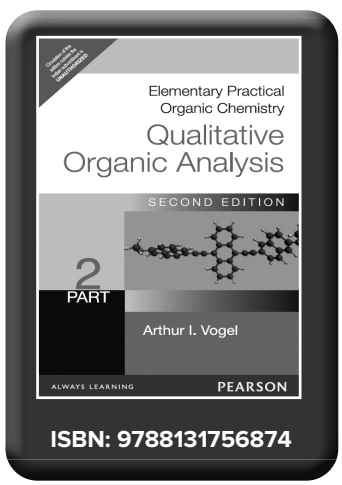
Arthur Israel Vogel FRIC was a British chemist known for his Chemistry textbooks. He became the head of the chemistry department at Woolwich Polytechnic at the age of 27.

Elementary Practical Organic Chemistry: Qualitative Organic Analysis Part 2, 2/e

POD

Arthur I. Vogel

Pages: 448 **Year: 2010**



ISBN: 9788131756874

About the Book

A dedicated chapter on "The use of spectroscopic methods in qualitative organic analysis" which includes the essentials from a practical viewpoint of ultraviolet and visible spectroscopy and infrared spectroscopy and mass spectroscopy. These spectroscopy techniques are now-days of such great importance that no book on qualitative organic analysis can be regarded complete without their inclusion.

Contents

1. Determination of physical constants
2. Qualitative analysis for the elements
3. The solubility classes
4. Reactions and characterization of selected classes of organic compounds
5. Class reactions
6. The preparation of derivatives
7. Qualitative analysis of mixtures of organic compounds

8. The use of spectroscopic methods in qualitative organic analysis
9. Physical constants of organic compounds

About the Author

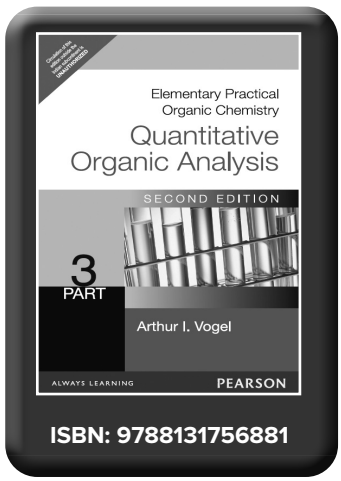
Arthur Israel Vogel FRIC was a British chemist known for his Chemistry textbooks. He became the head of the chemistry department at Woolwich Polytechnic at the age of 27

Elementary Practical Organic Chemistry: Quantitative Organic Analysis Part 3, 2/e

Arthur I. Vogel

POD

Pages: 382 **Year: 2010**



ISBN: 9788131756881

Features

- Numerous Experiments
- Coverage of quantitative organic analysis through the medium of functional groups

Contents

1. Determination of selected elements in organic compounds
2. General discussion of titrations in non-aqueous solvents
3. Hydroxyl groups (Alcohols)
4. Adjacent hydroxyl groups
5. Hydroxyl groups (Phenols)
6. Amino groups
7. Salts of amines
8. Amino acids
9. Carboxyl groups
10. Salts of carboxylic acids
11. Anhydrides of carboxylic acids
12. Esters of carboxylic acids
13. Aldehydes and ketones
14. Carbohydrates (Sugars)
15. Nitro, Nitrsos and azo groups
16. Unsaturation
17. Alkoxyl groups
18. C-Methyl, O-acetyl and N-acetyl groups
19. Active Hydrogen
20. Enols
21. Imides
22. Sulphonamides, Thiols, Sulphides and disulphides
23. Determination using ION exchange resins
24. Some application of the karl fischer reagent
25. Alpha-epoxy groups
26. Miscellaneous determinations

About the Author

Arthur Israel Vogel FRIC was a British chemist known for his Chemistry textbooks. He became the head of the chemistry department at Woolwich Polytechnic at the age of 27.

Organic Chemistry, Vol 1, 6/e (Bangla)

I. L. Finar

ISBN: 9789332546974

Pages: 375 **Year: 2016**

About the book

L. Finar dwara likhit Carbanik Rasayan Vigyan, vol.1-mulbhut sidhant ko yadi aapni bhasa mein pada jaye to esse aachi bat ho hi nahin sakti. Hamari sikhsan pranali mein sabse badi kami yah hai ki aaj bhi vigyan ewm takniki vishyo ko padhane ewm samjhane ke liye English ka hi prayog kiya jata hai, parinamsawarup vidhyarthi ucch aank prapt karne ki aakanksha mein Vishay ki mul avdharnaoo ko samjhne ke bajay unko ratne hetu badhya ho jate hai.

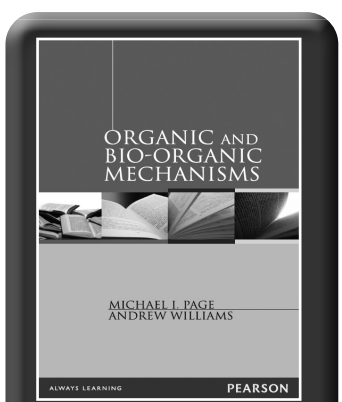
Content

Organic and Bio-Organic Mechanisms

Michael I. Page, Andrew Williams

Pages: 312 **Year: 2009**

POD



ISBN: 9788131729496

About the Book

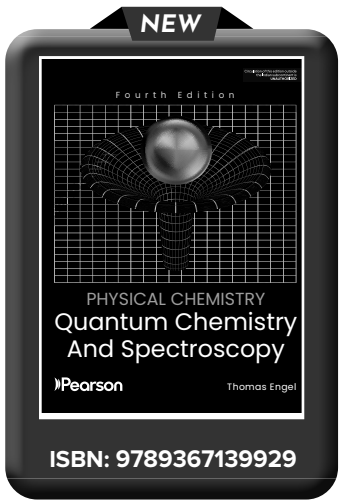
This text provides a comprehensive and detailed discussion of the investigation of organic and bioorganic reaction mechanisms. It addresses questions such as: 'How are bonds between atoms rearranged?', 'What sort of structural changes take place to cause bond fission and formation?' and 'How do catalysts lower the activation energies of reactions?'

Physical Chemistry: Quantum Chemistry and Spectroscopy, 4/e

Thomas Engel

EXCLUSIVE

Pages: 564 Year: 2025



ISBN: 9789367139929

About the Book

Engel's Physical Chemistry provides you with a contemporary, conceptual, and visual introduction to physical chemistry. The authors emphasize the vibrancy of physical chemistry today and illustrate its relevance to the world around us, using modern applications drawn from biology, environmental science and material science. The 4th Edition provides visual summaries of important concepts and connections in each chapter, offers you just-in-time math help, and expands content to cover science relevant to physical chemistry.

Features

- Key Equations focus on the most important equations and are summarized in an end-of-chapter table.
- Worked Examples and Key Equations emphasize problem solving to help students understand the math and to develop problem-solving skills.
- Concept Questions, Quantitative Problems and problems related to the web-based simulations and animations offer study and assessment resources.
- Current research and developments, such as gap engineering, quantum dots, quantum wells, teleportation and scanning tunneling microscopy, reflect the vibrancy of the field today.
- Computational Chemistry coverage transforms the teaching of chemical bonding and molecular structure from qualitative to quantitative and include a chapter written by Warren Hehre.

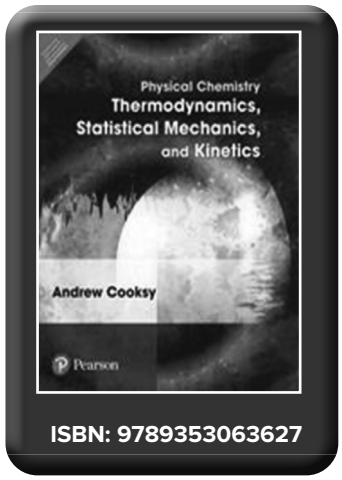
Contents

About the Author

Thomas Engel- University of Washington

Physical Chemistry
Thermodynamics, Statistical Mechanics, and Kinetics

Andrew Cooksy



ISBN: 9789353063627

Pages: 576 Year: 2018

About the Book

Andrew Cooksy's clear teaching voice help students connect immediately with the subject matter while defusing some of their initial trepidation about physical chemistry. Through lively narrative and meticulous explanations of mathematical derivations, Physical Chemistry: Thermodynamics, Statistical Mechanics, and Kinetics engages students while fostering a sincere appreciation for the interrelationship between the theoretical and mathematical reasoning that underlies the study of physical chemistry. The author's engaging presentation style and careful explanations make even the most sophisticated concepts and mathematical details clear and comprehensible.

Features

- FLEXIBLE ORGANIZATION ACCOMMODATES THE CONTENT NEEDS AND TEACHING STYLES OF EACH SEMESTER/ QUARTER SEQUENCE.
  Separation of Quantum Chemistry and Thermodynamics into distinct volumes provides the utmost in flexibility, allowing instructors to lead with their choice of Quantum-first or Thermo-first coverage.
- Reflective of popular lecture strategies, chapter opening and closing features ground each topic within the larger framework of physical chemistry and help students stay oriented as they deepen their understanding.
- Opening features including a "Visual Roadmap" and "Context: Where Are We Now" show readers where they are within the text and relative to other physical chemistry topics.
- "Goal: Why Are We Here?" and "Learning Objectives" features prepare students for the work ahead and outline the skills students should expect to acquire from their study of the chapter.
- The concluding "Where Do We Go From Here" section at the end of each chapter reinforces student orientation and illuminates the intrinsic connection between concepts."

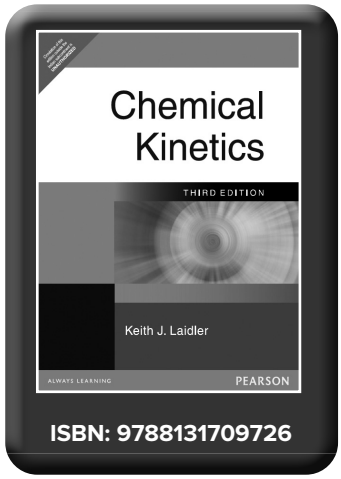
Contents

About the Author

Andrew Cooksy is a chemistry professor at San Diego State University, where he teaches courses in physical and general chemistry and carries out research on the spectroscopy, kinetics, and computational chemistry of reactive intermediates in combustion and interstellar processes.

Chemical Kinetics, 3/e

Keith J. Laidler



Pages: 544 Year: 2007

ISBN: 9788131709726

About the Book

Basic concepts of both experimental and theoretical chemical kinetics are concisely explained for those seeking a general knowledge of the subject from this well-known text, now being totally revised and updated. In addition, the book is an invaluable starting point for those embarking on research in kinetics and physical chemistry. Extensive chapter bibliographies point the way toward more detailed accounts or specialized aspects. Historical background included in both chapter introductions and biographical sketches of important researches in chemical kinetics.

Features

- An invaluable starting point for those embarking on research in kinetics and physical chemistry.
- Extensive chapter bibliographies point the way toward more detailed accounts or specialized aspects.
- Historical background included in both chapter introductions and biographical sketches of important researchers in chemical kinetics.

Contents

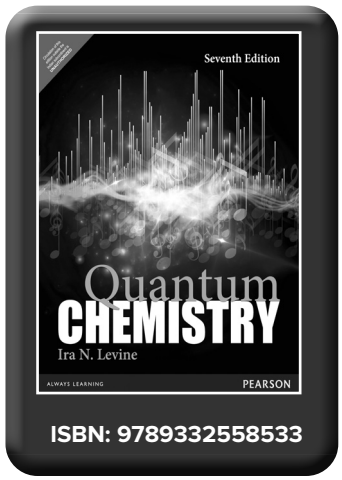
About the Author

Keith James Laidler, born in England, was notable as a pioneer in chemical kinetics and authority on the physical chemistry of enzymes.

Quantum Chemistry, 7/e

Ira N. Levine

Pages: 720 Year: 2016



ISBN: 9789332558533

About the Book

This classic text on quantum chemistry has been extensively updated to include the latest research and developments in the field. With its solid presentation of mathematics, this bestseller provides a great introduction to the fundamentals of quantum chemistry and the math needed to master it.

The seventh edition covers quantum mechanics, atomic structure, and molecular electronic structure and clearly demonstrates the usefulness and limitations of current quantum-mechanical methods for the calculation of molecular properties.

