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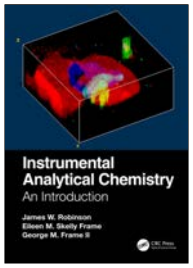
Instrumental Analytical Chemistry

An Introduction



James W. Robinson, Louisiana State University, Baton Rouge, USA, **Eileen M. Skelly Frame**, Rensselaer Polytechnic Institute, Troy, New York, USA and **George M. Frame II**, New York State Department of Health, Albany, USA

This book is written to teach undergraduate students and those with no analytical chemistry background how contemporary analytical instrumentation works, as well as its uses and limitations. Mathematics is kept to a minimum. No background in calculus, physics, or physical chemistry is required. The major fields of modern instrumentation are covered, including applications of each type of instrumental technique. This text uniquely combines instrumental analysis with organic spectral interpretation (IR, NMR, and MS). It provides detailed coverage of sampling, sample handling, sample storage, and sample preparation.

CRC Press
Market: Chemistry
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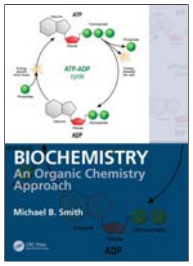
Biochemistry

An Organic Chemistry Approach



Michael B. Smith, University of Connecticut, Storrs, USA

Biochemistry: An Organic Chemistry Approach provides a framework for understanding various topics of biochemistry, including the chemical behavior of biomolecules, enzyme activity, and more. It goes beyond mere memorization. Using several techniques to develop a relational understanding, including homework, this text helps students fully grasp and better correlate the essential organic chemistry concepts with those concepts at the root of biochemistry. The goal is to better understand the fundamental principles of biochemistry.

CRC Press
Market: Chemistry
May 2020: 7 x 10: 398pp
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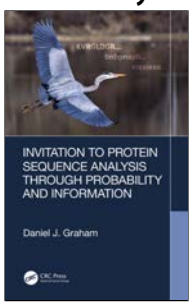
Invitation to Protein Sequence Analysis Through Probability and Information



Daniel J. Graham, Loyola University, Chicago, Illinois, USA

This book explores the remarkable information correspondences and probability structures of proteins. Correspondences are pervasive in biochemistry and bioinformatics: proteins share homologies, folding patterns, and mechanisms. Probability structures are just as paramount: folded state graphics reflect Angstrom-scale maps of electron density. The author explores protein sequences (primary structures), both individually and in sets (systems) with the help of probability and information tools. This perspective will enhance the reader's knowledge of how an important class of molecules is designed and put to task in natural systems, and how we can approach class members in hands-on ways.

CRC Press
Market: Chemistry
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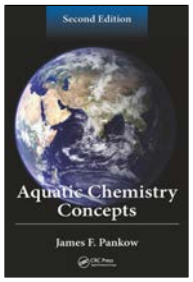
2nd Edition

Aquatic Chemistry Concepts



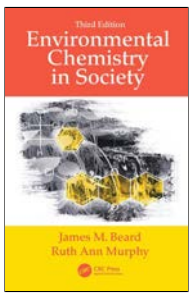
James F. Pankow, Oregon Graduate Institute, Beaverton, USA

Fully revised and updated, this textbook fills the need for a comprehensive treatment of aquatic chemistry and covers the many complicated equations and principles of aquatic chemistry. It presents the established science of equilibrium water chemistry using the uniquely recognizable, step-by-step *Pankow* format which allows a broad and deep understanding aquatic chemistry. The text is appropriate for a wide audience that includes undergraduate and graduate students, industry professionals, consultants, and regulators.

CRC Press
Market: Water Chemistry
November 2019: 7 x 10: 584pp
Hb: 978-1-439-85440-2
eBook: 978-0-429-19886-1
Prev. Ed Hb: 978-0-873-71150-0
* For **full contents** and more information, visit: **www.routledge.com/9781439854402**

3rd Edition

Environmental Chemistry in Society



James M. Beard, Catawba College, Salisbury, North Carolina, USA and **Ruth Ann Murphy**

This self-contained text offers all the information necessary for readers to understand the topics surrounding environmental science and the chemistry underlying various issues. It provides a foundation in science, chemistry, and toxicology, including the laws of thermodynamics, chemical bonding, and environmental toxins. This text allows readers to delve into environmental topics, such as energy in society, air quality, global atmospheric concerns, water quality, and solid waste management. The arrangement of the book provides instructors flexibility in how they present the material, with the crucial topics being covered first.

CRC Press
Market: Chemistry
July 2021: 6.14 x 9.21: 440pp
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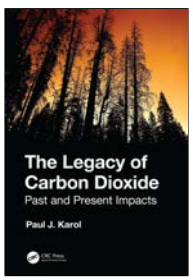
The Legacy of Carbon Dioxide

Past and Present Impacts



Paul J. Karol, Dept. of Chemistry, Carnegie Mellon University

The Legacy of Carbon Dioxide covers the truly varied roles carbon dioxide has played and continues to play in the character of our planet. Chapters deal with the synthesis of CO2 in stars, the evolution of the atmosphere over billions of years, the chemical and physical properties of CO2 and how those influence common phenomena. How well this knowledge is understood and how it was determined, including existing uncertainties in our confidence and the stress from competing possibilities are discussed. Much of the technological jargon in various incorporated sciences has been modified to ease consumption **by the non-expert.**

CRC Press
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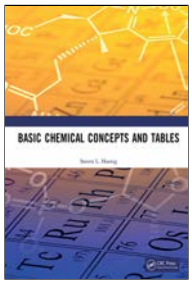
Basic Chemical Concepts and Tables



Steven L. Hoenig, American Public University, **USA**

Written as a quick reference to the many different concepts and ideas encountered in chemistry, the author presents important subjects in a concise format that makes it a practical resource for any reader. Graduate and undergraduate chemistry students, professionals or instructors looking to refresh their understanding of a chemistry topic will find this ready reference indispensable in their daily work. Subjects covered include general chemistry, inorganic chemistry, organic chemistry, and spectral analysis. Separate chapters offer physical constants and unit measurements commonly encountered and mathematical concepts needed when reviewing or working with basic **chemistry concepts.**

CRC Press
Market: Chemistry
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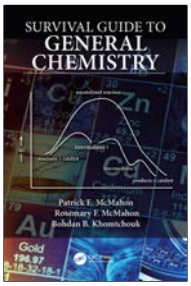
Survival Guide to General Chemistry



Patrick E. McMahon, Benedictine University, Organic Chemistry and General Chemistry, Lisle, Illinois, USA, **Rosemary McMahon** and **Bohdan Khomtchouk**

This work evolved over thirty combined years of teaching general chemistry to a variety of student demographics.The focus is not to recap or review the theoretical concepts well described in the available texts.Instead, the topics and descriptions in this book make available specific, detailed step-by-step methods and procedures for solving the major types of problems in general chemistry. Explanations, instructional process sequences, solved examples and completely solved practice problems are greatly expanded, containing significantly more detail than can usually be devoted to in a comprehensive text. Many chapters also provide alternative viewpoints as an aid to understanding.

CRC Press
Market: Chemistry
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Chemical Equilibria

Exact Equations and Spreadsheet Programs to Solve Them

Harry L. Pardue, Professor Emeritus, Department of Chemistry, Purdue University, USA

Concepts, procedures and programs described in this book make it possible for readers to solve both simple and complex equilibria problems quickly and easily and to visualize results in both numerical and graphical forms. They allow the user to calculate concentrations of reactants and products for both simple and complicated situations. The user can spend less time doing calculations and more time thinking about what the results mean in terms of a larger problem in which she or he may be interested.

CRC Press
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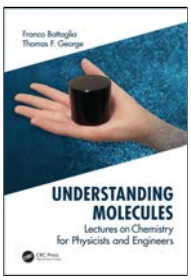
Understanding Molecules

Lectures on Chemistry for Physicists and Engineers



Franco Battaglia and **Thomas F. George**, Department of Psychology, Mills College, Oakland, CA

Chemistry is a subject that many students with differing goals have to tackle. This unique general chemistry textbook is tailored to more mathematically-oriented engineering or physics students. The authors emphasize the principles underlying chemistry rather than chemistry itself and the almost encyclopedic completeness appearing in a common textbook of general chemistry is sacrificed for an emphasis to these principles. Contained within 500 pages, it is suitable for a one-semester course for students who are strong in physics and mathematics. Over 200 problems are provided to ensure understanding, and answers are provided in the text so that the students can check their progress.

CRC Press
Market: Chemistry
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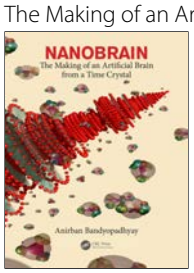
Nanobrain

The Making of an Artificial Brain from a Time Crystal



Anirban Bandyopadhyay, National Institute for Materials Science, Ibaraki, Japan

This reference explores recent efforts to realize a practical physical device that follows the neural network principles of the brain, incorporating research from the last 50 years in nanotechnology, artificial intelligence, supramolecular chemistry, and materials science. The author adopts a multidisciplinary approach, addressing fundamental problems in computer science, organic synthesis, theoretical physics, supramolecular chemistry, and artificial intelligence in a lucid, accessible way and references major breakthrough papers that have changed the course of scientific development. A color insert is included, as well as a CD with additional material.

CRC Press
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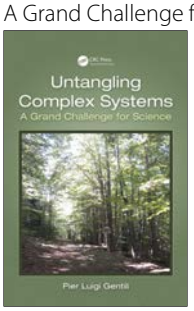
Untangling Complex Systems

A Grand Challenge for Science



Pier Luigi Gentili, University of Perugia, Italy

This book presents the new challenges that the science of the twentieth century is facing. These new challenges consist in a deeper understanding of the properties of Complex, self-organized Systems and the ability of controlling them. A distinctive feature of this book is the description of Fuzzy Logic as a powerful method to understand and control complex systems. What makes this book unique is the demonstration of the different kinds of logic that can be processed by using molecules as computing elements.