Features

- In-depth treatment of quantum chemistry
- Derivations are presented in full, step-by-step detail
- Comprehensive discussions of the major computational methods of molecular electronic structure (Hartree—Fock, CI, density-functional theory, MP2, coupled cluster, semiempirical, molecular mechanics) are provided.

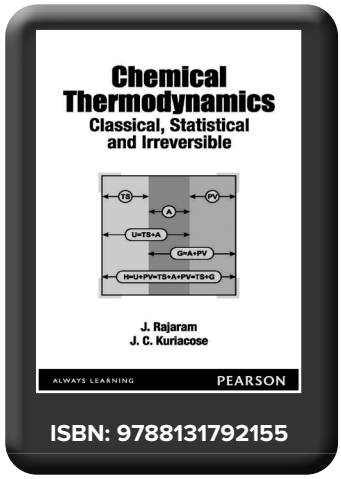
Contents

About the Author

Ira N. Levine is faculty, Brooklyn College, City University of New York.

Chemical Thermodynamics: Classical, Statistical and Irreversible

J. Rajaram, J. C. Kuriacose



ISBN: 9788131792155

Pages: 696 Year: 2013

E-Book

About the Book

Aimed at providing undergraduate and postgraduate students with an understanding of thermodynamics, this book brings out the thermodynamic interrelationships in a succinct break-down of its essential elements. It starts with the fundamentals and progresses to advanced concepts to enable students to appreciate the application of thermodynamics in different areas of chemistry. Conforming to the syllabus framed by the U.G.C. curriculum, this course textbook is written in a simple and lucid language, the discussion and explanations being interspersed with appropriate worked-out examples. Every chapter is accompanied by adequate end-of-chapter exercises.

Features

- Covers all introductory concepts in detail with a rich pedagogy for easy understanding
- Clear explanation of important concepts such as partial molar properties, fugacity and activity
- Over 140 solved examples and 100 end-of-chapter exercises

Contents

About the Author(s)

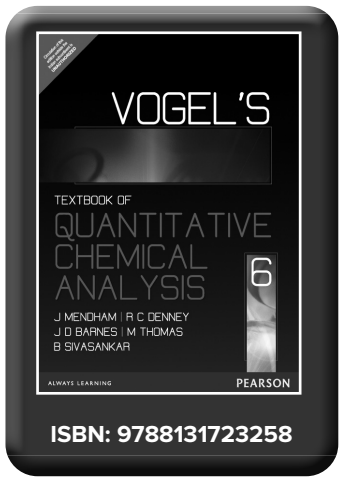
J. Rajaram and **J. C. Kuriacose** are retired professors of the department of chemistry, Indian Institute of Technology, Madras, Chennai, having devoted over thirty years to teaching chemistry.

Vogel's Quantitative Chemical Analysis, 6/e

J. Mendham, David J. Barnes , R.C. Denney, M. J. K. Thomas

Pages: 836 Year: 2009

E-Book



ISBN: 9788131723258

About the Book

Dr. Vogel's classic introduction to analytical methods has provided generations of chemists worldwide with a basis for teaching, learning and applying analytical chemistry. This 60th anniversary edition - the first for a decade - reflects major changes in the subject. Analysts need to understand the concepts behind methods and ***Vogel's Quantitative Chemical Analysis*** provides clear introductions to all the key analytical methods including those involving advanced computerised equipment available in many analytical laboratories. The editors have built further on the work of Dr Vogel, modernising the approach while retaining the analytical concepts and ideas which were built into the original work. This new edition has been extensively revised to take into account developments in instrumental procedures and coupled techniques whilst maintaining the book's focus on quantitative chemical and problem-specific analyses. With excellent cross-referencing this book provides a wealth of examples and tables of data.

Features

- Comprehensive coverage of methods with detailed easy-to-follow practical experiments.
- Basic analytical theory which is essential for understanding the subject.
- Greatly expanded sections on instrumental analysis including aspects of miniaturisation.
- Increased emphasis on minor/trace component analysis and revised statistical handling of data.
- New chapters on sampling, mass spectrometry and nuclear magnetic resonance.

Contents

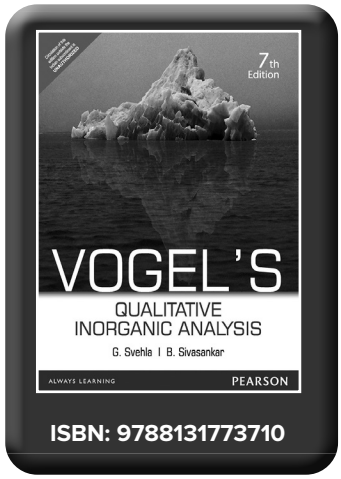
About the Author(s)

J. Mendham, Consultant Analytical Chemist
R.C. Denney, Consultant Forensic Scientist
J. D. Barnes, University of Greenwich
M.J.K. Thomas, University of Greenwich

Vogel's Qualitative Inorganic Analysis, 7/e

G. Svehla, B. Sivasankar

Pages: 384 Year: 2013



ISBN: 9788131773710

About the Book

Vogel's Qualitative Inorganic Analysis (in its seventh edition) follows the current trends and techniques in the field of analytical chemistry. Written for undergraduate and postgraduate students of chemistry, this revised and updated edition treats each concept and principle systematically to make the subject comprehensible to beginners as well as advanced learners.

Features

- Updated nomenclature
- Addition of tests for metals based on flame atomic emission and atomic absorption spectrometry
- New classification of mixtures of common and less common ions
- Marginalia highlighting important facts
- Elaborate discussions on preliminary tests, dissolution and fusion of samples
- Health and hazard warnings throughout the text
- Details on the preparation of reagents provided in the appendix

Contents

About the Author(s)

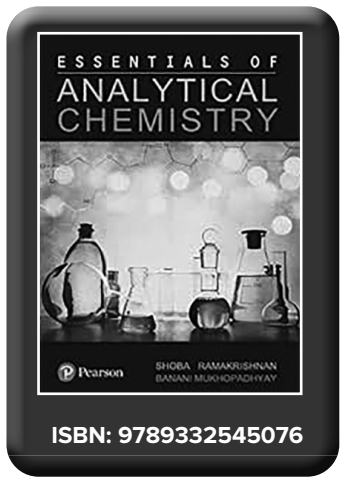
G. Svehla is a formerly professor from the department of chemistry, University College, York, Ireland.

B. Sivasankar is a visiting professor from the department of chemistry, Anna University, Chennai, Tamilnadu.

Essentials of Analytical Chemistry

Shobha Ramakrishnan, Banani Mukhopadhyay

Pages: 400 Year: 2018



ISBN: 9789332545076

About the Book

The book elucidates the principles of analytical methods such as volumetric analysis, gravimetric analysis, statistical methods of analysis, electro-analytical, and thermoanalytical techniques. It also presents the basic principles and instrumentation of UV, IR, NMR, Mass and ESR spectral methods, accompanied by a discussion on the spectra of a number of molecules, intended to develop the skill of the reader and to interpret the spectra of common organic molecules. This text will benefit those preparing for competitive examinations such as NET, SLET, GATE, and the UPSC Civil Services exam.

Features

- Includes up-to-date developments in the field
- Detailed illustration of AES, AAS, and Flame Photometry
- Numerous review questions, solved problems and end of chapter exercises:

Contents

About the Author(s)

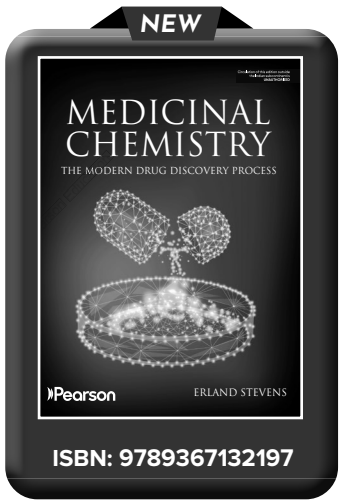
Shoba Ramakrishnan was Former Professor and Head, Department of Chemistry, Women's Christian College, Chennai, Tamil Nadu.

Banani Mukhopadhyay is Assistant Professor, Department of Chemistry, Women's Christian College, Chennai, Tamil Nadu.

Medicinal Chemistry: The Modern Drug Discovery Process

Erland Stevens

Pages: 436 Year: 2025



About the Book

Emphasizing applications of chemistry while reinforcing theory — especially in the areas of organic and physical chemistry — this new text prepares students for career success in the pharmaceutical, medical, and biotech industries. Medicinal Chemistry: The Modern Drug Discovery Process delivers a comprehensive introduction to medicinal chemistry at an appropriate level of detail for a diverse range of undergraduate students (pharmaceutical, chemical engineering, premed, biotechnology). By highlighting the concepts and skills related to drug discovery, Stevens deepens students' understanding of the knowledge and techniques necessary for their careers.

Features

- Case Studies in each chapter demonstrate real life applications of newly introduced ideas.
- End-of-chapter summaries provide a synopsis of the chapter's material.
- Highlighted keywords are collectively listed and defined in the glossary.
- Sample Calculations throughout each chapter demonstrate the use of equations to analyze quantitative data.

Contents

About the Author(s)

Erland Stevens - Davidson College in Davidson, NC, USA

AUTHOR INDEX

ISBN	Author(s)	Title	Price	Page
9789353948450	Bruice	Organic Chemistry, 8/e	1340	8
9789353063627	Cooksy	Physical Chemistry Thermodynamics, Statistical Mechanics, and Kinetics	750	21
9789367139929	Engel	"Physical Chemistry: Quantum Chemistry and Spectroscopy, 4/e"	1195	20
9788177585421	Finar	Organic Chemistry, Volume 1, 6/e	1280	11
9788177585414	Finar	Organic Chemistry, Volume 2: Stereochemistry and the Chemistry Natural Products, 5/e	1260	12
9788131700938	Finar	Problems and Their Solution in Organic Chemistry	1060	13
9789332546974	Finar	Organic Chemistry, Vol 1, 6/e (Bangla)	430	19
9788177589573	Furniss / Hannaford / Smith / Tatchell	Vogel's Textbook of Practical Organic Chemistry, 5/e	1720	14
9789361593284	Gary L. Miessler / Paul J. Fischer / Donald A. Tarr	Inorganic Chemistry, 5/e	1130	5
9788131707937	Gilchrist	Heterocyclic Chemistry, 3/e	1020	3
9789356064485	Huheey / Keiter / Keiter / Medhi	Inorganic Chemistry, 5/e	1110	4
9788131709726	Laidler	Chemical Kinetics, 3/e	1080	22
9789332558533	Levine	Quantum Chemistry, 7/e	1050	23
9788131727102	Mann / Saunders	Practical Organic Chemistry	910	15
9788131723258	Mendham / Barnes / Denney / Thomas	Vogel's Quantitative Chemical Analysis, 6/e	1180	25
9788131704813	Morrison / Boyd / Bhattacharjee	Organic Chemistry, 7/e	1180	15
9788131729496	Page / Williams	Organic and Bio-Organic Mechanisms	960	19
9788131792155	Rajaram / Kuriacose	Chemical Thermodynamics: Classical, Statistical and Irreversible	600	24
9789332545076	Ramakrishnan / Mukhopadhyay	Essentials of Analytical Chemistry	720	27

ISBN	Author(s)	Title	Price	Page
9789356063419	Robinson / McMurry	Chemistry, 8e	1330	1
9788131706992	Sharpe	Inorganic Chemistry, 3/e	1450	6
9789354490781	Singh / Raghuvanshi	Advanced Organic Chemistry: Reactions & Mechanics, 2/e	1080	7
9789367132197	Stevens	"Medicinal Chemistry: The Modern Drug Discovery Process"	800	28
9788131773710	Svehla / Sivasankar	Vogel's Qualitative Inorganic Analysis, 7/e	800	26
9788177584332	Sykes	A Guidebook to Mechanism in Organic Chemistry, 6/e	860	16
9789353438753	Timberlake	Basic Chemistry, 5/e	1190	2
9788131756867	Vogel	Elementary Practical Organic Chemistry: Small Scale Preparations Part 1, 2/e	960	17
9788131756874	Vogel	Elementary Practical Organic Chemistry: Qualitative Organic Analysis Part 2, 2/e	960	17
9788131756881	Vogel	Elementary Practical Organic Chemistry: Quantitative Organic Analysis Part 3, 2/e	960	18
9789389342673	Wade, Jr. / Simek / Singh	Organic Chemistry, 9/e	1860	10

*All Prices are subject to change without notice

Bioscience and Geology

CONTENTS

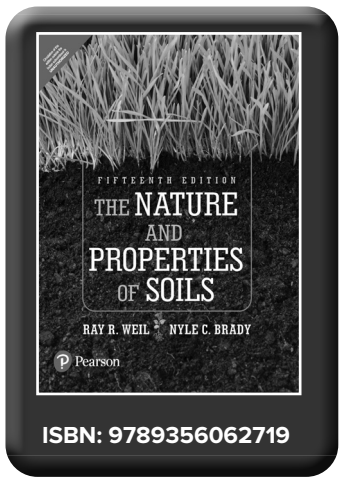
GEOLOGY & EARTH SCIENCE

AGRICULTURE

The Nature and Properties of Soils, 15/e

Raymond R. Weil and Nyle C. Brady

Pages: 1172 Year: 2022



ISBN: 9789356062719

About the Book

The Nature and Properties of Soils is designed to engage today's students with the latest in the world of soils. This hallmark text introduces students to the exciting world of soils through clear writing, strong pedagogy, and an ecological approach that effectively explains the fundamentals of soil science. Worked calculations, vignettes, and current real-world applications prepare readers to understand concepts, solve problems, and think critically. Written for both majors and non-majors, this text highlights the many interactions between the soil and other components of forest, range, agricultural, wetland and constructed ecosystems.

Features

- A comprehensive approach to soils with a focus on six major ecological roles of soil including growth of plants, climate change, recycling function, biodiversity, water, and soil properties and behavior.
- Updated with the latest advances, concepts, and applications including hundreds of key references.
- New coverage of cutting-edge soil science. Examples include coverage of the pedosphere concept, new insights into humus and soil carbon accumulation, subaqueous soils, soil effects on human health, principles and practice of organic farming, urban and human engineered soils, new understandings of the nitrogen cycle, water-saving irrigation techniques, hydraulic redistribution, soil food-web ecology, disease suppressive soils, soil microbial genomics, soil interactions with global climate change, digital soil maps, and many others
- New applications boxes and case study vignettes. A total of 10 new application and case study boxes bring important soils topics to life.

Contents

About the Author(s)

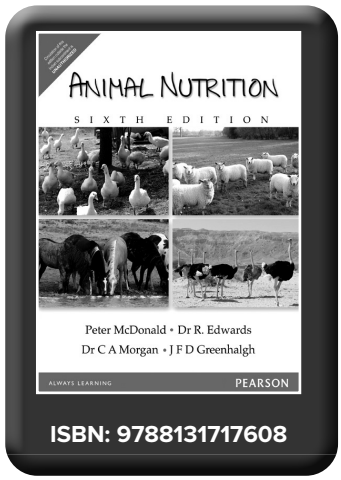
Raymond R. Weil, University of Maryland

Animal Nutrition 6/e

Peter McDonald, R. Edwards, C A Morgan,
and J F D Greenhalgh

Pages: 708 Year: 2002

E-Book POD



ISBN: 9788131717608

About the Book

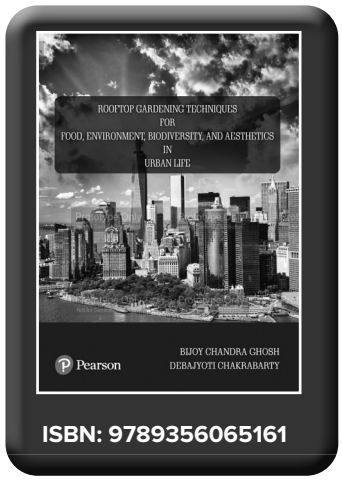
The latest edition of this classic text, now in a larger format with improved artwork, continues to provide a clear and comprehensive introduction to the science and practice of animal nutrition.

Features

- New chapter on Animal Nutrition and the Consumers of Animal Products addressing contemporary concerns for safety in human diets.
- New chapter on Feed Additives.
- Major revisions of chapters on food analysis, lipids, metabolism, energy systems and protein evaluation.

Rooftop Gardening Techniques for Food, Environment, Biodiversity and Aesthetics in Urban Life

Bijoy Chandra Ghosh and Debajyoti Chakrabarty



ISBN: 9789356065161

Pages: 176 Year: 2022

About the Book

Rooftop Gardening Techniques for Food, Environment, Biodiversity and Aesthetics in Urban – This book covers how to organically recycle waste, vermicomposting techniques, crop production, polytunnel and greenhouse construction and control irrigation technology. The detailed information on cultivation, nutrition, propagation, and multiplication of various types of plants are also covered. The advantages of rooftop gardening on education, the environment, biodiversity, and aesthetics are elaborated on. This book is intended to be a guide and can be of much use to city dwellers and home gardeners (especially those with ample free time), and hope it is of much assistance. Organic vegetation, usually rare in urban markets, can now be grown easily on a rooftop. The rooftops of both private and public buildings, hospitals, retail outlets and office buildings can be bought for the purpose of rooftop gardening. This book is dedicated to the subject, so that we can easily and cost-effectively create more green roofs in urban areas

Contents

About the Author(s)

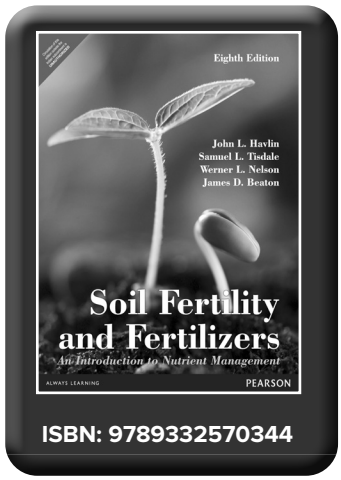
Mr. Bijoy Chandra Ghosh is a retired professor from Indian Institute of Technology, Kharagpur, with a long career of research in the academic field of agriculture. The rooftop gardening book reflects on his own contributions and experiences. Professor. Ghosh has tried to explore the conditions and factors affecting various types of crops being grown on rooftops, taking all problems into consideration, and attempting to find solutions. He has especially focused on the problem of growing organic crops using organic growing medium (vermicompost) for rooftop processes. The benefits of rooftop gardening on education, the environment, ecology, food production and wellbeing are well documented. In his credit, a large number of papers have been published in both national and international journals, and he has supervised 18 PhD students. He has also carried out a large number of research projects in the entirety of his academic career. His contributions in the areas of organic farming, vermicompost technologies, tea cultivation and commercialisation, rooftop technologies and crop diversification have had impacts in the world of agriculture. He has visited many countries, in order to both gain and share knowledge, and has significant experience and expertise in the field of agriculture.

Dr Debajyoti Chakrabarty, PhD, WBES, has throughout an excellent academic career. He was awarded the Indian National Scholarship, and Junior Research Fellowship from CSIR for his academic achievement, and obtained his PhD degree from the University of Kalyani, and his specialization is in Fisheries Science. After completion of Junior Research Fellowship he joined West Bengal Education Service as a lecturer in Zoology at PG Department of Zoology, Darjeeling Government College in 1990, then he has served PG Department of Zoology in Krishnanagar Government College, PG Department of Zoology, Barasat Government College and in later two institutions he was Head of the Department. Now he is serving in the Department of Zoology in GGDC, Singur as HOD. He is serving for more than 30years in West Bengal Education Service and has a research experience of more than 33 years. He successfully guided two students for PhD degrees and one student for MPhil degree. He has successfully completed two minor research projects funded by University Grants Commission as principal investigator. He has produced more than 31 research papers, a few books, chapters in National and International books and journals. He remained editor of two research journals. Beside his academic pursuits he has advisory in Fish Seed Supply, Fish Disease Prevention and Treatment, Fish medicine, Sustainable Development of Fisheries, Cage Culture, Bottom Clean, Biofloc, Conventional Culture, Fish Feed Making, Fish Feed Selling, Table size Fish Marketing and many other spheres of fisheries science

Soil Fertility and Fertilizers, 8/e

John L. Havlin, Samuel L. Tisdale, Werner L. Nelson and James D. Beaton

Pages: 536 Year: 2016



ISBN: 9789332570344

About the Book

Soil Fertility and Fertilizers: An Introduction to Nutrient Management, Eighth Edition, provides a thorough understanding of the biological, chemical, and physical properties affecting soil fertility and plant nutrition. Covering all aspects of nutrient management for profitable crop production, the text pays particular attention to minimizing the environmental impact of soil and fertilizer management. The eighth edition of this proven text has been substantially revised to reflect rapidly advancing knowledge and technologies in both plant nutrition and nutrient management.

Features

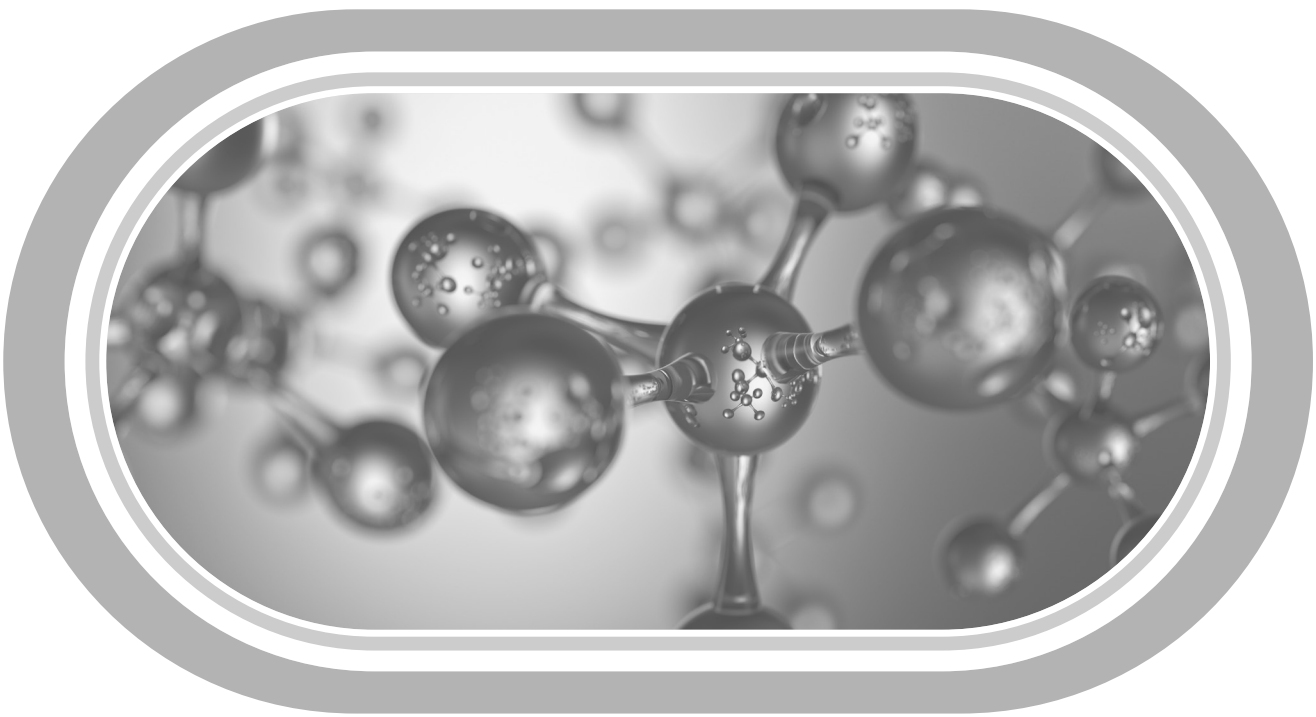
- Illustrates critical quantitative skills essential to professional success in nutrient management and related disciplines.
- Increased number of photographs, diagrams, and other visuals illustrating nutrient response in crops, soil management effects on crop growth, nutrient application equipment, and more.
- Covers a wide diversity of plants and cropping systems.
- Increased emphasis on alternative nutrient sources to the most common fertilizers.
- Substantially enhanced focus on environmental impacts of nutrient use.