CRC Press
Market: Physics/Chemistry
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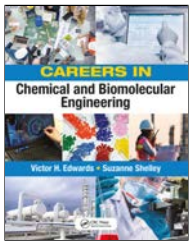
Careers in Chemical and Biomolecular Engineering



Victor Edwards, VHE Technical Analysis and **Suzanne Shelley**, Precision Prose Inc.; Chemical Engineering Magazine; Pharmaceutical Commerce Magazine

The scope of opportunities in chemical and biomolecular engineering has grown tremendously in recent years. Careers in Chemical and Biomolecular Engineering conveys the breadth and depth of today's chemical and biomolecular engineering practice, and describes the intellectually enriching, socially conscious and financially lucrative opportunities available for such graduates in an ever-widening array of industries and applications. This book aims to help students interested in studying chemical engineering and biomolecular engineering to understand the many potential career pathways that are available in these dynamic fields.

CRC Press
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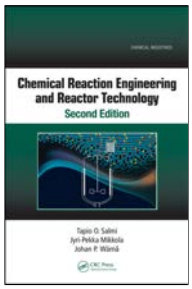
2nd Edition

Chemical Reaction Engineering and Reactor Technology



Tapio O. Salmi, Abo Akademi, Abo-Turku, Finland, **Jyri-Pekka Mikkola**, Abo Akademi, Abo-Turku, Finland and **Johan P. Wärnå**, Abo Akademi, Abo-Turku, Finland

Series: Chemical Industries

This well received textbook develops the concept of chemical reaction engineering in a systematic manner, beginning with homogeneous reactors and gradually moving toward more complicated heterogeneous systems. Reactor technology is presented in an illustrative manner with many practical and varied applications included. Numerous realistic exercises help upper undergraduate and graduate students learn the concepts presented. A modern computing approach to chemical reaction engineering is taken throughout the material. The real-life examples make the book very attractive for a broad audience, including engineers working in chemical and process industry.

Chapman and Hall/CRC
Market: Engineering-Chemical
July 2019: 7 x 10: 656pp
Hb: 978-1-138-71250-8
eBook: 978-1-315-20011-8
Prev. Ed Hb: 978-1-420-09268-4
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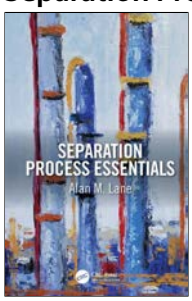
Separation Process Essentials



Alan M. Lane, The University of Alabama

Separation Process Essentials provides an interactive approach for students to learn the main separation processes (distillation, absorption, stripping, and solvent extraction) using material and energy balances with equilibrium relationships, while referring readers to other more complete works when needed. Membrane separations are included as an example of non-equilibrium processes.

This book is aimed at second and third year undergraduate students in Chemical engineering, as well as professionals in the field of Chemical engineering, and can be used for a one semester course in separation processes and unit operations.

CRC Press
Market: Engineering - Chemical
October 2019: 235 x 156: 374pp
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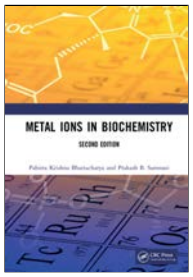
2nd Edition

Metal Ions in Biochemistry



Pabitra Krishna Bhattacharya and **Prakash B. Samnani**

The second edition of the book "Metal Ions in Biochemistry" deals exhaustively with the role of metal and non-metal ions in biochemical reactions, and also the effect of deficiency of metal ions, toxic effects of metal ions and use of metal complexes in therapeutics. As the nature of binding of the metal ions with the biochemicals and further progress of biochemical reactions, depends on the basic concepts of thermodynamics and kinetics of the metal ligand binding, the first two chapters have been devoted to understanding the structure of biochemicals and their metal coordinating sites.

CRC Press
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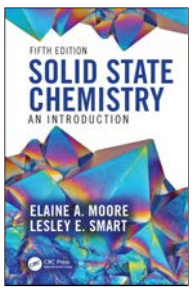
5th Edition

Solid State Chemistry

An Introduction



Elaine A. Moore, The Open University, Milton Keynes, UK and **Lesley E. Smart**, The Open University, Milton Keynes, UK

Solid State Chemistry: An Introduction presents a wide range of the synthetic and physical techniques used to prepare and characterize solids. Going beyond this, this largely nonmathematical introduction to solid state chemistry includes the bonding and electronic, magnetic, electrical and optical properties of solids. Solids of particular interest – porous solids, superconductors and nanostructures are included. Practical examples of applications and modern developments are given. It offers students the opportunity to apply their knowledge in real-life situations and **will** serve them well throughout their degree **course.**

CRC Press
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August 2020: 6.14 x 9.21: 442pp
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Prev. Ed Pb: 978-1-439-84790-9
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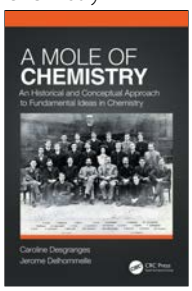
A Mole of Chemistry

An Historical and Conceptual Approach to Fundamental Ideas in Chemistry



Caroline Desgranges, Senior Research Scientist, Department of Chemistry, University of Dakota and **Jerome Delhommelle**, Associate Professor, Department of Chemistry, University of Dakota

This book is intended for students in their undergraduate years who need to learn the basics of chemistry, including science and engineering as well as humanities. This is a companion textbook which provides a unique perspective on how the main scientific concepts describing nature were discovered and, eventually, how modern chemistry was born. The book makes use of context found in history, philosophy and the arts to better understand their developments, and without using mathematical equations. The focus is then set on scientific reasoning, making this book a great companion and addition to traditional chemistry textbooks.

CRC Press
Market: Chemistry
March 2020: 235 x 156: 229pp
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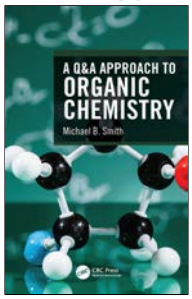
A Q&A Approach to Organic Chemistry



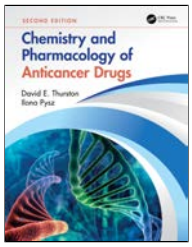
Michael B. Smith, University of Connecticut, Storrs, USA

A Q&A Approach to Organic Chemistry begins with atomic orbitals and bonding. All critical topics are covered, including bonding, nomenclature, sterochemistry, conformations, acids and bases, oxidations, reductions, substitution, elimination, acyl addition, acyl substitution, enolate anion reactions, the Diels-Alder reaction and sigmatropic rearrangements, aromatic chemistry, spectroscopy, amino acids and proteins, carbohydrates and nucleosides. All major reactions are covered. This edition has been completely revised and updated by the author, and each chapter includes end-of-chapter homework questions with the answer keys in an Appendix at the end of the book.

CRC Press
Market: Chemistry
June 2020: 254 x 178: 538pp
Hb: 978-0-367-22427-1
eBook: 978-0-429-27484-8
* For **full contents** and more information, visit: **www.routledge.com/9780367224271**

2nd Edition

Chemistry and Pharmacology of Anticancer Drugs

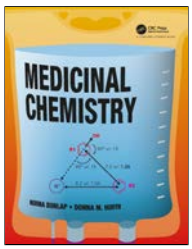


David E. Thurston, Kings College London and **Ilona Pysz**

This book is a comprehensive survey of all families of anticancer agents and therapeutic approaches currently in use or in advanced stages of clinical trials, including biological-based therapies. The book is unique in providing molecular structures for all anticancer agents, discussing them in terms of history of development, chemistry, mechanism of action, structure-function relationships and pharmacology. This book is an indispensable resource for cancer researchers, medicinal chemists and other biomedical scientists. The new edition of this book will have a Companion Website offering regular updates to the twelve chapters useful for both students and instructors.

CRC Press
Market: Biomedical Science
March 2021: 8.25 x 11: 618pp
Hb: 978-1-138-32358-2
Pb: 978-1-439-85326-9
eBook: 978-1-315-37472-7
Prev. Ed Pb: 978-0-849-39219-1
* For **full contents** and more information, visit: **www.routledge.com/9781439853269**

Medicinal Chemistry

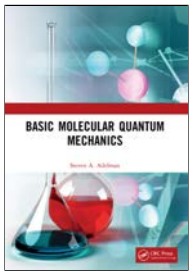


Norma K Dunlap, Middle Tennessee State University, USA and **Donna M Huryn**, University of Pennsylvania and University of Pittsburgh, USA

Medicinal Chemistry teaches the essential concepts of medicinal chemistry from the perspective of practicing chemists, starting with a synthetic organic chemistry and structural biology foundation and interweaving coverage of therapeutics, case studies, historical context, and modern techniques. Each chapter features a Journal Club, as well as review and application questions to enhance and test comprehension. This textbook is ideal for upper-level undergraduates and graduate students taking a one-semester survey course on medicinal chemistry and/or drug discovery, as well as scientists entering the pharmaceutical industry.

Garland Science
Market: Chemistry
April 2018: 8.25 x 11: 508pp
Pb: 978-0-815-34556-5
eBook: 978-1-315-10047-0
* For **full contents** and more information, visit: **www.routledge.com/9780815345565**

Basic Molecular Quantum Mechanics



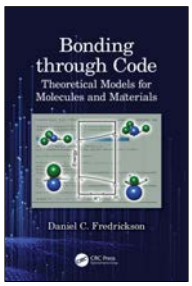
Steven A. Adelman, Purdue University, Department of Chemistry, West Lafayette, Indiana, USA

This book introduces quantum mechanics by covering the fundamentals of quantum mechanics and some of its most important chemical applications: vibrational and rotational spectroscopy and electronic structure of atoms and molecules. Thoughtfully organized, the author builds up quantum mechanics systematically with each chapter preparing the student for the more advanced chapters and complex applications.

CRC Press
Market: Chemistry
August 2021: 7 x 10: 468pp
Hb: 978-1-032-01065-6
Pb: 978-1-498-73399-1
eBook: 978-0-429-15574-1
* For **full contents** and more information, visit: **www.routledge.com/9781498733991**

Bonding through Code

Theoretical Models for Molecules and Materials



Daniel C. Fredrickson, University of Wisconsin-Madison, USA

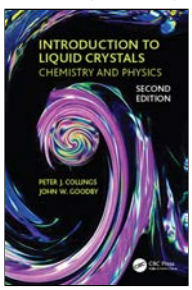
This timely and unique publication is designed for graduates and researchers in physical inorganic chemistry covering bonding models and applications of symmetry concepts to chemical systems. The book discusses the quantum mechanical basis for molecular orbital concepts, the connections between molecular orbitals and localized views of bonding, group theory, and bonding models for a variety of compounds. Unlike other books, the concepts are made tangible to the readers by guiding them through the implementation in Matlab functions. No background in Matlab or computer programming is needed and the book will provide the necessary skills.

CRC Press
Market: Chemistry
September 2020: 235 x 156: 244pp
Hb: 978-1-498-76221-2
eBook: 978-0-429-15401-0
* For **full contents** and more information, visit: **www.routledge.com/9781498762212**

2nd Edition

Introduction to Liquid Crystals

Chemistry and Physics



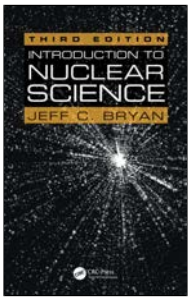
Peter J. Collings, Swarthmore College, Swarthmore, PA, USA and **John W. Goodby**, University of York, York, UK

Introduction to Liquid Crystals: Chemistry and Physics, Second Edition relies on only introductory level chemistry and physics as the foundation for understanding liquid crystal science. Liquid crystals combine the material properties of solids with the flow properties of fluids. As such they have provided the foundation for a revolution in low- power, flat-panel display technology LCDs. In this book, the essential elements of liquid crystal science are introduced and explained from the perspectives of the chemist, physicist and engineer.

CRC Press
Market: Chemistry
October 2019: 235 x 156: 531pp
Hb: 978-1-138-29885-9
Pb: 978-1-138-29876-7
eBook: 978-1-315-09834-0
* For **full contents** and more information, visit: **www.routledge.com/9781138298767**

3rd Edition

Introduction to Nuclear Science



Jeff C. Bryan, University of Wisconsin, La Crosse, USA

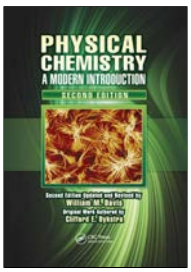
Written to provide students who have limited backgrounds in the physical sciences and math with an accessible textbook on nuclear science, this edition continues to provide a clear and complete introduction to nuclear chemistry and physics, from basic concepts to nuclear power and medical applications. Incorporating suggestions from adopting professors, the discussion of neutron cross sections is expanded, coverage of the nuclear fuel cycle is now included, and international terms are incorporated. This updated, expanded edition provides a much-needed textbook and resource for undergraduate students in science and engineering as well as those studying nuclear medicine and radiation therapy.

CRC Press
Market: Nuclear Physics and Chemistry
February 2018: 6.14 x 9.21: 440pp
Hb: 978-1-138-06815-5
eBook: 978-0-429-22536-9
Prev. Ed Hb: 978-1-439-89892-5
* For **full contents** and more information, visit: **www.routledge.com/9781138068155**

2nd Edition

Physical Chemistry

A Modern Introduction



William M. Davis, Texas Lutheran University, Seguin, USA

Designed specifically for a two-semester introductory course sequence in physical chemistry, this text presents core principles and topics. Straightforward and streamlined, it presents the necessary amount of detail for comprehension. Organized in such a way that the various topics covered are connected to each other, it allows students to see physical chemistry as an interconnected discipline and not a series of unrelated concepts. Each chapter in this new edition has been thoroughly updated and includes new information on computational applications, more end of chapter problems, and new chapters on nanotechnology and surface chemistry

CRC Press
September 2018: 7 x 10: 519pp
Hb: 978-1-439-81077-4
Pb: 978-1-138-11399-2
eBook: 978-0-429-06720-4
* For **full contents** and more information, visit: **www.routledge.com/9781138113992**

Thermodynamics Problem Solving in Physical Chemistry

Study Guide and Map

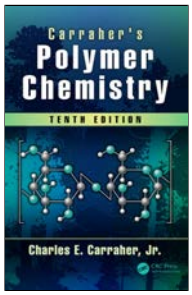
Kathleen E. Murphy, Daemen College, Amherst, NY **USA**

This innovative and unique workbook and "map" guides physical chemistry students through the decisions to be made to assess a problem situation, create appropriate solutions, and gain confidence through practice solving physical chemistry problems. The workbook includes six major sections with 20 -30 solved problems in each section that span from easy, single objective questions to difficult, multistep analysis problems. Each section of the workbook has "key points" that highlight major features of the topic to remind students of what they need to apply to solve problems in the topic area. Consequently, the workbook and map can act as a "test" review for the students.

CRC Press
Market: Chemistry
March 2020: 279 x 216: 138pp
Hb: 978-0-367-23147-7
Pb: 978-0-367-23116-3
eBook: 978-0-429-27840-2
* For **full contents** and more information, visit: **www.routledge.com/9780367231163**

10th Edition

Carraher's Polymer Chemistry



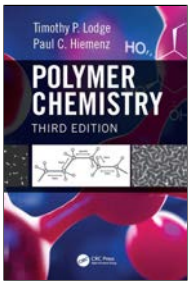
Charles E. Carraher Jr., Florida Atlantic University, Boca Raton, USA

This successful textbook integrates the core areas of polymer science. Along with updating of each chapter, new content will be added to reflect the growing applications in Biochemistry, Biomaterials, and Sustainable Industries. Providing a user-friendly approach to the world of polymeric materials, the book allows students to integrate their chemical knowledge and establish a connection between fundamental and applied chemical information. It contains all of the elements of an introductory text with synthesis, property, application, and characterization. Special sections in each chapter contain definitions, learning objectives, questions, case studies and additional reading.

CRC Press
Market: Polymer Science
October 2017: 7 x 10: 816pp
Hb: 978-1-498-73738-8
eBook: 978-1-315-11660-0
Prev. Ed Hb: 978-1-466-55203-6
* For **full contents** and more information, visit: **www.routledge.com/9781498737388**

3rd Edition

Polymer Chemistry



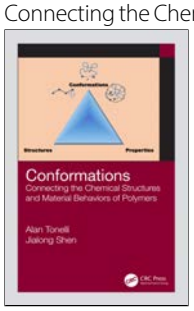
Timothy P. Lodge, University of Minnesota-Twin Cities, Minneapolis, USA and **Paul C. Hiemenz**, Emeritus -Cal State Polytechnic University, Pomona, CA

A well-rounded and articulate examination of polymer properties at the molecular level, this book focuses on fundamental principles based on underlying chemical structures, polymer synthesis, characterization, and properties. It emphasizes the logical progression of concepts and provide mathematical tools as needed, and fully derived problems for advanced calculations. This book expands and reorganizes material within chapters 2-5 to better develop polymer chemistry concepts and update the remaining chapters. New examples and problems will be added throughout.

CRC Press
Market: Polymer Chemistry
July 2020: 7 x 10: 676pp
Hb: 978-1-466-58164-7
eBook: 978-0-429-19081-0
Prev. Ed Hb: 978-1-574-44779-8
* For **full contents** and more information, visit: **www.routledge.com/9781466581647**

Conformations

Connecting the Chemical Structures and Material Behaviors of Polymers



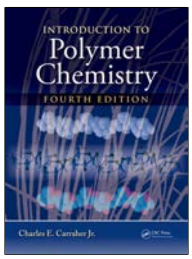
Alan E. Tonelli and **Jialong Shen**, North Carolina State University, Raleigh, North Carolina

The authors provide both the polymer/materials science student and practicing materials engineer a means of understanding the differences in behaviors/properties of materials made from chemically distinct polymers. This knowledge can assist them in designing polymers with chemical structures that lead to their desired material behaviors and properties. The reader will learn how the detailed chemical structures of polymers can be characterized, how their microstructural depenedent conformational preferences can be evaluated , and how these conformational preferences can by connected to the behaviors and properties of their materials.

CRC Press
Market: Polymer Science
April 2020: 6.14 x 9.21: 236pp
Hb: 978-1-138-57032-0
eBook: 978-0-203-70360-1
* For **full contents** and more information, visit: **www.routledge.com/9781138570320**

4th Edition

Introduction to Polymer Chemistry

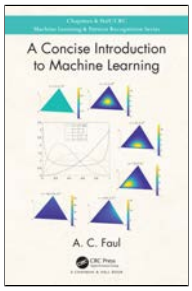


Charles E. Carraher Jr., Florida Atlantic University, Boca Raton, USA

Introduction to Polymer Chemistry provides undergraduate students with a much-needed, well-rounded presentation of the principles and applications of natural, synthetic, inorganic, and organic polymers. With an emphasis on the environment and green chemistry and materials, this fourth edition continues to provide detailed coverage of natural and synthetic giant molecules, inorganic and organic polymers, elastomers, adhesives, coatings, fibers, plastics, blends, caulks, composites, and ceramics. Building on undergraduate work in foundational courses, the text fulfills the American Chemical Society Committee on Professional Training (ACS CPT) in-depth course requirement.

CRC Press
Market: Polymer Science
January 2017: 8.25 x 11: 588pp
Hb: 978-1-498-73761-6
eBook: 978-1-315-36948-8
Prev. Ed Hb: 978-1-466-55494-8
* For **full contents** and more information, visit: **www.routledge.com/9781498737616**

A Concise Introduction to Machine Learning



A.C. Faul, University of Cambridge, UK

Series: Chapman & Hall/CRC Machine Learning & Pattern Recognition

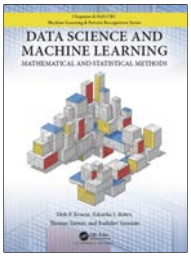
The emphasis of the book is on the question of Why – only if why an algorithm is successful is understood, can it be properly applied, and the results trusted. Algorithms are often taught side by side without showing the similarities and differences between them. This book addresses the commonalities, and aims to give a thorough and in-depth treatment and develop intuition, while remaining concise.

This useful reference should be an essential on the bookshelves of anyone employing machine learning techniques.

Chapman and Hall/CRC
Market: Computer Science & Engineering
August 2019: 6.14 x 9.21: 334pp
Hb: 978-0-815-38420-5
Pb: 978-0-815-38410-6
eBook: 978-1-351-20475-0
* For **full contents** and more information, visit: **www.routledge.com/9780815384106**

Data Science and Machine Learning

Mathematical and Statistical Methods



Dirk P. Kroese, **Zdravko Botev**, University of New South Wales, **Thomas Taimre** and **Radislav Vaisman**

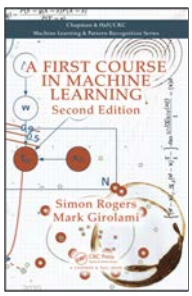
Series: Chapman & Hall/CRC Machine Learning & Pattern Recognition

The purpose of this book is to provide an accessible, comprehensive textbook in data science and machine learning. The book will provide a solid basis in linear algebra, optimization, probability, and statistics.