Contents

About the Author(s)

John L. Havlin, North Carolina State University
Samuel L. Tisdale
Werner L. Nelson, North Carolina State University
James D. Beaton, Potash and Phosphate Institute of Canada

BIOLOGY

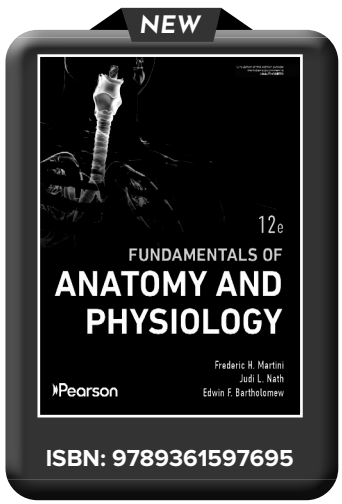


Fundamentals of Anatomy and Physiology, 12ed

Frederic H. Martini, Judi L. Nath and Edwin F. Bartholomew

Pages: 1284 Year: 2025

EXCLUSIVE



About the Book

Fundamentals of Anatomy & Physiology addresses the needs of today's A&P students with an easy-to-understand narrative, precise visuals and steadfast accuracy. The authors incorporate research that explores how students use and process visual information, guiding them through complex figures to deconstruct and better understand complicated processes. The 12th Edition features thoroughly updated content and enhanced art and figures to provide the most recent research and to support student learning. An extensive diversity, equity and inclusion review ensures the content reflects the experiences of all students.

Features

- Side-by-Side Figures provide multiple views of the same structure, pairing an illustration with a cadaver photo and comparing a drawing to an actual photo from the laboratory or operating room.
- Step-by-Step Figures show multifaceted processes as step-by-step illustrations that follow the narrative descriptions.
- Macro-to-Micro Figures bridge the gap between familiar and unfamiliar structures of the body, sequencing anatomical views from whole organs or structures to their smaller parts.
- Build Your Knowledge Figures show how each body system influences others and how all body systems work together to maintain homeostasis
- Clinical Cases open the chapter with a story-based case and conclude with a Clinical Case Wrap-Up that incorporates knowledge gained from the chapter.

Contents

UNIT 5: ENVIRONMENTAL EXCHANGE

23. The Respiratory System
24. The Digestive System
25. Metabolism, Nutrition and Energetics
26. The Urinary System
27. Fluid, Electrolyte and Acid-Base Balance

UNIT 6: CONTINUITY OF LIFE

28. The Reproductive System
29. Development and Inheritance

About the Author(s)

Frederic H Martini, University of Hawaii
Judi L. Nath, Lourdes University
Edwin F. Bartholomew, Lahainaluna High School.

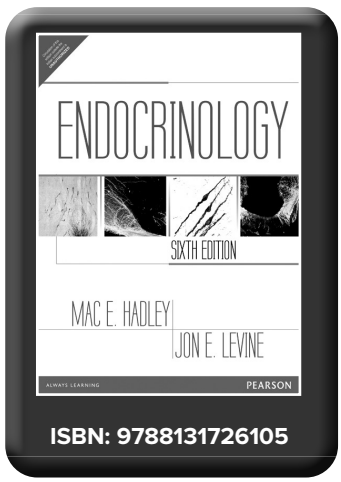
Endocrinology, 6/e

Mac E. Hadley and Jonathan Levine

Pages: 608 Year: 2009

POD

Web Supplements



ISBN: 9788131726105

About the Book

Appropriate for one-semester junior-graduate level courses in medicine, dentistry, pharmacology, nutrition, nursing and other related medical or animal sciences where endocrinology is the focus. Hadley provides comprehensive coverage of endocrinology, centralizing on the critical roles of glands, hormones, receptors, and molecular signaling pathways in the control of physiological processes. This up-to-date Sixth Edition reviews the basic concepts, research methodologies, and the "state-of-the-art" scientific understanding of each of the major endocrine systems, in examples designed specifically for premedical and related professional courses.

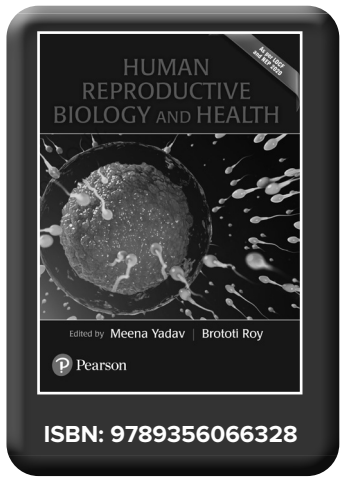
Features

- Emphasizes that all aspects of hormone function – synthesis, secretion, delivery, action and disposal – are of great physiological significance.
- Special reference to the roles of chemical messengers in the control of homeostatic systems—In the overall discussion of homeostasis.
- Coverage of the most recent molecular, genetic, and physiological—As well as the more classical methodologies.
- Traces the evolution of hormone structure—In relation to the comparative endocrinology of neurohypophysial hormones.

Human Reproductive Biology and Health

Meena Yadav and Brototi Roy

Pages: 568 Year: 2023



ISBN: 9789356066328

About the Book

This book covers various aspects of reproductive biology, such as reproductive endocrinology, anatomy and histology of male and female reproductive systems, physiology of male and female reproduction and associated events such as puberty and menopause, fertilization, and post-fertilization events. The disorders and diseases associated with the sexual differentiation and reproductive system have also been discussed. This textbook on Human reproductive biology and health is authored by subject matter experts who are teaching reproductive biology at the undergraduate and postgraduate levels at the University of Delhi as well as other premier universities in India. Lucid explanations combined with technical accuracy make this book an invaluable asset for students as well as those preparing for professional exams.

Features

- Elucidates different processes in reproduction starting from germ cell formation to fertilization and consequent pregnancy, parturition, and lactation.
- Discusses the interplay of various hormones in the functioning and regulation of the male and female reproductive systems.
- Covers causes, diagnosis, and management of infertility, including latest methods, technologies, and infrastructure in assisted reproduction.
- Presents the modern methods in contraception and their use in family planning strategies.
- Includes chapters on population growth and reproductive health and family welfare in India

Contents

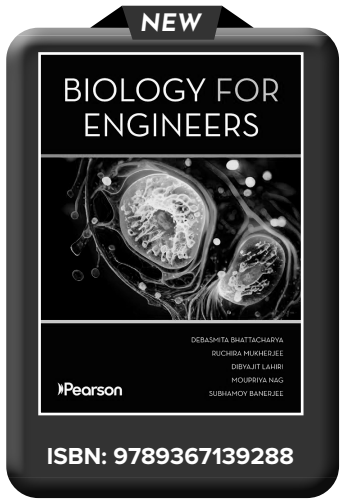
About the Author(s)

Meena Yadav, Associate Professor,Department of Zoology, Maitreyi College, University of Delhi, Delhi.
Brototi Roy, Associate Professor, Department of Zoology, Maitreyi College, University of Delhi, Delhi

Biology for Engineers

Debasmita Bhattacharya | Ruchira Mukherjee | Dibyajit Lahiri | Moupriya Nag | Subhamoy Banerjee

Pages: 572 Year: 2025



About the Book

Biology for Engineers bridges the gap between life sciences and engineering, offering a comprehensive yet accessible introduction to biological concepts tailored for engineering students. It demystifies the living world through an engineering lens—empowering students to understand, apply, and innovate at the interface of biology and technology. This book not only teaches biology fundamentals but also connects them directly to real-world engineering applications in medicine, energy, environment, and more.

Features

- Engineered for Engineers: Concepts are explained using engineering analogies and language, making biology relevant and practical for engineering disciplines.
- Application-Focused Approach: Covers biomedical instrumentation, bioinformatics, biosensors, and biotechnological innovations like nanobiotech and regenerative medicine.
- Comprehensive Curriculum: From cell biology and genetics to metabolism, microbiology, and disease biology—aligned with Bloom's Taxonomy to promote higher-order thinking
- Innovation-Driven Perspective: Encourages cross-disciplinary thinking to inspire future engineers to solve real-world problems using biological insights.
- Excellent Pedagogy: Includes 150+ illustrations, 450+ review questions, chapter-end summaries (At a Glance), and real-life applications (Implications in Engineering).

Contents

About the Author(s)

Dr. Debasmita Bhattacharya, Professor, Department of Basic Science and Humanities, Institute of Engineering and Management, Kolkata

Dr. Ruchira Mukherjee, Professor, Department of Basic Science and Humanities, Institute of Engineering and Management, Kolkata

Dr. Dibyajit Lahiri, Associate Professor, Department of Biotechnology, University of Engineering and Management, Kolkata

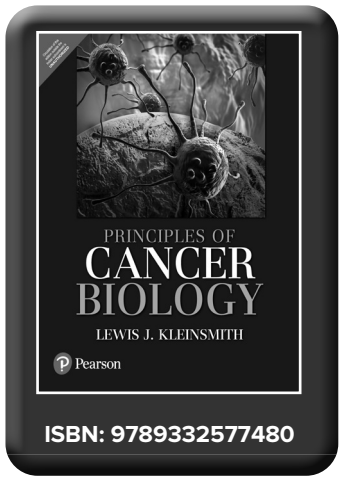
Dr. Moupriya Nag, Associate Professor, Department of Biotechnology, University of Engineering and Management, Kolkata

Dr. Subhamoy Banerjee, Associate Professor, Department of Basic Science and Humanities, Institute of Engineering and Management, Kolkata

Principles of Cancer Biology

Lewis J. Kleinsmith

Pages: 320 Year: 2016



ISBN: 9789332577480

About the Book

Principles of Cancer Biology, is an engaging book focused on providing students with a "big picture" view of cancer. Author Lewis Kleinsmith has written an instructional text focusing on key concepts for both students and a general audience. For those instructors who wish to delve into particular aspects of cancer biology in greater depth, each chapter contains a list of suggested readings that expand the detail as needed.

The text also emphasizes the scientific evidence that underlies cancer biology, and teaches students to think critically about this evidence- as there are constantly new "breakthroughs" and reports in this field. For students who need the review, there are brief reviews of several topics related to DNA replication and repair, cell division, cell signaling, and inheritance patterns in chapters where these subjects are relevant. By including these reviews, the text is both accessible and engaging to a broad audience of readers who are studying cancer biology for the first time, as well as an interested general audience.

Features

- Focus on the key concepts to help build a foundation for further study.
- Scientifically based. The text teaches students how to read and critically evaluate the current research.
- Every chapter is subdivided into a series of conceptual sections, each introduced by a Sentence Heading that summarizes the Principle being described in that section.
- Art that Teaches. Each piece of art in the text has been carefully considered to ensure that readers can easily absorb the data.
- A bulleted Summary of Main Concepts is found at the end of each chapter helping students review the major principles covered in that chapter.
- Suggested Reading lists are included at the end of each chapter with an emphasis on review articles and carefully selected research publications that students are likely to find especially relevant and understandable.

Contents

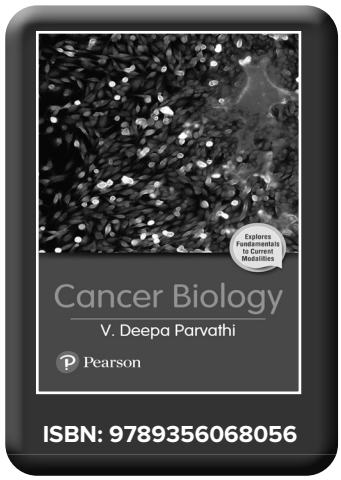
About the Author

Lewis J. Kleinsmith, University of Michigan

Cancer Biology

V Deepa Parvathi

Pages: 256 Year: 2023



About the Book

This book on Cancer Biology is structured to build basic concepts in Neoplasia. Spread across seven chapters, the book provides a detailed description of the basics of cancer along with the molecular machinery, etiology and pathogenesis, cell signalling, hallmarks of cancer, cancer stem cells, animal models used for research, novel therapeutic approaches, case studies, clinical trials, and counselling. Additionally, review questions have been included to help the leaners reflect their understanding.

Features

- Explains the core concepts using appropriate coloured illustrations and tables to concise voluminous data to help the reader comprehend the information.
- Includes case studies, clinical trials, and research on animal models to better understand the clinical aspects of cancer.
- Exclusive information on cancer stem cells provides students with an added advantage in regarding the differentiation potential, self-renewal, tumorigenic potential, and malignancy of cancer cells.

Contents

About the Author

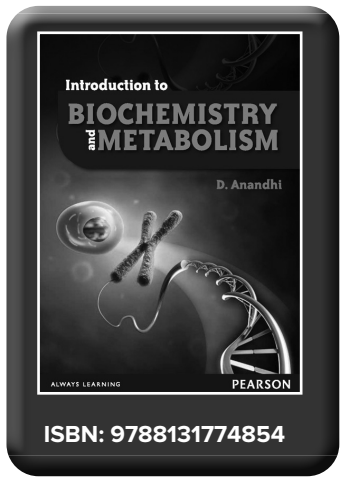
V Deepa Parvathi is currently an Associate Professor at the Department of Biomedical Sciences, Sri Ramachandra Institute of Higher Education and Research (Deemed to be university), Chennai, India.