Chapman and Hall/CRC
Market: Statistics
November 2019: 8.25 x 11: 532pp
Hb: 978-1-138-49253-0
eBook: 978-0-367-81697-1
* For **full contents** and more information, visit: **www.routledge.com/9781138492530**

2nd Edition

A First Course in Machine Learning

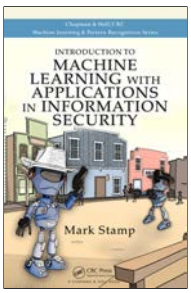


Simon Rogers and **Mark Girolami**

The new edition of this popular, undergraduate textbook has been revised and updated to reflect current growth areas in Machine Learning. The new edition includes three new chapters with more detailed discussion of Markov Chain Monte Carlo techniques, Classification and Regression with Gaussian Processes, and Dirichlet Process models. Previous chapters have also been updated to reflect new developments in Machine Learning, and correct any previous errors in the text.

Chapman and Hall/CRC
June 2020: 6.14 x 9.21: 428pp
Hb: 978-1-498-73848-4
Pb: 978-0-367-57464-2
eBook: 978-1-315-38215-9
* For **full contents** and more information, visit: **www.routledge.com/9780367574642**

Introduction to Machine Learning with Applications in Information Security



Mark Stamp

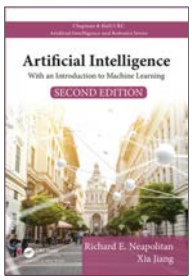
This class-tested textbook will provide in-depth coverage of the fundamentals of machine learning, with an exploration of applications in information security. The book will cover malware detection, cryptography, and intrusion detection. The book will be relevant for students in machine learning and computer security courses.

Chapman and Hall/CRC
June 2020: 234x156: 364pp
Hb: 978-1-138-62678-2
Pb: 978-0-367-57305-8
eBook: 978-1-315-21326-2
* For **full contents** and more information, visit: **www.routledge.com/9780367573058**

2nd Edition

Artificial Intelligence

With an Introduction to Machine Learning

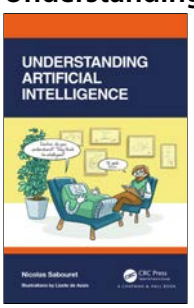


Richard E. Neapolitan and **Xia Jiang**

The first edition of this popular textbook, *Contemporary Artificial Intelligence*, provided an accessible and student friendly introduction to AI. This fully revised and expanded update retains the same accessibility and problem-solving approach, while providing new material and methods, including neural networks and deep learning. Suitable for undergraduate and beginning graduate students, this class-tested textbook provides students with key AI methods and algorithms for solving challenging problems involving systems that behave intelligently in specialized domains.

Chapman and Hall/CRC
June 2020: 7 x 10: 480pp
Hb: 978-1-138-50238-3
Pb: 978-0-367-57164-1
eBook: 978-1-315-14486-3
* For **full contents** and more information, visit: **www.routledge.com/9780367571641**

Understanding Artificial Intelligence

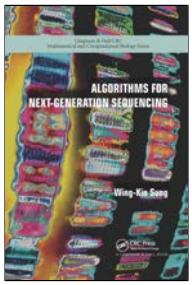


Nicolas Sabouret, University Paris 6, France

Understanding Artificial Intelligence explains, through a straight forward narrative and amusing illustrations, how AI works. It is written for a non-specialist reader, adult or adolescent, who is interested in AI, but who is new to the field. The author demystifies the creation of the so-called "intelligent" machine. The book explains the different methods that are used in AI. It presents new possibilities offered by algorithms, but also the difficulties that researchers, engineers and users face when building and using such algorithms. Each chapter allows the reader to discover a new aspect of AI and to become fully aware of the possibilities offered by this rich field.

Chapman and Hall/CRC
Market: Computer Science
December 2020: 5.5 x 8.5: 174pp
Hb: 978-0-367-53136-2
Pb: 978-0-367-52435-7
eBook: 978-1-003-08062-6
* For **full contents** and more information, visit: **www.routledge.com/9780367524357**

Algorithms for Next-Generation Sequencing



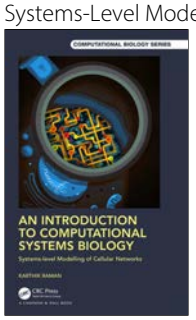
Wing-Kin Sung

Advances in sequencing technology have allowed scientists to study the human genome in greater depth and on a larger scale than ever before – as many as hundreds of millions of short reads in the course of a few days. But what are the best ways to deal with this flood of data? This book is an invaluable tool for students and researchers in bioinformatics and computational biology, biologists seeking to process and manage the data generated by next-generation sequencing, and as a textbook or a self-study resource. In addition to offering an in-depth description of the algorithms for processing sequencing data, it also presents useful examples illustrating how the algorithms work.

Chapman and Hall/CRC
September 2020: 234x156: 364pp
Hb: 978-1-466-56550-0
Pb: 978-0-367-65797-0
eBook: 978-1-466-56551-7
* For **full contents** and more information, visit: **www.routledge.com/9780367657970**

An Introduction to Computational Systems Biology

Systems-Level Modelling of Cellular Networks



Karthik Raman, Indian Institute of Technology Madras, Chennai

Series: Chapman & Hall/CRC Computational Biology Series

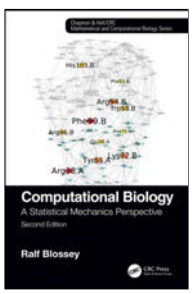
The main objective of this book is to deliver a comprehensive and insightful account of applying mathematical modelling approaches to very large biological systems and networks, a fundamental aspect of computational systems biology. Several key modelling paradigms will be discussed in detail. The area is itself highly multi-disciplinary, and the audience will therefore include biologists, engineers, computer scientists, mathematicians and others. The idea is to present a sufficiently compelling account of the modelling strategies, but at the same time, retaining simplicity so as to appeal to those from less quantitative fields.

Chapman and Hall/CRC
Market: Computer Science & Engineering
May 2021: 6.14 x 9.21: 358pp
Hb: 978-1-138-59732-7
eBook: 978-0-429-48695-1
* For **full contents** and more information, visit: **www.routledge.com/9781138597327**

2nd Edition

Computational Biology

A Statistical Mechanics Perspective



Ralf Blossey, Interdisciplinary Research Institute, University of Lille, Villeneuve d'Ascq, France

Series: Chapman & Hall/CRC Computational Biology Series

Computational biology has developed rapidly during the last two decades following the genomic revolution which culminated in the sequencing of the human genome. More than ever it has developed into a field which embraces computational methods from different branches of the exact sciences: pure and applied mathematics, computer science, theoretical physics. This Second Edition provides a solid introduction to the techniques of statistical mechanics for graduate students and researchers in computational biology and biophysics.

CRC Press
Market: Computer Science & Engineering
June 2019: 6.14 x 9.21: 326pp
Hb: 978-1-138-58786-1
Pb: 978-0-367-77974-0
eBook: 978-0-429-50367-2
Prev. Ed Hb: 978-1-584-88556-6
* For **full contents** and more information, visit: **www.routledge.com/9781138587861**

2nd Edition

Python for Bioinformatics

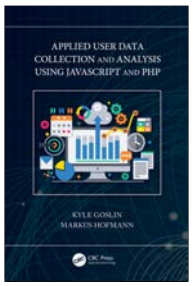
Sebastian Bassi, Globant, San Francisco, USA

Series: Chapman & Hall/CRC Computational Biology Series

In today's data driven biology, programming knowledge is essential in turning ideas into testable hypothesis. Based on the author's extensive experience, Python for Bioinformatics, Second Edition helps biologists get to grips with the basics of software development. Requiring no prior knowledge of programming-related concepts, the book focuses on the Python computer language. This new edition is updated throughout to Python 3 and is designed not just to help scientists master the basics, but to do more in less time and in a reproducible way.

Chapman and Hall/CRC
Market: Computer Science & Engineering
July 2017: 7 x 10: 452pp
Hb: 978-1-138-09437-6
Pb: 978-1-138-03526-3
eBook: 978-1-315-26874-3
Prev. Ed Pb: 978-1-584-88929-8
* For **full contents** and more information, visit: **www.routledge.com/9781138035263**

Applied User Data Collection and Analysis Using JavaScript and PHP



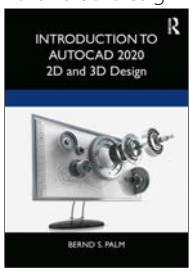
Kyle Goslin and **Markus Hofmann**

Applied User Data Collection and Analysis Using JavaScript and PHP is designed to provide the technical skills and competency to gather a wide range of user data from web applications in both active and passive methods.

Chapman and Hall/CRC
Market: Computer Science
April 2021: 6.14 x 9.21: 346pp
Hb: 978-0-367-75682-6
Pb: 978-0-367-75680-2
eBook: 978-1-003-16354-1
* For **full contents** and more information, visit: **www.routledge.com/9780367756802**

Introduction to AutoCAD 2020

2D and 3D Design



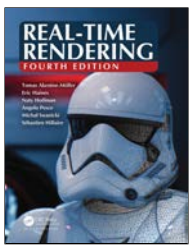
Bernd S. Palm, Autodesk author, lecturer and examiner

Master the complexities of the world's bestselling 2D and 3D software with Introduction to AutoCAD 2020. Ideally suited to new users of AutoCAD, this book will be a useful resource for drawing modules in both vocational and introductory undergraduate courses in engineering and construction. Experienced users will also find the updated images, commands and software information to be essential reading in order to adapt to the latest AutoCAD interface. Further education students will find this an invaluable textbook for City & Guilds AutoCAD qualifications, Computer Aided Drawing units of BTEC National Engineering, Higher National Engineering and Construction courses from Edexcel.

Routledge
Market: Computer Aided Design
February 2020: 7.44 x 9.69: 436pp
Hb: 978-0-367-41740-6
Pb: 978-0-367-41739-0
eBook: 978-0-367-81602-5
* For **full contents** and more information, visit: **www.routledge.com/9780367417390**

4th Edition

Real-Time Rendering



Tomas Akenine-Moller, **Eric Haines** and **Naty Hoffman**

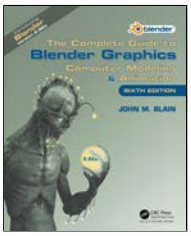
Thoroughly updated, this fourth edition focuses on modern techniques used to generate synthetic three-dimensional images in a fraction of a second. With the advent of programmable shaders, a wide variety of new algorithms have arisen and evolved over the past few years. This edition discusses current, practical rendering methods used in games and other applications. It also presents a solid theoretical framework and relevant mathematics for the field of interactive computer graphics, all in an approachable style. New to this edition: new chapter on VR and AR as well as expanded coverage of Visual Appearance, Advanced Shading, Global Illumination, and Curves and Curved Surfaces.

A K Peters/CRC Press
Market: Games and Animation
August 2018: 1198pp
Hb: 978-1-138-62700-0
eBook: 978-0-429-22540-6
Prev. Ed Hb: 978-1-568-81424-7
* For **full contents** and more information, visit: **www.routledge.com/9781138627000**

6th Edition

The Complete Guide to Blender Graphics

Computer Modeling & Animation



John M. Blain, Toormina, New South Wales, Australia

Blender is a free Open Source 3D Computer Modeling and Animation Suite incorporating – Character Rigging, Particles, Real World Physics Simulation, Sculpting, Video Editing with Motion Tracking and 2D Animation within the 3D Environment.

A K Peters/CRC Press
Market: Computer Game Development
October 2020: 584pp
Hb: 978-0-367-55361-6
Pb: 978-0-367-53619-0
eBook: 978-1-003-09318-3
Prev. Ed Pb: 978-0-367-18474-2
* For **full contents** and more information, visit: **www.routledge.com/9780367536190**

Computer Organisation and Architecture

Evolutionary Concepts, Principles, and Designs

Pranabananda Chakraborty

This book provides a reasonable balance between the theoretical concepts of computer organization and its practical implementation while projecting an insight into the generic as well as advanced computer organizations of today. Modern electronic components being fabricated using recent innovative technologies employed in modern machines have been included to explain topics that lie in the domain of advanced architectures. This textbook catersto graduates and postgraduates of Computer Science, Information Technology, Computer Applications, Electronics Engineering and Electrical Engineering.

Chapman and Hall/CRC
Market: Computer Science & Engineering
October 2020: 7 x 10: 588pp
Hb: 978-0-367-25573-2
eBook: 978-0-429-28845-6
* For **full contents** and more information, visit: **www.routledge.com/9780367255732**

Design and Analysis of Cryptographic Algorithms in Blockchain

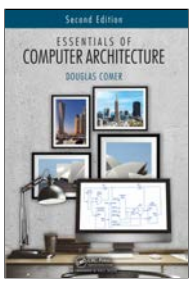
Ke Huang, **Yi Mu**, **Fatemeh Rezaeibagha** and **Xiaosong Zhang**

This book seeks to generalize techniques and experiences in designing and analyzing cryptographic schemes for blockchain. It devotes three chapters to review the background and basic knowledge, four chapters to discuss specific types of cryptographic primitive design for blockchain, one chapter to discuss optimization tool and another chapter for blockchain regulation and economies. This book covers systematical survey of research objects, detailed reviews of cryptographic schemes, as well as lectures and methodologies to practice cryptography.This is a useful textbook for graduate students, PhD students and researches who are in relative areas.

CRC Press
Market: Computer Science, Cryptography, Blockchain
August 2021: 6.14 x 9.21: 238pp
Hb: 978-1-032-03932-9
Pb: 978-1-032-03991-6
eBook: 978-1-003-19012-7
* For **full contents** and more information, visit: **www.routledge.com/9781032039916**

2nd Edition

Essentials of Computer Architecture



Douglas Comer

This easy to read textbook provides an introduction to computer architecture, while focusing on the essential aspects of hardware that programmers need to know. The topics are explained from a programmer's point of view, and the text emphasizes consequences for programmers. Divided in five parts, the book covers the basics of digital logic, gates, and data paths, as well as the three primary aspects of architecture: processors, memories, and I/O systems. The book also covers advanced topics of parallelism, pipelining, power and energy, and performance. A hands-on lab is also included. The second edition contains three new chapters as well as changes and updates throughout.

Chapman and Hall/CRC
June 2020: 254 x 178: 535pp
Hb: 978-1-138-62659-1
Pb: 978-0-367-57395-9
eBook: 978-1-315-22626-2
* For **full contents** and more information, visit: **www.routledge.com/9780367573959**

GPU Parallel Program Development Using CUDA

Tolga Soyata

This book teaches GPU programming by showing differences among families of GPUs. It emphasizes concepts that will remain relevant for a long time, rather than concepts that are platform-specific, while emphasizing the performance improvements that can be obtained from platform-dependent code.

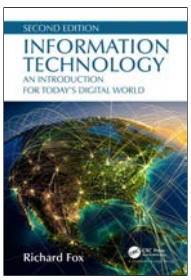
This three-part book starts by explaining parallelism using CPU multi-threading in Part I and teaches GPU massive parallelism in Part II by providing comparisons to CPU multi-threading. Part III of the book explores popular CUDA libraries, the OpenCL programming language, GPU programming using other programming languages and API libraries, and the deep learning library cuDNN.

Chapman and Hall/CRC
June 2020: 254x178: 476pp
Hb: 978-1-498-75075-2
Pb: 978-0-367-57224-2
* For **full contents** and more information, visit: **www.routledge.com/9780367572242**

2nd Edition

Information Technology

An Introduction for Today's Digital World



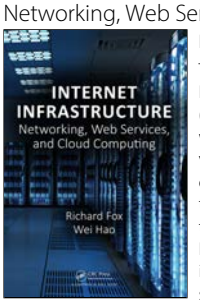
Richard Fox, Northern Kentucky University, Highland Heights, USA

This revised edition has more breadth and depth of coverage than the first edition. *Information Technology: An Introduction for Today's Digital World* introduces undergraduate students to a wide variety of concepts they will encounter throughout their IT studies and careers. It offers a far more detailed examination of the computer and the IT field than computer literacy texts, focusing on concepts essential to all IT professionals—from system administration to scripting to computer organization. Four chapters are dedicated to the Windows and Linux operating systems so that students can gain hands-on experience with operating systems that they will deal with.

Chapman and Hall/CRC
Market: Computer Science & Engineering
August 2020: 7 x 10: 582pp
Hb: 978-0-367-50720-6
Pb: 978-0-367-82021-3
eBook: 978-1-003-05097-1
* For **full contents** and more information, visit: **www.routledge.com/9780367507206**

Internet Infrastructure

Networking, Web Services, and Cloud Computing



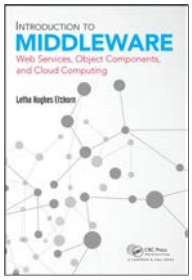
Richard Fox and **Wei Hao**

This book is a comprehensive introduction to Internet Infrastructure. It covers wired and wireless networks, the Internet (specifically the TCP/IP protocol), the domain name system (DNS), web servers and the HTTP/HTTPS protocols, web caches and various proxy server protocols, establishing IP addresses, and cloud computing. The book also includes forms of encryption technologies, securing networks and servers, network analysis tools, load balancing, mechanisms for redundancy, and more. Each concept chapter is followed by a case study chapter to illustrate the concepts presented. The case study chapters are set up so that readers can install servers and experiment with their configurations.

CRC Press
June 2020: 254x178: 632pp
Hb: 978-1-138-03991-9
Pb: 978-0-367-57279-2
eBook: 978-1-315-17557-7
* For **full contents** and more information, visit: **www.routledge.com/9780367572792**

Introduction to Middleware

Web Services, Object Components, and Cloud Computing

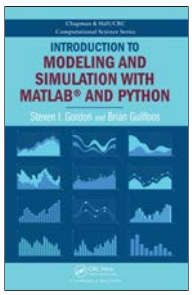


Letha Hughes Etzkorn

Middleware is a software layer that lies underneath applications and is used to allow multiple applications to interconnect, while hiding the complexities of the underlying network, operating system, and physical connections from the application programmer. This class-tested textbook provides a comparative view of the major paradigms and technologies used today in Middleware. The strengths and weaknesses of each approach are examined. Example implementations of each type of middleware are included in the Technology Review sections in each chapter and are used in the comparisons. Suggested programming assignments and homework problems are provided with each chapter.

Chapman and Hall/CRC
June 2020: 254 x 178: 688pp
Hb: 978-1-498-75407-1
Pb: 978-0-367-57359-1
eBook: 978-1-498-75409-5
* For **full contents** and more information, visit: **www.routledge.com/9780367573591**

Introduction to Modeling and Simulation with MATLAB® and Python



Steven I. Gordon and **Brian Guilfoos**

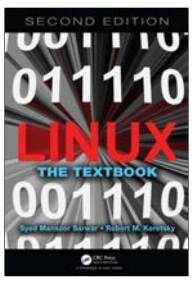
The book introduces the principles of mathematical modeling in science, engineering, and social science as well as basic skills of computer programming. The book is aimed at majors in STEM disciplines that need to understand how to create, analyze, and test mathematical models. The book also teaches basic concepts of programming using a higher level language. Topics that introduce modeling concepts are interleaved with exercises that build programming expertise. As each modeling concept is introduced, students are given starting codes that implement the concept but require additional coding, analysis, and discussion. The book also provides simple programming exercises in MATLAB or Python.

Chapman and Hall/CRC
June 2020: 234x156: 210pp
Hb: 978-1-498-77387-4
Pb: 978-0-367-57336-2
eBook: 978-1-498-77388-1
* For **full contents** and more information, visit: **www.routledge.com/9780367573362**

2nd Edition

Linux

The Textbook



Syed Mansoor Sarwar and **Robert M Koretsky**

Linux: The Textbook, Second Edition provides comprehensive coverage of the contemporary use of the Linux operating system for every level of student or practitioner, from beginners to advanced users. The text clearly illustrates system-specific commands and features using Debian-family Debian, Ubuntu, and Linux Mint, and RHEL-family CentOS, and stresses universal commands and features that are critical to all Linux distributions.