BIOTECHNOLOGY

Introduction to Biochemistry and Metabolism

D Anandhi

Pages: 416 Year: 2014



ISBN: 9788131774854

About the Book

Designed as per the UGC curriculum, Introduction to Biochemistry and Metabolism meets the syllabus requirements of all universities offering a course on biochemistry and metabolism. The subject, a core paper for the students of botany, zoology, biotechnology and bioinformatics, is dealt with in detail across 13 chapters with emphasis on the metabolism of amino acids, carbohydrates, lipids and high energy compounds. Replete with illustrations and schematic representations, the book reinforces theoretical concepts with its concise, easy-to-follow approach making it an ideal textbook on the subject.

Features

- Comprehensive coverage of free radicals, antioxidation and proteins.
- Focus on enzymes, fatty acids and their metabolic activities.
- Elucidation of the detoxification mechanism.
- Disseminates information on diseases caused due to enzyme deficiencies.
- 150 illustrations and schematics to help readers understand how biochemical reactions and metabolic pathways work
- Includes laboratory techniques for qualitative and quantitative lipid analysis and estimation of proteins in food samples.

Contents

About the Author

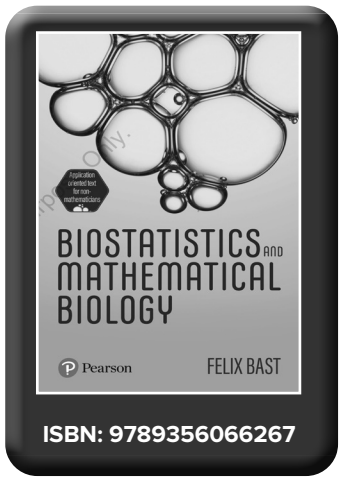
D Anandhi is from the department of biochemistry, D G Vaishnav College, Chennai.

Biostatistics and Mathematical Biology

Felix Bast

Pages: 372 Year: 2023

E-Book



ISBN: 9789356066267

About the Book

A comprehensive textbook of biostatistics targeted at non-mathematicians at an advanced bachelor level and above.

The book sequentially covers basic mathematics topics essential for biologists, such as scientific methodology, levels of measurement, and explores more advanced concepts, including Bayes Theorem and Non-linear regression, thereby complying with the biostatistics syllabus of various universities as well as competitive examinations. This application oriented book focuses on the decision-making process during statistical tests and graphing, which test/graph to use, how much would be the minimum sample size, how to interpret the results, and so on. Authored by Prof. Felix Bast, whose course in UGC SWAYAM, "Biostatistics and Mathematical Biology" had been ranked the 7th best MOOC worldwide in 2020".

Features

- Concise yet comprehensive textbook on the fundamental concepts of statistics.
- Focused on choosing the correct statistical test and interpreting the results.
- Non-mathematical approach; suitable for biologists and medical students.
- Clear-cut recommendations for various statistical tests and their variations.

Contents

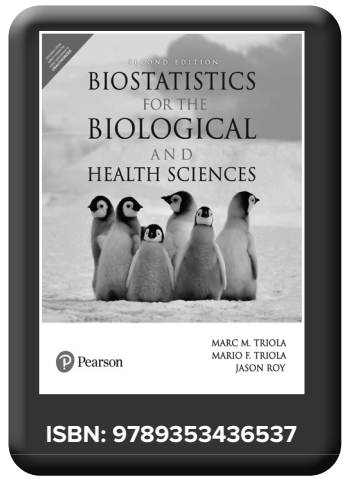
About the Author

Prof. Felix Bast is an award-winning Indian Science Communicator and a public educator working currently as a full Professor at Central University of Punjab, India. He is an expert panelist of Paris-based International Science Council, an elected fellow of Linnean Society of London, and a member of IUCN, Geneva. He holds Ph.D. in Marine Biology from MEXT, Japan (alumnus of Monbukagakusho:MEXT Japanese Govt. international doctoral fellowship), and served as expedition scientist in Indian Antarctic Mission.

Biostatistics for the Biological and Health Sciences, 2/e

Marc M Triola, Mario F Triola and Jason Roy

Pages: 728 Year: 2020



ISBN: 9789353436537

About the Book

Biostatistics for the Biological and Health Sciences uses a variety of real-world applications to bring statistical theories and methods to life. Through these examples and a friendly writing style, the **2nd Edition** ensures that students understand concepts and develop skills in critical thinking, technology, and communication. The result of collaboration between two biological sciences experts and the author of the #1 statistics book in the US, this text provides an excellent introduction to statistics for students studying the biological, life, medical, and health sciences.

Features

- **Latest and best methods** used by professional statisticians are incorporated.
- **New examples, exercises, and Chapter Problems** provide relevant and interesting real-world statistical applications, including biometric security, self-driving cars, smartphone data speeds, and the use of drones for delivery.
  - **More than 1,600 exercises** are included in the text, and nearly 85% are brand new!
  - **More than 200 examples** are scattered throughout the book, and almost 85% are new!
- **EXPANDED! Larger data sets** give students a more comprehensive look at concepts.
- **UPDATED! Real Data Sets:** 89% of the exercises in the text use real data, and 87% of the examples feature real statistics.
- **Easy-to-assign exercises** are graded by difficulty, and exercises that are particularly difficult or involve a new concept appear at the end of exercise sets and are marked by an asterisk, making it easy for instructors to assign homework.
- **Statistical Software:** SPSS, SAS, STATDISK, MINITAB, Excel, and TI-83/84 Plus output appear throughout the text.

Contents

About the Author

Marc Triola, MD, FACP is the Associate Dean for Educational Informatics at NYU School of Medicine, the founding director of the NYU Langone Medical Center Institute for Innovations in Medical Education (IIME), and an Associate Professor of Medicine.

Mario F. Triola is a Professor Emeritus of Mathematics at Dutchess Community College, where he has taught statistics for over 30 years. Marty designed the original Statdisk statistical software, and he has written several manuals and workbooks for technology supporting statistics education.

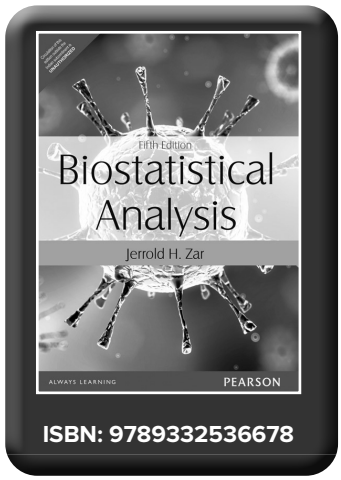
Jason Roy, PhD, is Associate Professor of Biostatistics in the Department of Biostatistics and Epidemiology, Perelman School of Medicine, University of Pennsylvania.

Biostatistical Analysis, 5/e

Jerrold H. Zar

Pages: 760 **Year: 2014**

E-Book



ISBN: 9789332536678

About the Book

Zar's ***Biostatistical Analysis, Fifth Edition,*** is the ideal textbook for graduate and undergraduate students seeking practical coverage of statistical analysis methods used by researchers to collect, summarize, analyze and draw conclusions from biological research. The latest edition of this best-selling textbook is both comprehensive and easy to read. It is suitable as an introduction for beginning students and as a comprehensive reference book for biological researchers and for advanced students.

This book is appropriate for a one- or two-semester, junior or graduate-level course in biostatistics, biometry, quantitative biology, or statistics, and assumes a prerequisite of algebra.

Features

- A broad collection of data-analysis procedures and techniques are presented, covering a wide variety of biological research, such as physiology, genetics, ecology, behavior, morphology.
- The most comprehensive treatment available includes coverage of the basics of statistical analysis, and also the following topics rarely or never found in statistics books for biologists:
  - Diversity
  - Polynomial regression
  - Multidimensional contingency tables
  - Stepwise regression
  - Nonparametric multiple comparisons
  - Higher order factorial analyses of variance
  - Circular distributions
  - Power and sample size determinations.
- An orderly organization and presentation of topics, with cross-referencing as appropriate.
- The readable and accessible approach allows students with no previous statistical background or mathematical expertise beyond simple algebra to understand the material presented.
- The thoughtful presentation encourages students to think about the value of each statistical technique, as opposed to merely plugging numbers into formulae.
- The exposition considers complex procedures such as factorial analysis of variance and multiple regression in terms of the interpretation of typical computer output.
- A wealth of graphs and other figures are integrated to visually support concepts under discussion.
- A uniquely comprehensive set of statistical tables–more than 40 in all–facilitates statistical analyses without having to consult a separate book. This includes tables that are unique to this book.
- Worked examples for all major procedures guide readers step-by-step through the techniques, demonstrating each of the important concepts.
- An extensive bibliography directs readers to further relevant literature.

Contents

About the Author

Jerrold H. Zar received his undergraduate degree in Biological Sciences from Northern Illinois University in 1962. He later earned his M.S. and Ph.D. degrees in biology and zoology from the University of Illinois at Urbana-Champaign. Zar then returned to Northern Illinois University for 34 years to serve in a variety of capacities. He joined the faculty at NIU as an Assistant Professor in 1968 and quickly rose through the ranks of associate and full professor to become Chair of the Department of Biological Sciences in 1978. He served two terms as Chair of the Department and then, became the Vice Provost for Graduate Studies and Research and Dean of the Graduate School. He was a founder of the Illinois Minority Graduate Incentive Program and the Illinois Consortium for Educational Opportunities Program, where he helped create and protect fellowship opportunities for minority graduate students at universities across the state. Zar is a member of 17 professional scientific societies, including being an elected fellow of the American Association for the Advancement of Science. His many research publications cover a range of topics, from statistical analysis to physiological adaptations of animals to their environment.

Introductory Biotechnology

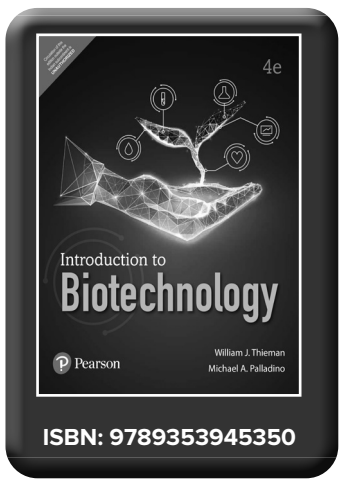
Introduction to Biotechnology, 4/e

William J. Thieman, Michael A. Palladino

Pages: 448 Year: 2021

E-Book

Web Supplements



ISBN: 9789353945350

About the Book

Introduction to Biotechnology brings the latest information and emphasizes the future of biotechnology and the biotechnology student's role with balanced coverage of basic cell and molecular biology, fundamental techniques, historical accounts, new advances, and hands-on applications. The 4th Edition features content updates in every chapter that reflect the most relevant, up-to-date changes in technology, applications, ethical issues, and regulations. Additionally, every chapter now includes an analytic Case Study that highlights current research and asks students to use what they've learned about key chapter concepts to answer questions.

Features

- Coverage of recent research and developments includes discussions of gene editing approaches like CRISPR, precision medicine, immunotherapies, biosimilar drugs, transgenic crops, 3D bioprinting of tissues and organs, the Human Microbiome Project, and the Cancer Atlas Genome Project.
- Tools of the Trade Boxes provide details on modern techniques and methods related to each chapter's content and the biotech industry.
- Making a Difference inspires and engages students by discussing how real people, real companies, and real organizations are putting biotech to use to improve the quality of life.
- Forecasting the Future begins each chapter and highlights biotechnology-driven questions that have yet to be answered, are in the process of being researched, or are topics/research/policy that are under development and will have an impact on our future.
- 18 New - "You Decide" activities provide expanded coverage of ethics based on contemporary ethical issues. Thirty-seven "You Decide" boxes, integrated across all chapters, stimulate ethical discussion by giving students information relating to the social and ethical implications of biotechnology and regulations and asking students to grapple with open-ended questions.

Contents

About the Author(s)

William J. Thieman taught biology at Ventura College for 40 years and biotechnology for 11 years before retiring from full time teaching in 2005. He continues to serve as an advisor to the college biotechnology program. He received his B.A. in biology from California State University at Northridge in 1966 and his M.A. degree in Zoology in 1969 at UCLA. In 1995, he started the biotechnology program at Ventura College. In 1998, he added the laboratory skills course, and it was articulated as a state-approved vocational program. He identified technical skills needed for the program while serving three summer internships at Amgen, Biosource (now Invotrogen) and Biopool. The internships provided an opportunity to learn protocols, interact with lab directors, and query technicians, focusing on identifying the skills needed in these biotechnology companies. He routinely engaged his contacts at these biotechnology companies to lead lab protocols and describe their experiences to his classes.