Chapman and Hall/CRC
June 2020: 254x178: 688pp
Hb: 978-1-138-71008-5
Pb: 978-0-367-57106-1
eBook: 978-1-315-19685-5
* For **full contents** and more information, visit: **www.routledge.com/9780367571061**

Security for Software Engineers

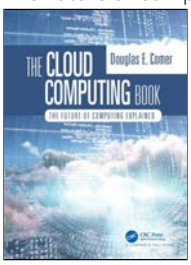
James N. Helfrich

Most textbooks about Computer Security targets end-users, or CIT/IT professionals. Few if any truly target undergraduate software engineering students. This book is designed to address this shortcoming. It is divided into four units, each targeting activities that a software engineer will likely be involved in within industry. These areas are: attack vectors, code hardening, privacy, and social engineering. Each topic is explored from a theoretical and a practical-application standpoint. This text will equip students to make knowledgeable security decisions, be productive members of a security review team, and write code that protects a user's information assets.

Chapman and Hall/CRC
September 2020: 279 x 216: 350pp
Hb: 978-1-138-58382-5
Pb: 978-0-367-65681-2
eBook: 978-0-429-50647-5
* For **full contents** and more information, visit: **www.routledge.com/9780367656812**

The Cloud Computing Book

The Future of Computing Explained



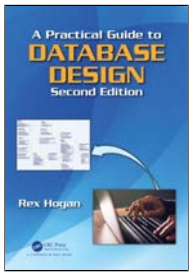
Douglas Comer

The latest textbook from best-selling author, Douglas Comer, this class-tested book provides a comprehensive introduction to cloud computing. Focusing on concepts and principles, rather than commercial offerings by cloud providers and vendors, the text gives readers a complete picture of the advantages and growth of cloud computing, cloud infrastructure, virtualization, automation and orchestration, and cloud-native software design.

Chapman and Hall/CRC
Market: Cloud Computing
June 2021: 287pp
Hb: 978-0-367-70680-7
eBook: 978-1-003-14750-3
* For **full contents** and more information, visit: **www.routledge.com/9780367706807**

2nd Edition

A Practical Guide to Database Design

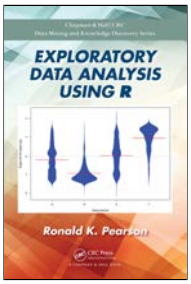


Rex Hogan

Fully updated and expanded from the previous edition, A Practical Guide to Database Design, Second Edition, is intended for those involved in the design or development of a database system or application. It begins by focusing on how to create a logical data model where data is stored "where it belongs." Next, data usage is reviewed to transform the logical model into a physical data model that will satisfy user performance requirements. Finally, it describes how to use various software tools to create user interfaces to review and update data in a database.

Chapman and Hall/CRC
June 2020: 254x178: 430pp
Hb: 978-1-138-57806-7
Pb: 978-0-367-57193-1
eBook: 978-1-351-26548-5
* For **full contents** and more information, visit: **www.routledge.com/9780367571931**

Exploratory Data Analysis Using R



Ronald K. Pearson

This textbook introduces exploratory data analysis (EDA) and covers the range of interesting features we can expect to find in data. The book also explores the practical mechanics of using R to do EDA. Based on the author's course at the University of Connecticut, the book assumes no prior exposure to data analysis or programming, and is designed to be as non-mathematical as possible. Exercises are included throughout, and a Solutions Manual will be available. The author will also provide a supplemental R package through the Comprehensive R Archive Network that will include implementations of some of the features in this book, along with data examples, tools, and datasets.

Chapman and Hall/CRC
June 2020: 234x156: 562pp
Hb: 978-1-138-48060-5
Pb: 978-0-367-57156-6
eBook: 978-1-315-38211-1
* For **full contents** and more information, visit: **www.routledge.com/9780367571566**

A Tour of Data Science

Learn R and Python in Parallel

Nailong Zhang

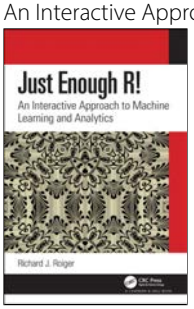
Series: Chapman & Hall/CRC Data Science Series

This book covers the fundamentals of data science, including programming, statistics, optimization, and machine learning in a single and short book. It does not cover everything, but instead, teaches the key concepts and topics. It also covers two of the most popular programming languages used in Data Science, R and Python, in one source.

Chapman and Hall/CRC
Market: Computer Science
November 2020: 254 x 178: 216pp
Hb: 978-0-367-89706-2
Pb: 978-0-367-89586-0
eBook: 978-1-003-02064-6
* For **full contents** and more information, visit: **www.routledge.com/9780367895860**

Just Enough R!

An Interactive Approach to Machine Learning and Analytics

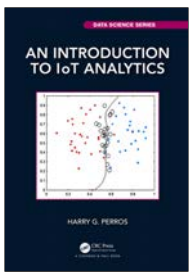


Richard J. Roiger

The main purpose of the text is to present the student with just enough of the R language, machine learning algorithms, and statistical methodology to set them on their way to a career in data science and machine learning. The proposed book is designed for a beginning course in machine learning, data mining & analytics, data science, or general data analysis. The course would be taught as part of a computer science, computer information science, information technology or general business curriculum. The reader is encouraged to work through all of the examples as they appear in the text. There is no assumption of prior knowledge of R or computer programming.

Chapman and Hall/CRC
Market: Computer Science
June 2020: 7 x 10: 364pp
Hb: 978-0-367-44320-7
Pb: 978-0-367-43914-9
eBook: 978-1-003-00669-5
* For **full contents** and more information, visit: **www.routledge.com/9780367439149**

An Introduction to IoT Analytics



Harry G. Perros

Series: Chapman & Hall/CRC Data Science Series

This book covers techniques that can be used to analyze data from IoT sensors and also addresses questions regarding the performance of an IoT system. It strikes a balance between practice and theory so that one can learn how to apply these tools in practice with a good understanding of their inner workings. It is an introductory book for readers that have no familiarity with these techniques.The techniques presented in the book come from the areas of Machine Learning, Statistics, and Operations Research.

Chapman and Hall/CRC
Market: Internet of Things
March 2021: 7 x 10: 372pp
Hb: 978-0-367-68782-3
Pb: 978-0-367-68631-4
eBook: 978-1-003-13904-1
* For **full contents** and more information, visit: **www.routledge.com/9780367686314**

Public Policy Analytics

Code and Context for Data Science in Government

Ken Steif

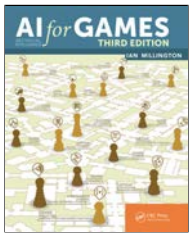
Series: Chapman & Hall/CRC Data Science Series

Public Policy Analytics: Code & Context for Data Science in Government teaches readers how to address complex public policy problems with data and analytics using reproducible methods in R. Each of the eight chapters provides a detailed case study, showing readers: how to develop exploratory indicators; understand 'spatial process' and develop spatial analytics; how to develop 'useful' predictive analytics; how to convey these outputs to non-technical decision-makers through the medium of data visualization; and why ultimately, data science and 'Planning' are one and the same.

CRC Press
Market: Computer Science/Social Science
July 2021: 6.14 x 9.21: 248pp
Hb: 978-0-367-51625-3
Pb: 978-0-367-50761-9
eBook: 978-1-003-05465-8
* For **full contents** and more information, visit: **www.routledge.com/9780367507619**

3rd Edition

AI for Games

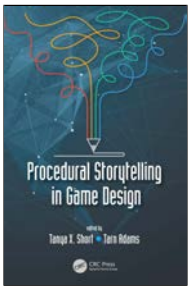


Ian Millington

AI is an integral part of every video game. This book helps propfessionals keep up with the constantly evolving technological advances in the fast growing game industry and equips students with up-to-date infortmation they need to jumpstart their careers. This revised and updated Third Edition includes new techniques, algorithms, data structures and representations needed to create powerful AI in games.

CRC Press
December 2020: 1030pp
Hb: 978-1-138-48397-2
Pb: 978-0-367-67056-6
eBook: 978-1-351-05330-3
* For **full contents** and more information, visit: **www.routledge.com/9780367670566**

Procedural Storytelling in Game Design



Edited by **Tanya X. Short** and **Tarn Adams**

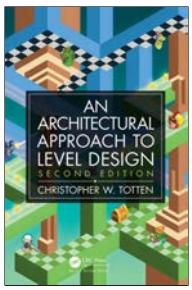
This book is an edited collection of chapters, each covering an aspect of video game development called procedural generation. This approach to development means that the games themselves create their play areas, objects and stories based on a set of rules, rather than relying on the developer to handcraft each element individually. The reader will learn to create randomized maps, weave accidental plotlines, and manage complex systems that are prone to unpredictable behavior. Examines content and system creation. Designers from a variety of studios provide concrete examples from their games to illustrate the many facets of this emerging sub-discipline.

A K Peters/CRC Press
Market: Games & Animation
March 2019: 6.14 x 9.21: 408pp
Hb: 978-1-138-59531-6
Pb: 978-1-138-59530-9
eBook: 978-0-429-48833-7
* For **full contents** and more information, visit: **www.routledge.com/9781138595309**

2nd Edition

Architectural Approach to Level Design

Second edition



Christopher W. Totten, American University, Washington, DC, USA

Thoroughly updated, this book discusses level design, the discipline of creating interactive game environments, with an emphasis on architectural principles. These principles can help level designers create meaningful user experiences and emotional responses for players..

A K Peters/CRC Press
Market: Computer Game Development
May 2019: 6.14 x 9.21: 625pp
Hb: 978-0-815-36137-4
Pb: 978-0-815-36136-7
eBook: 978-1-351-11630-5
Prev. Ed Pb: 978-1-498-74505-5
* For **full contents** and more information, visit: **www.routledge.com/9780815361367**

2nd Edition

Professional Techniques for Video Game Writing

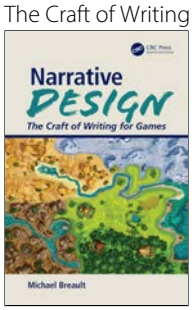
Wendy Despain

No-nonsense guide to the professional craft of writing the story, narrative, dialogue, tutorials, manuals, strategy guides, and anything else that needs to be written for modern-day video games. All contributors are themselves seasoned video game writers; they give the down and dirty on how to break into the business, what it means to be part of a writing team, principles of narrative design, and much, much more. Script samples offer illuminating examples that enhance this absolute ""must-have"" for anyone contemplating or pursuing a career in video game writing or technical writing, even (or especially) if the already have experience in crafting standard prose.

CRC Press
April 2020: 6.14 x 9.21: 338pp
Hb: 978-0-367-18478-0
Pb: 978-0-367-18477-3
eBook: 978-0-429-19653-9
Prev. Ed Pb: 978-1-568-81416-2
* For **full contents** and more information, visit: **www.routledge.com/9780367184773**

Narrative Design

The Craft of Writing for Games



Michael Breault

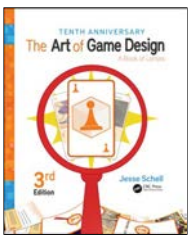
A detailed look at the roles narrative designers (writers) play in the game industry, from the point of view of a game design educator and 35-year industry veteran. The work narrative designers and game designers perform on games is presented along with practical advice on how to break into the game industry as either a writer or designer. Templates and detailed instructions are given for readers to create a portfolio of work that could lead to a job in the game industry.

CRC Press
Market: Games & Animation
May 2020: 6.14 x 9.21: 224pp
Hb: 978-0-367-19153-5
Pb: 978-0-367-19152-8
eBook: 978-0-429-20076-2
* For **full contents** and more information, visit: **www.routledge.com/9780367191528**

3rd Edition

The Art of Game Design

A Book of Lenses



Jesse Schell, Carnegie Mellon University and Schell Games, Pittsburgh, Pennsylvania, USA

Presents 100+ sets of questions, or different lenses, for viewing a game's design. Written by one of the world's top game designers, this book describes the deepest and most fundamental principles of game design, demonstrating how tactics used in board, card, and athletic games also work in video games. It provides practical instruction on creating world-class games that will be played again and again. *New to this edition:* many great examples from new VR and AR platforms as well as examples from modern games such as Uncharted 4 and The Last of Us, Free to Play games, hybrid games, transformational games, and more.

A K Peters/CRC Press
Market: Computer Game Development
August 2019: 654pp
Hb: 978-1-138-63209-7
Pb: 978-1-138-63205-9
eBook: 978-1-315-20843-5
Prev. Ed Pb: 978-1-466-59864-5
* For **full contents** and more information, visit: **www.routledge.com/9781138632059**

The Game Production Toolbox

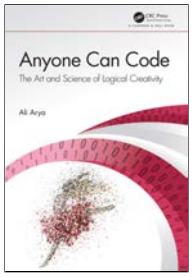
Heather Maxwell Chandler

The Reverse Design series looks at all of the design decisions that went into classic games. This is the third installment in the Reverse Design series, looking at Super Mario World. Written in a readable format; this game breaks down nicely into relatively short, separate sections. Reverse Design: Super Mario World is broken down into four sections with the final section a guide for level-by-level. The first three sections look at design history, cadences, skill and themes. The ideal experience of this Reverse Design is for you, the reader, to play each level as you read its analysis.

CRC Press
Market: Games & Animation
April 2020: 7 x 10: 320pp
Hb: 978-1-138-34171-5
Pb: 978-1-138-34170-8
eBook: 978-0-429-44002-1
***** For **full contents** and more information, visit: **www.routledge.com/9781138341708**

Anyone Can Code

The Art and Science of Logical Creativity



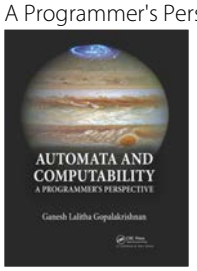
Ali Arya, Carleton University, Canada

This textbook starts by reviewing creative processes such as visual and algorithmic thinking. It then moves to establish a basic understanding of software programs as a combination of code and data. This is demonstrated through engaging examples, including video games and visual effects. Then, the concept of modularization is used to understand programming constructs. The book uses a reflective approach based on the notion that learning is done not only through "doing" but also "sense-making". To help readers with this approach, the book borrows from different creative activities, such as visual arts, game design, and storytelling, and provides plenty of exercises and reflective questions.

Chapman and Hall/CRC
Market: Computer Science
November 2020: 7 x 10: 600pp
Hb: 978-0-367-19974-6
Pb: 978-0-367-19969-2
eBook: 978-0-429-24442-1
* For **full contents** and more information, visit: **www.routledge.com/9780367199692**

Automata and Computability

A Programmer's Perspective



Ganesh Gopalakrishnan

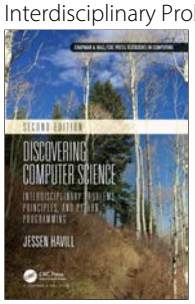
This class-tested textbook provides a comprehensive and accessible introduction to the theory of automata and computation. The author uses illustrations, engaging examples, and historical remarks to make the material interesting and relevant for students. It incorporates modern/handy ideas, such as derivative-based parsing and a Lambda reducer showing the universality of Lambda calculus. The book also shows how to sculpt automata by making the regular language conversion pipeline available through a simple command interface. A Jupyter notebook will accompany the book to feature code, YouTube videos, and other supplements to assist instructors and students.

Chapman and Hall/CRC
September 2020: 279 x 216: 348pp
Hb: 978-1-138-55242-5
Pb: 978-0-367-65654-6
eBook: 978-1-315-14817-5
* For **full contents** and more information, visit: **www.routledge.com/9780367656546**

2nd Edition

Discovering Computer Science

Interdisciplinary Problems, Principles, and Python Programming



Jessen Havill

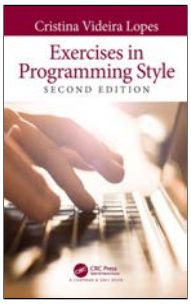
Series: Chapman & Hall/CRC Textbooks in Computing

Discovering Computer Science: Interdisciplinary Problems, Principles, and Python Programming introduces computational problem solving as a vehicle of discovery in a wide variety of disciplines. With a principles-oriented introduction to computational thinking, the text provides a broader and deeper introduction to computer science than typical introductory programming books.Organized around interdisciplinary problem domains, rather than programming language features, each chapter guides students through sophisticated algorithmic and programming techniques. The author uses a spiral approach to introduce Python language features in increasingly complex contexts as the book progresses.

Chapman and Hall/CRC
Market: Computer Science
October 2020: 7 x 10: 542pp
Hb: 978-0-367-61335-8
Pb: 978-0-367-47249-8
eBook: 978-1-003-03714-9
* For **full contents** and more information, visit: **www.routledge.com/9780367472498**

2nd Edition

Exercises in Programming Style



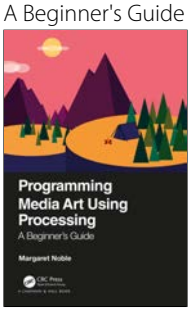
Cristina Videira Lopes, University of California, Irvine, USA

Using a simple computational task (term frequency) to illustrate different programming styles, this book helps readers understand the various ways of writing programs and designing systems. It is designed to be used in conjunction with code provided on an online repository. The book complements and explains the raw code in a way that is accessible to anyone who regularly practices the art of programming. The first edition was honored as an ACM Notable Book and praised as "The best programming book of the decade." This new edition retains the same presentation but has been upgraded to Python 3, and there is a new section on neural network styles.

Chapman and Hall/CRC
Market: Programming
July 2020: 6.14 x 9.21: 360pp
Hb: 978-0-367-36020-7
Pb: 978-0-367-35020-8
eBook: 978-0-429-34321-6
Prev. Ed Pb: 978-1-482-22737-6
* For **full contents** and more information, visit: **www.routledge.com/9780367350208**

Programming Media Art Using Processing

A Beginner's Guide



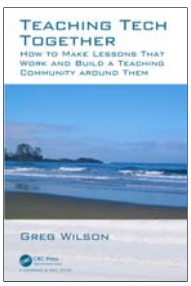
Margaret Noble, High Tech High Media Arts, San Diego, Calfornia, USA

Programming Beginning Media Art for Non-Programmers provides an entry level exploration into visual design through computer programming using the open source and artist friendly language, Processing. Used by hundreds of students - this learning system breaks lessons down into strategic steps towards fun and creative media art projects. Computer programming can be overwhelming for the first time learner but this book makes the learning of code more digestible and fun through a full color, well diagrammed, and deeply explained text presentation.

Chapman and Hall/CRC
Market: Computer Science
December 2020: 6 x 9: 248pp
Hb: 978-0-367-50959-0
Pb: 978-0-367-50828-9
eBook: 978-1-003-05198-5
* For **full contents** and more information, visit: **www.routledge.com/9780367508289**

Teaching Tech Together

How to Make Your Lessons Work and Build a Teaching Community around Them



Greg Wilson

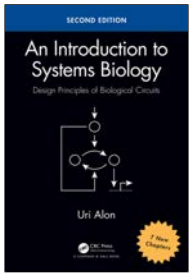
This book presents evidence-based practices that will help you create and deliver lessons that work and build a teaching community around them. Topics include the differences between different kinds of learners, diagnosing and correcting misunderstandings, teaching as a performance art, what motivates and demotivates adult learners, how to be a good ally, fostering a healthy community, getting the word out, and building alliances with like-minded groups. The book includes over a hundred exercises that can be done individually or in groups, over 350 references, and a glossary to help you navigate educational jargon.

Chapman and Hall/CRC
Market: Computer Science & Engineering
November 2019: 6.14 x 9.21: 260pp
Hb: 978-0-367-35328-5
Pb: 978-0-367-35297-4
eBook: 978-0-429-33070-4
* For **full contents** and more information, visit: **www.routledge.com/9780367352974**

2nd Edition

An Introduction to Systems Biology

Design Principles of Biological Circuits



Uri Alon

Series: Chapman & Hall/CRC Computational Biology Series

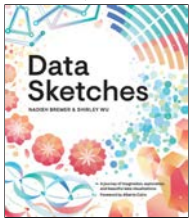
Written for students and researchers in systems biology, the second edition of this best-selling textbook continues to offer a clear presentation of design principles that govern the structure and behavior of biological networks. It highlights simple, recurring circuit elements that make up the regulation of cells and tissues. Rigorously classroom-tested, the book contains new additions and revisions for better flow. This edition includes seven new chapters on exciting advances made in the last decade, and over double the number of exercises.