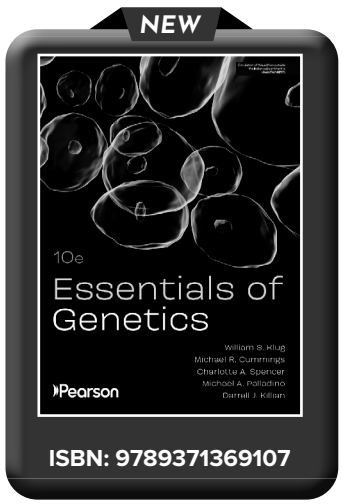
Michael A. Palladino is Vice Provost for Graduate Studies, former Dean of the School of Science and Professor of Biology at Monmouth University in West Long Branch, New Jersey. He received his B.S. degree in Biology from Trenton State College (now known as The College of New Jersey) in 1987 and his Ph.D. in Anatomy and Cell Biology from the University of Virginia in 1994.

Essentials of Genetics, 10e

William S Klug, Michael Cummings,
Charlotte A. Spencer and Michael A Palladino

Pages: 608 Year: 2025

EXCLUSIVE



About the Book

Known for its focus on conceptual understanding, problem solving, and practical applications, the bestselling Essentials of Genetics strengthens problem-solving skills and explores the essential genetics topics that today's students need to understand. The 10th Edition has been extensively updated to provide comprehensive coverage of important, emerging topics such as CRISPR-Cas, epigenetics, and genetic testing. Additionally, a new Special Topics chapter covers Advances in Neurogenetics with a focus on Huntington Disease, and new essays on Genetics, Ethics, and Society emphasize ethical considerations that genetics is bringing into everyday life.

Features

- A Concept Question in the Problems and Discussion Questions asks students to review and comment on common aspects of the Key Concepts at the beginning of each chapter.
- How Do We Know? questions ask students to identify the experimental basis underlying important concepts and conclusions.
- Evolving Concept of the Gene is a short feature in appropriate chapters that highlights how scientists' understanding of what a gene is has changed over time.
- Exploring Genomics boxes help students apply genetics to modern techniques such as genomics, bioinformatics and proteomics.
- Now Solve This Problems test student knowledge and include a hint and a brief answer in the appendix.
- Essential Points draw student attention to key issues and concepts to identify important information.

Contents

About the Author(s)

William S Klug, The College of New Jersey

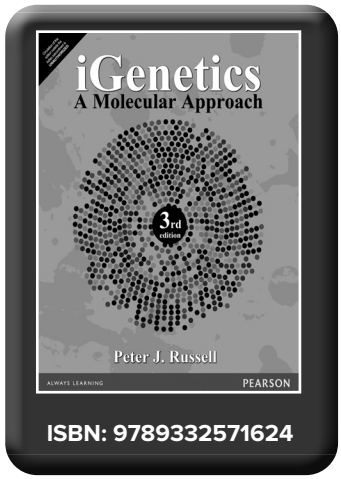
Michael Cummings and Charlotte A. Spencer, University of Alberta

Michael A Palladino, Stockton University

iGenetics: A Molecular Approach, 3/e

Peter J. Russell

Pages: 864 Year: 2016



ISBN: 9789332571624

About the Book

With its modern chapter organization and new "Focus on Genomics" boxes, ***iGenetics: A Molecular Approach*** reflects the increasing molecular emphasis in today's experimental study of genes while helping students develop problem-solving skills and an appreciation for classic experiments. Although molecular topics are presented first, instructors can assign the chapters in any sequence.

Pedagogical features such as chapter-opening "Key Questions" and strategically placed "Keynotes" help students to efficiently master genetic concepts. The Genetics Place Companion Website contains interactive iActivities and narrated animations that help students visualize and understand processes and concepts that are illustrated in the text.

Features

- Modern chapter organization covers all major areas of genetics, balancing molecular and classical aspects to give students an integrated view of genetic principles.
- The text's inquiry-based approach engages students in the process of science.
- Step-by-step examples of problem solving throughout the book represent a wide range of topics and difficulty levels.
- Key Questions, appear at the beginning of each chapter, focus student attention in advance on the major concepts within their reading.
- Keynotes, strategically placed throughout the chapter, summarize important ideas and allow students to check their progress.

Contents

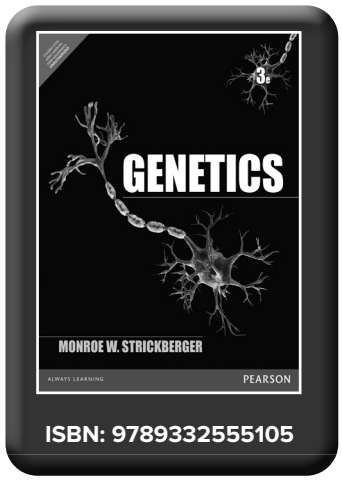
About the Author

Peter J. Russell received his B.Sc. in Biology from the University of Sussex, U.K., in 1968 and his Ph.D. in Genetics from Cornell University in 1972. He then joined the Biology faculty of Reed College in 1972 where he is currently Professor of Biology. Russell teaches an upper-division genetics and molecular biology lecture/laboratory course, the genetics section of the introductory biology course, an advanced seminar course in molecular virology, and advises senior thesis research students. He is also the author of a number of successful biology and genetics textbooks.

Genetics, 3/e

Monroe W. Strickberger

Pages: 864 Year: 2015



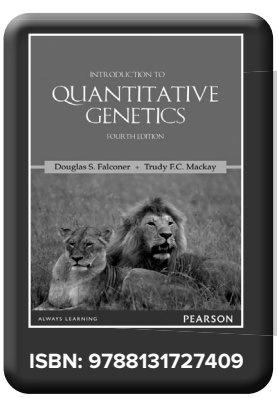
ISBN: 9789332555105

About the Book

Genetics occupies a unique central position among the various biological sciences because of its diverse specializations. This acclaimed book provides the basic theoretical information on genetics, the study of heredity and details some of the experiments and reasoning which yield this information. The book is organized into six parts and deals with the identification, transmission and distribution, arrangement, structure, and function of genetic material. The last part of the book deliberates on the course of genetic material in populations. The comprehensive material is supported by a multitude of illustrations and references and problems in every chapter.

Contents

➦ ALSO AVAILABLE...



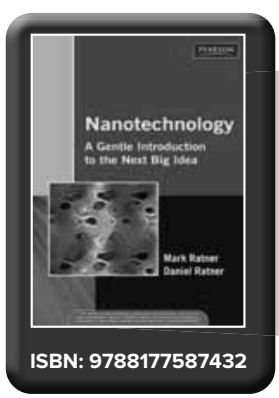
ISBN: 9788131727409

Introduction to Quantitative Genetics, 4/e

Falconer

Pages: 480

POD



ISBN: 9788177587432

Nanotechnology: A Gentle Introduction to the Next Big Idea

Ratner

Pages: 280

POD

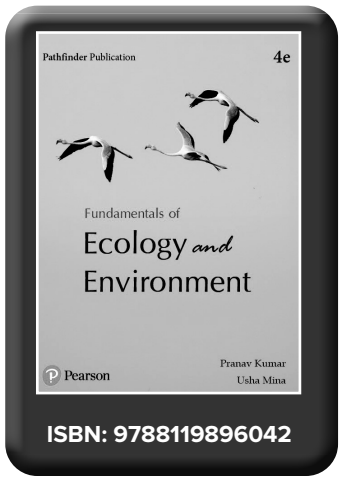
Fundamentals of Ecology and Environment

Pranav Kumar and Usha Mina

2 Colour Edition

E-Book

Pages: 288 **Year: 2024**



ISBN: 9788119896042

About the Book

This book has been conceptualized to promote understanding of ecology's basic principles and concepts rather than memorization of details. Sincere efforts have been made to support textual explanations with the help of flow charts, figures, tables to make learning easy and convincing. We have also focused on improving and updating the artwork in the text. This book has been written primarily for readers beginning their study of ecological sciences at the college level, but the book will also serve as a source of information for those who study is more advanced and for those engaged in the practice of ecological science as a profession.

Features

- Emphasis on fundamentals and principles with expanded coverage of critical topics.
- Facilitation of quick and easy comprehension of the subject matter.
- Clear and simple illustrations that make the content accessible to readers without a strong background in biology or other sciences.
- A structured approach to learning that guides readers through the material in a systematic manner.

Contents

About the Author(s)

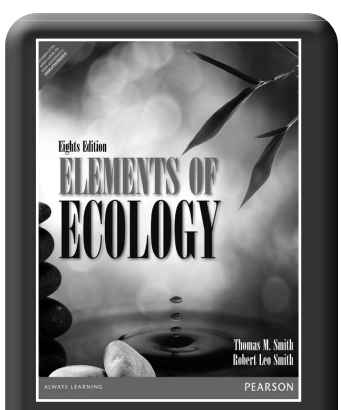
Pranav Kumar, Former faculty, Department of Biotechnology, Jamia Millia Islamia, New Delhi, India
Usha Mina, Professor, School of Environmental Sciences, Jawaharlal Nehru University (JNU), New Delhi, India.

Elements of Ecology, 8/e

Thomas M. Smith and Robert Leo Smith

E-Book

Pages: 688 **Year: 2014**



ISBN: 9789332536692

About the Book

Known for its evolution theme and strong coverage of the relevance of ecology to everyday life and the human impact on ecosystems, the thoroughly revised Eighth Edition features refined quantitative exercises, a restructured chapter on life history, a thoroughly revised species interactions unit including a chapter introducing the subject, and a new chapter on species interactions.

To emphasize the dynamic and experimental nature of ecology, each chapter draws upon current research in the various fields of ecology while providing accessible examples that help students understand species natural history, specific ecosystems, the process of science, and ecological patterns at both an evolutionary and demographic scale.

To engage students in using and interpreting data, a wide variety of Quantifying Ecology boxes walk through step-by-step examples of equations and statistical techniques. The enhanced companion website (www.ecologyplace.com) features new MapMaster™ interactive map activities for exploring ecosystems, physical environments, and populations at regional and global scales, along with popular GRAPHit!, and QUANTIFYit! exercises that help students further master and apply math skills, and a new Pearson eText.

Features

- Interpreting Ecological Data exercises help students test their understanding of graphs and data and to consider different outcomes.
- The Ecology Place companion website is referenced in the text and features new MapMaster interactive map activities for exploring ecosystems, physical environments, and populations at regional and global scales, along with popular GRAPHit!, and QUANTIFYit! exercises that help students further master and apply math skills, and a new Pearson eText. A subscription to the Ecology Place is included with each new copy of the text for no additional charge (www.ecologyplace.com).
- Quantifying Ecology boxes help students develop the quantitative skills they need to interpret ecological data, research, and models. Skills are reinforced by a set of follow-up questions and links to GRAPHit! and QUANTIFYit! on the companion website (www.ecologyplace.com).
- Field Studies discuss ecological research performed by young up-and-coming scientists, and challenge students to interpret the results of the featured research.
- Ecological Issues essays describe how humans influence the study of ecology. For example, the short essay "The Ecology of Antibiotic Resistance" discusses how antibiotic resistance is a result of natural selection. Each essay is followed by a set of critical thinking questions.
- Engaging introductions give students a "big picture" overview of the coming chapters in each of the eight parts of the book, so they can understand how various topics interrelate.
- Landscape Ecology chapter explores the role of disturbance in ecosystems.
- Further Readings at the end of each chapter emphasize how the text is based on real scientific studies. These Further Readings are annotated to explain their relevance to the student/instructor.

Contents

About the Author(s)

Thomas M. Smith, Associate Professor in Environmental Sciences at the University of Virginia, received his Ph.D. in ecology from the University of Tennessee in 1982. The main focus of his research over the past two decades has been to develop an individual based theory of community and ecosystems dynamics. As part of this work he has served on numerous national and international panels that have addressed the potential influence of human activities on the global environment. He has

authored over 70 publications based on his research, and he has been recognized as one of the most cited scientists in the field of global change research.

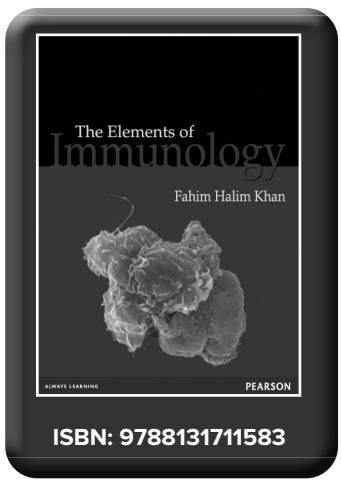
Robert L. Smith holds a Ph.D. in Wildlife Biology from Cornell University. He is Professor Emeritus of Ecology at West Virginia University. He has spent over 30 years teaching Ecology and conducting field research throughout the world. His teaching responsibilities have involved mostly undergraduate courses in general ecology and graduate courses in population ecology and wildlife management. His research has included forest-fire related problems in southern West Virginia, vegetational development and succession on abandoned and reclaimed surface mines, the relation between forest vegetational structure and the forest bird community, and forest habitat assessment and habitat evaluation procedures based on vegetational structure.

Immunology

The Elements of Immunology

Fahim Halim Khan

Pages: 508 **Year: 2009**



About the Book

The Elements of Immunology is designed to introduce readers to the exciting world of immunology, the people who populate it and foster a curiosity to question and know more. The book is supported by a consistent, colourful art programme. The detailed explanation of concepts and terms, and the deconstruction of complex molecular mechanisms into simple, easy-to-remember steps help students focus on the fundamentals without any distractions. Packed with extensive Web-based supplements, the book enables students to visualize concepts, thereby enriching the learning process. The book, comprising twenty chapters, has numerous pedagogical elements built into it. Margin snippets present interesting and relevant information without breaking the flow of the text. Margin definitions highlight the key terms for easy identification and recollection. Each chapter talks about a relevant molecular biology technique, thus providing an insight into the practical aspect of immunology as well. A glossary at the end of the book lists out the important terms used.

Features

- Simple and lucid language explaining core concepts
- Rich pedagogy that facilitates learning
- Colourful and consistent art programme comprising over 300 four-colour illustrations that helps to visualize and comprehend concepts better
- 400 end-of-chapter questions help revise the key concepts
- Discussion of the latest developments in the area of immunology such as MHC haplotype matching for cell transplantation, latest antiretroviral drugs developed against HIV, etc.
- Description of key contributors, researchers and their landmark experiments
- Packed with supplements and media resources
  - Over 30 animations that depict key concepts in three dimensions
  - A question bank containing over 400 questions and clinical case studies along with lecture slides including artwork from the book, as supplements to the text, specifically for the instructors

Contents

9. B-cell Development and Activation
10. Complement System
11. Antigen Processing and Presentation
12. Cell-mediated Immunity
13. Hypersensitivity
14. Cell Migration and Inflammatory Response
15. Immune Response to Infectious Agents
16. Vaccines
17. Transplantation Immunology
18. Cancer and the Immune System
19. Primary and Secondary Immunodeficiencies
20. Autoimmunity and Autoimmune Diseases

About the Author

Fahim Halim Khan Department of Biochemistry, Aligarh Muslim University.

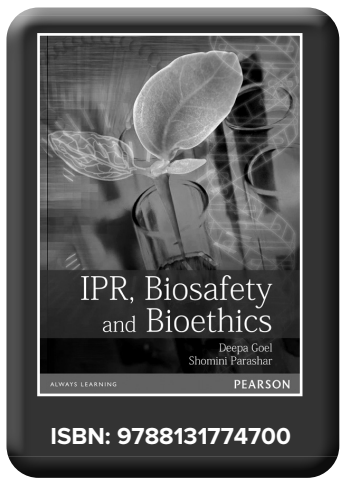
Intellectual Property Rights (Biotech)

IPR, Biosafety and Bioethics

Deepa Goel and Shomini Parashar

Pages: 248 Year: 2013

E-Book POD Web Supplements



ISBN: 9788131774700

About the Book

This book provides a broad coverage of three areas of patenting intellectual property rights (IPR), biosafety and bioethics. It creates awareness about the value of IPR in our lives. The book also fosters a better understanding of the rights associated with IPR such as copyright, patent, trademarks, industrial designs, geographical indications and so on. Biosafety and bioethical issues prevalent in modern society are discussed. The text covers the complete syllabi of all major Indian universities and caters to the needs of Indian students.

Features

- Discusses all aspects of the subject in a simple and lucid manner
- Contains review question and multiple-choice questions for practice
- Provides unmatched pedagogy:
  - 100 review questions
  - 120 multiple-choice questions

Contents

1. Meaning and Justification of Patenting an Invention
2. History and Evolution of Patent Law
3. Classification of Patents
4. Grant of Patent and Patenting Authorities
5. Patent Owner: Rights and Duties
6. Protection of Plant varieties and Farmers' Right Act, 2001
7. Patent law- Present Scenario
8. Introduction to Biosafety
9. GMOs: Concerns and Challenges
10. National and International Regulatory Mechanism for GMO
11. Biosafety of Genetically Engineered Products
12. Allergenecity: Assessment of Genetically Modified food
13. Introduction to Bioethics
14. NGOs for Biosafety and Bioethics
15. Web-based Information of Biosafety on GMO
16. Good Laboratory Biosafety Practices
17. Case Studies in IPR and Biosafety

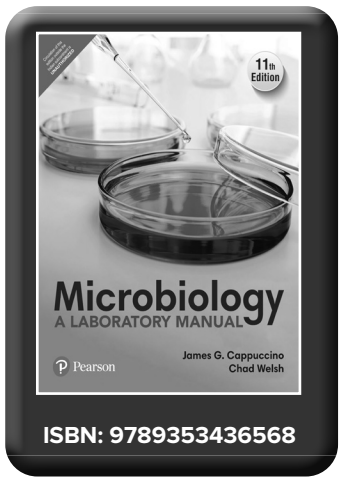
About the Author(s)

Deepa Goel is Assistant Professor at the Department of Biotechnology, IMS Engineering College, Ghaziabad. Her core area of interest is the development of transgenic plants with elite traits.

Shomini Parashar is Assistant Professor at the Department of Biotechnology. IMS Engineering College, Ghaziabad. Her core area of interest is screening of microbes with novel traits that are useful to mankind.

Microbiology: A Laboratory Manual, Global Edition, 11/e

James G. Cappuccino and Chad T. Welsh



ISBN: 9789353436568

Pages: 568 Year: 2023

About the Book

Easy to adapt for almost any microbiology lab course, this versatile, comprehensive, and clearly written manual can be paired with any undergraduate microbiology text. Known for its thorough coverage, straightforward procedures, and minimal equipment requirements, the Eleventh Edition incorporates current safety protocols from governing bodies such as the EPA, ASM, and AOAC. The new edition also includes alternate organisms for experiments for easy customization in Biosafety Level 1 and 2 labs. New lab exercises have been added on Food Safety and revised experiments, and include options for alternate media, making the experiments affordable and accessible to all lab programs. Ample introductory material, engaging clinical applications, and laboratory safety instructions are provided for each experiment along with easy-to-follow procedures and flexible lab reports with review and critical thinking questions.

Features

- A new experiment on the Propagation of Isolated Bacteriophage Cultures has been added that guides students to isolate bacteriophages for genetic manipulation.
- Biosafety Levels (BSLs) have been added to the Eleventh Edition to alert students to appropriate safety techniques.
- Tips for Success appear in select experiments and draw attention to common mistakes and stumbling blocks in the lab.
- Revised experiments include options for alternate media, making the experiments affordable and accessible to all sizes of lab programs. Experiment 60 has been revised to focus on the normal microbiota of human skin and the importance of hand washing.
- Easy-to-adapt Lab Reports include blank spaces or options for “alternate organisms” for easy customization with organisms that are readily available.
- Numerous photographs in full color and illustrations help students visualize techniques and expected results.

Contents

22. Triple Sugar—Iron Agar Test
23. IMViC Test
24. Hydrogen Sulfide Test
25. Urease Test
26. Litmus-Milk Reactions
27. Nitrate Reduction Test
28. Catalase Test
29. Oxidase Test
30. Utilization of Amino Acids
31. Genus Identification of Unknown Bacterial Cultures

Part V The Protozoa

32. Free-Living Protozoa
33. Parasitic Protozoa

Part VI The Fungi

34. Cultivation and Morphology of Molds
35. Yeast Morphology, Cultural Characteristics, and Reproduction
36. Identification of Unknown Fungi

Part VII The Viruses

37. Cultivation and Enumeration of Bacteriophages
38. Isolation of Coliphages from Raw Sewage
39. Propagation of Isolated Bacteriophage Cultures

Part VIII Physical and Chemical Agents for the Control of Microbial Growth

40. Physical Agents of Control: Moist Heat
41. Physical Agents of Control: Electromagnetic Radiations
42. Chemical Agents of Control: Chemotherapeutic Agents
43. Determination of Penicillin Activity in the Presence and Absence of Penicillinase
44. Chemical Agents of Control: Disinfectants and Antiseptics

Part IX Microbiology of Food

45. Microbiological Analysis of Food Products: Bacterial Count
46. Microbial Fermentation

Part X Microbiology of Water

47. Standard Qualitative Analysis of Water
48. Quantitative Analysis of Water: Membrane Filter Method

Part XI Microbiology of Soil

49. Microbial Populations in Soil: Enumeration
50. Isolation of Antibiotic-Producing Microorganisms and Determination of Antimicrobial Spectrum of Isolates
51. Isolation of Pseudomonas Species by Means of the Enrichment Culture Technique

About the Author(s)

James G. Cappuccino SUNY, Rockland Community College

Chad T. Welsh Lindenwood University

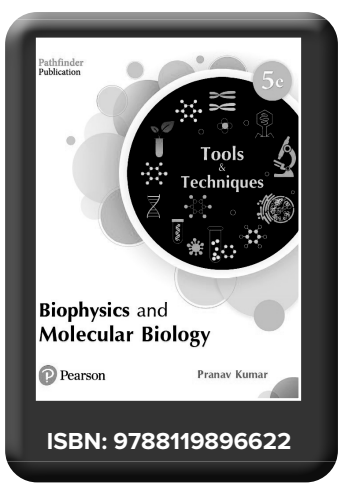
Molecular & Cell Biology

Biophysics and Molecular Biology: Tools and Techniques

Pranav Kumar

4 Colour Edition | Web Supplements | E-Book

Pages: 280 Year: 2024



ISBN: 9788119896622

About the Book

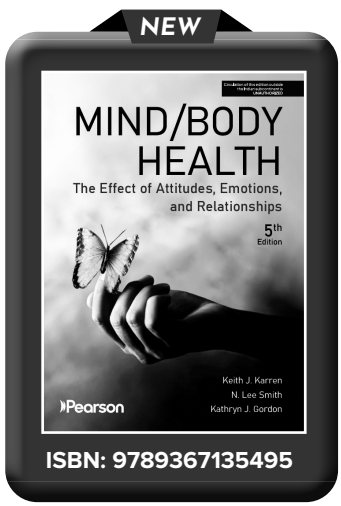
This textbook covers the essential fundamentals and applications of current techniques and methodologies. It is presented in a sharply focused manner, without overwhelming or excessive detail. Each chapter contains information in a systematic and logically organized manner. It is a perfect introductory textbook for any reader needing to learn the basics of the subject, assuming they have little prior knowledge of it. In this revised and updated edition, the focus is on building upon the strengths of the previous editions to present biophysics in an even more precise and streamlined manner. Additionally exciting new advances from the field has been incorporated. Throughout the book, explanations of basic concepts have been updated and strengthened with examples from new research.

Contents

About the Author

Pranav Kumar, Former faculty, Department of Biotechnology, Jamia Millia Islamia, New Delhi, India.

Health Psychology/ Behavioral Health Science



MindBody Health The Effects of Attitudes, Emotions, and Relationships, 5e

Keith J Karren, Lee Smith, Kathryn J. Gordon and Kathryn J. Frandsen

EXCLUSIVE

Pages: 608 Year: 2025

About the Book

Mind/Body Health: The Effects of Attitudes, Emotions, and Relationships (5th edition) by Keith J. Karren, N. Lee Smith, Kathryn J. Gordon is a comprehensive exploration of how psychological and social factors influence physical health. This edition integrates the latest scientific findings to demonstrate that attitudes, emotions, and relationships play a significant role in both the prevention and treatment of disease.

Features

- Interdisciplinary Approach: Integrates psychology, medicine, and social science to examine how mental and emotional states impact physical health and illness prevention.
- Research-Based Insights: Presents up-to-date scientific studies and real-world applications related to stress, psychoneuroimmunology, emotions, and behavioral interventions.
- Holistic Health Focus: Explores the roles of spirituality, nutrition, relationships, and lifestyle choices in promoting overall well-being and mind/body harmony.

Contents

IV. Relationships, Social Support, and Health

11. Social Support, Relationships, and Health
12. Loneliness and Health
13. Marriage and Health
14. Families and Health

V. Spirituality and Health

15. Healing Power of Spirituality, Faith and Religion
16. Healing Power of Altruism
17. Healing Power of Humor and Laughter

VI. The Interventions of Behavioral Medicine

18. Insomnia and Sleep Deprivation: Health Effects and Treatment
19. The Importance of Nutrition to Mind and Body Health
20. Behavioral Medicine Treatment: The Effects of Mind-Body Interventions on Health Outcomes
21. Creating Wellness: Implementing Principles of Resilience

About the Author(s)

Keith J Karren Brigham Young University

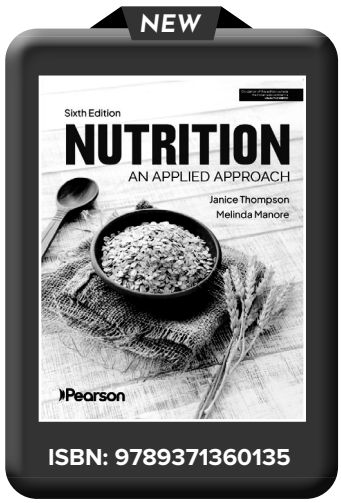
Lee Smith Lifetree Clinical Research & Pain Clinic

Kathryn J. Gordon Novell, Inc.

Kathryn J. Frandsen

Nutrition: An Applied Approach, 6/e

Melinda Manore and Janice Thompson



ISBN: 9789371360135

EXCLUSIVE

Pages: 700 Year: 2025

About the Book

Nutrition: An Applied Approach links nutrition concepts to functional benefits, empowering you to evaluate the nutrition information and decisions you encounter every day. This friendly narrative connects the facts to your circumstances, lifestyle, and goals. Focusing on long-term learning instead of memorization, its key focus areas include functions of vitamins and minerals in the body, fluid and electrolyte balance, antioxidant function, bone health, energy metabolism, and blood health.

Features

- Enhanced DEI Integration: Updated throughout with a Diversity, Equity, and Inclusivity lens, featuring more inclusive language, examples, and visuals.
- Expanded and Updated Content: New and reorganized chapters on Functional Foods, Nutrients for Key Body Functions and Healthy Tissues, and Food Equity & Sustainability.
- Interactive Learning Enhancements: New Critical Thinking and Nutrition Application questions, and links to tested, affordable recipes from Oregon State University's Food Hero program.
- Updated Clinical Coverage: Revised discussions on BMI, energy intake and expenditure, and differences among people of various backgrounds and body types.

Contents

About the Author(s)

Janice Thompson, University of Birmingham

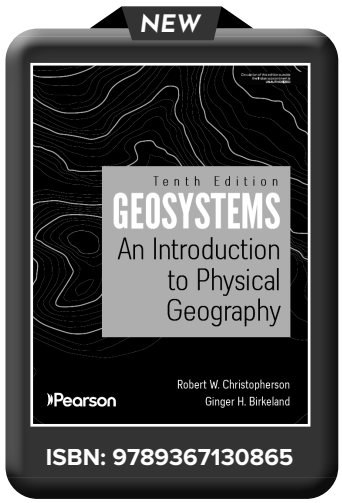
Melinda Manore, Oregon State University

GEOLOGY & EARTH SCIENCE

Geosystems: An Introduction to Physical Geography,10/e

Robert W. Christopherson, and Ginger H. Birkeland

EXCLUSIVE



Pages: 684 Year: 2025

ISBN: 9789367130865

About the Book

Geosystems: An Introduction to Physical Geography is a practical text explaining the essentials of physical geography. The text is organized into 4 sections by Earth systems topics as they naturally occur: atmosphere, hydrosphere, lithosphere and biosphere. Known for meticulous attention to detail and up-to-date accuracy, the text guides you through the principles of physical geography, using real-world applications.

Features

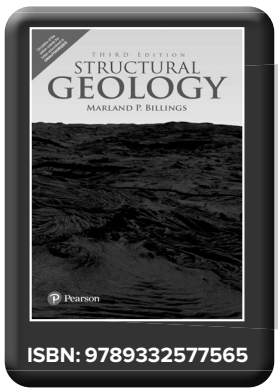
- Includes up-to-date information on climate change, sustainability, and the human impact on Earth systems.
- Provides case studies and real-world examples help relate physical geography to contemporary environmental issues.
- Offers student-centered pedagogy and exceptional visuals designed to reinforce key concepts and enhance spatial understanding.

Contents

About the Author(s)

Robert W. Christopherson attended California State University-Chico for his undergraduate work and received his Masters in Geography from Miami University-Oxford, Ohio He founded the geography program of American River College faculty. His wife Bobbé is his principal photographer and has provided more than 300 exclusive photos for each of his books.

Ginger H. Birkeland received her undergraduate degree from the University of Colorado, Boulder, and her M.A. and PhD in Geography from Arizona State University, with a focus in fluvial geomorphology. She taught physical geography at Montana State University and summer field courses at the Indiana University Geologic Field Station in Montana.



ISBN: 9789332577565

Structural Geology, 3/e

Billings

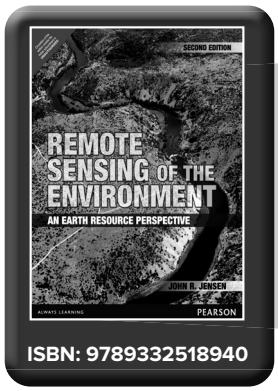
Pages: 624

ISBN: 9789332555242

General Climatology, 4/e

Critchfield

Pages: 464

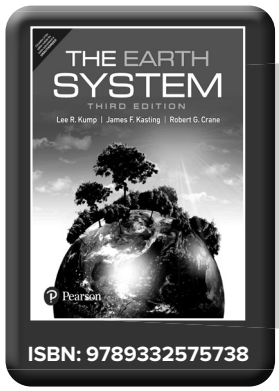


ISBN: 9789332518940

Remote Sensing of the Environment: An Earth Resource Perspective, 2/e

Jensen

Pages: 618

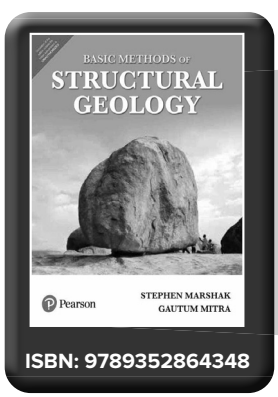


ISBN: 9789332575738

The Earth System, 3/e

Kump

Pages: 472



ISBN: 9789352864348

Basic Methods of Structural Geology

Marshak

Pages: 464

Mineralogy

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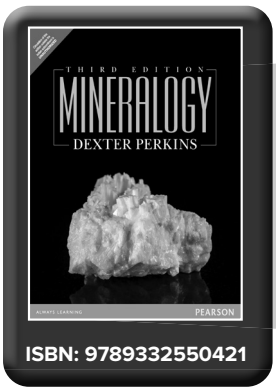


Mineralogy, 3/e

Perkins

Pages: 453

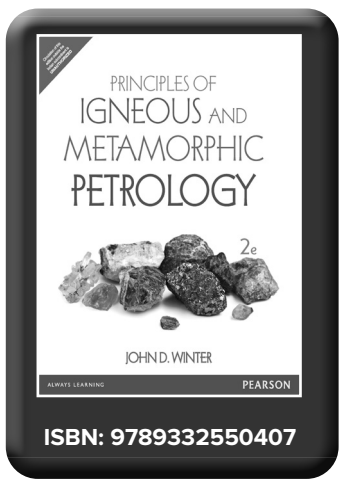
E-Book

ISBN: 9789332550421

Petrology

Principles of Igneous and Metamorphic Petrology, 2/e

John D. Winter



ISBN: 9789332550407

Pages: 560 **Year: 2015**

About the Book

Typical texts on igneous and metamorphic petrology are geared to either advanced or novice petrology students. This unique text offers comprehensive, up-to-date coverage of both igneous and metamorphic petrology in a single volume—and provides the quantitative and technical background required to critically evaluate igneous and metamorphic phenomena in a way that students at all levels can understand. The goal throughout is for students to be able to apply the techniques—and enjoy the insights of the results—rather than tinker with theory and develop everything from first principles.

Features

- A balanced presentation limits the theory to the extent that students can practice it on real occurrences—without such excessive detail that the course becomes more like chemistry than geology.
- A survey of actual occurrences of igneous and metamorphic rocks, and processes that produce them, is provided. This section is often greatly condensed in most other texts, but it is the most interesting and dynamic aspect of petrology.
- A techniques/occurrences approach for both igneous and metamorphic rocks that first presents the techniques, then applies them to assess a field area, and then expands the techniques as necessary if the field examples call for it.
- A comprehensive section on petrogenesis, particularly igneous petrogenesis, covers important igneous petrogenetic associations
- An accessible approach to mathematics, chemistry, and physics requires only a working knowledge of algebra; calculus is occasionally discussed, but is not required. Chemical and physical principles are presented early on, and at a level that is comprehensible and accessible.

- Worked examples, problems, and computer-related problems, found at the end of many chapters, carefully integrate a number of problems and computer programs
- Spreadsheets are used extensively in worked examples and problems. Spreadsheets, data files, and other programs
- Approximately 350 figures and tables are provided.

Contents

About the Author

John D. Winter did his undergraduate work in geology at the University of Illinois at Urbana, and earned his M.S. and Ph.D. at the University of Washington in Seattle. Now Professor of Geology at Whitman College in Walla Walla, Washington, his principal fields of interest are in metamorphic petrology, mineralogy and crystallography, and geochemistry. He has spent several summers in Greenland, a summer in Labrador, and another in Norway, where he studied processes that take place during the formation and subsequent development of the ancient deep continental crust. He is also working on contact metamorphism in the Wallowa Mountains of NE Oregon. Briefly, he also worked as an exploration geologist in New Guinea.

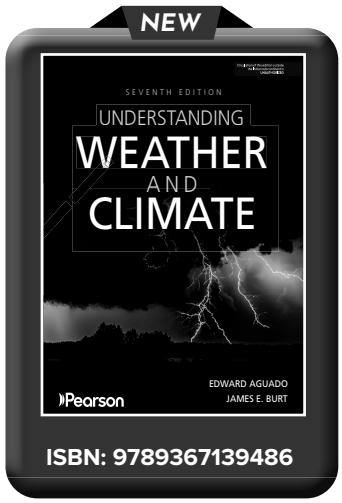
Professor Winter teaches Mineralogy, Igneous and Metamorphic Petrology, Introductory Geology, Environmental Geology, and Geochemistry. Outside the classroom, his interests include travel, mountaineering, hiking, mountain biking, and telemark skiing.

Understanding Weather and Climate, 7/e

Edward Aguado and James E. Burt

Pages: 596 Year: 2025

EXCLUSIVE



ISBN: 9789367139486

About the Book

Understanding Weather and Climate delves in understanding atmospheric processes and patterns, illustrating meteorology and climatology in everyday occurrences. The text focuses on the human aspect of weather and climate, covers high interest weather-related hazards, and features the latest science and relevant issues. This edition extends coverage of global climate change with new sections emphasizing the role of oceans on the climate in the Earth system, incorporating the latest climate change science and leveraging the findings of the IPCC 5th Assessment Report.

Features

- Includes special sections on Environment and Societal Impacts, Aviation, and Severe Weather, linking meteorological concepts to real-world challenges and policy.
- Presents case studies discussing the broader human issues and mitigation policies and strategies.
- Provides forecasting features showing how chapter principles apply in practice, offering practical tools and rules of thumb for making basic forecasts.

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About the Author(s)

Edward Aguado, San Diego State University

James E. Burt, University of Wisconsin - Madison

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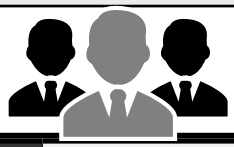

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