Chapman and Hall/CRC
Market: Bioinformatics
August 2019: 7 x 10: 342pp
Hb: 978-1-138-49011-6
Pb: 978-1-439-83717-7
eBook: 978-0-429-28332-1
Prev. Ed Pb: 978-1-584-88642-6

* For **full contents** and more information, visit: **www.routledge.com/9781439837177**

Data Sketches

A journey of imagination, exploration, and beautiful data visualizations



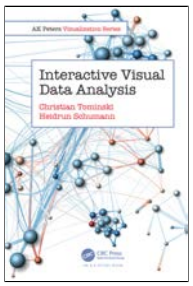
Nadieh Bremer and **Shirley Wu**

Series: AK Peters Visualization Series

In *Data Sketches*, Nadieh Bremer and Shirley Wu document the creative and collaborative process behind 24 unique data visualization projects, spanning different topics, technologies, and forms. Features: Technical write-ups with beginner-friendly explanations of core concepts; Practical lessons on data and design challenges; Full-color; Interview with Tamara Munzner; Foreword by Alberto Cairo. This book is perfect for anyone interested or working in data visualization and information design, especially those who want to take their work to the next level and are inspired by unique and compelling data-driven storytelling.

A K Peters/CRC Press
Market: Computer Science
February 2021: 428pp
Hb: 978-0-367-00012-7
Pb: 978-0-367-00008-0
eBook: 978-0-429-44501-9
* For **full contents** and more information, visit: **www.routledge.com/9780367000080**

Interactive Visual Data Analysis



Christian Tominski, University of Rostock, Germany and **Heidrun Schumann**, University of Rostock, Institute of Computer Science, Germany

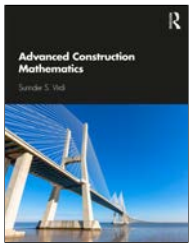
Series: AK Peters Visualization Series

In the age of big data, being able to make sense of data is an important key to success. *Interactive Visual Data Analysis* advocates the synthesis of visualization, interaction, and automatic computation to facilitate insight generation and knowledge crystallization from large and complex data.

The authors present a top-down perspective on interactive visual data analysis with a focus on concise and clean terminology. Many real-world examples and rich illustrations make the book accessible to a broad interdisciplinary audience from students, to experts in the field, to practitioners in data-intensive application domains.

A K Peters/CRC Press
Market: Computer Science & Engineering
April 2020: 235 x 156: 362pp
Hb: 978-1-498-75398-2
Pb: 978-0-367-89875-5
eBook: 978-1-315-15270-7
* For **full contents** and more information, visit: **www.routledge.com/9780367898755**

Advanced Construction Mathematics



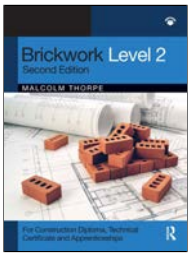
Surinder Virdi, South and City College Birmingham, UK

Advanced Construction Mathematics covers the range of topics that a student must learn in order to achieve success in Level 3 and 4 mathematics for the Pearson BTEC National and BTEC HNC/HND in Construction, Built Environment, and Civil Engineering. Packed with easy to follow examples and solutions, the chapters cover algebra (equations, transposition and evaluation of formulae), differentiation, integration, statistics and numerous other core concepts and their application in the construction/civil engineering field.

Routledge
Market: Mathematics, Built Environment, Engineering
April 2019: 7.44 x 9.69: 418pp
Hb: 978-0-367-00210-7
Pb: 978-0-367-00213-8
eBook: 978-0-429-40074-2
* For **full contents** and more information, visit: **www.routledge.com/9780367002138**

2nd Edition

Brickwork Level 2



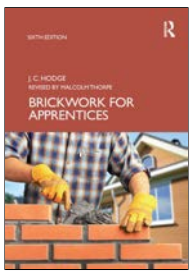
Malcolm Thorpe, past President of the Guild of Bricklayers and former college lecturer, UK

Brickwork Level 2 is highly illustrated throughout and in full colour. This new edition reflects new Occupational Standards and recent changes to the Building Regulations. It has been tailored to match Level 2 of the current Occupational Standards at Diploma, Technical Certificate and Apprenticeship. Each chapter contains a section of multiple choice questions to provide trainees with vital practice for the job knowledge test. The companion website for adopting course instructors includes practical training packs, end tests and mark sheets, power point slides for each chapter, written job knowledge test and answers, and teaching lesson plans and schemes of work.

Routledge
Market: Construction: Bricklaying
December 2020: 8.25 x 11: 442pp
Hb: 978-0-367-62549-8
Pb: 978-0-367-62536-8
eBook: 978-1-003-10965-5
Prev. Ed Pb: 978-1-856-17765-8
* For **full contents** and more information, visit: **www.routledge.com/9780367625368**

6th Edition

Brickwork for Apprentices



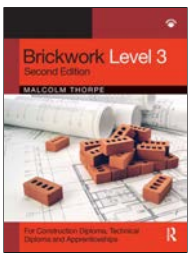
J.C. Hodge and **Malcolm Thorpe**, past President of the Guild of Bricklayers and former college lecturer, UK

This sixth edition includes new material on PPEs, safety, risk assessment and working at heights, and also contains fully revised multiple choice questions, new skills test information, sample oral questions and updated drawings. Fully in line with the Building Regulations, it will remain an essential reference for qualified bricklayers and other professionals working in the construction industry, as well as students new to the industry and wishing to embark on a career in bricklaying. The multiple choice questions, skills test and oral questions at the back of the book are matched to the current C&G requirements.

Routledge
Market: Construction: Bricklaying
December 2020: 8.25 x 11: 364pp
Hb: 978-0-367-62432-3
Pb: 978-0-367-62434-7
eBook: 978-1-003-10944-0
Prev. Ed Pb: 978-0-750-66752-4
* For **full contents** and more information, visit: **www.routledge.com/9780367624347**

2nd Edition

Brickwork Level 3



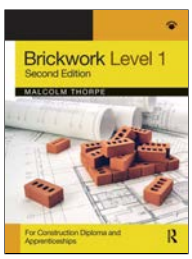
Malcolm Thorpe, past President of the Guild of Bricklayers and former college lecturer, UK

Brickwork Level 3 is highly illustrated throughout and in full colour. This new edition reflects new Occupational Standards and recent changes to the Building Regulations. It has been tailored to match Level 3 of the current Occupational Standards at Diploma, Technical Certificate and Apprenticeship. Each chapter contains a section of multiple choice questions to provide trainees with vital practice for the job knowledge test. The companion website for adopting course instructors includes practical training packs, end tests and mark sheets, power point slides for each chapter, written job knowledge test and answers, and teaching lesson plans and schemes of work.

Routledge
Market: Construction: Bricklaying
December 2020: 8.25 x 11: 440pp
Hb: 978-0-367-62552-8
Pb: 978-0-367-62551-1
eBook: 978-1-003-10966-2
Prev. Ed Pb: 978-1-856-17764-1
* For **full contents** and more information, visit: **www.routledge.com/9780367625511**

2nd Edition

Brickwork Level 1



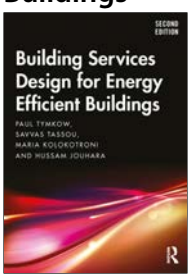
Malcolm Thorpe, past President of the Guild of Bricklayers and former college lecturer, UK

Brickwork Level 1 is in full colour. This new edition reflects new Occupational Standards and recent changes to the Building Regulations. It gives the apprentice an introduction into building methods and construction technology, and follows very closely the Training Specification for Apprenticeship and Diploma units and contains a section of multiple choice questions to provide trainees with vital practice for the job knowledge test. The companion website for adopting course instructors includes practical training packs, end tests and mark sheets, power point slides for each chapter, written job knowledge test and answers, and teaching lesson plans and schemes of work.

Routledge
Market: Construction: Bricklaying
December 2020: 8.25 x 11: 384pp
Hb: 978-0-367-62535-1
Pb: 978-0-367-62534-4
eBook: 978-1-003-10960-0
Prev. Ed Pb: 978-1-856-17766-5
* For **full contents** and more information, visit: **www.routledge.com/9780367625344**

2nd Edition

Building Services Design for Energy Efficient Buildings



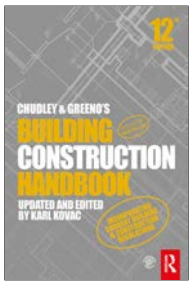
Paul Tymkow, Hoare Lea Consulting Engineers, UK, **Savvas Tassou**, Brunel Univeristy, UK, **Maria Kolokotroni**, Brunel University, UK and **Hussam Jouhara**, Brunel University, UK

In order to deliver buildings that help to mitigate climate change impacts, a new perspective is required for building services engineers, from the initial conceptual design and throughout the design collaboration with other disciplines. This book provides a contemporary introduction and guide to this new approach, for students and practitioners alike.

Routledge
Market: Building Services
July 2020: 6.85 x 9.69: 390pp
Hb: 978-0-815-36560-0
Pb: 978-0-815-36561-7
eBook: 978-1-351-26116-6
Prev. Ed Pb: 978-0-415-59637-4
* For **full contents** and more information, visit: **www.routledge.com/9780815365617**

12th Edition

Chudley and Greeno's Building Construction Handbook



Roy Chudley, Formerly Guildford College of Technology, UK, **Roger Greeno**, Construction Consultant, UK and **Karl Kovac**, Sheffield Hallam University, UK

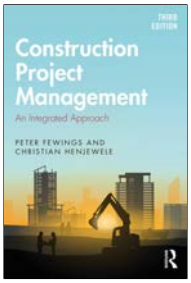
The 12th edition of the *Chudley and Greeno's Building Construction Handbook* remains THE authoritative reference for all construction students and professionals. The principles and processes of construction are explained with the concepts of design included where appropriate. This new edition has been updated to reflect recent changes to the building regulations, as well as new material on modern methods of construction, greater emphasis on sustainability and a new look interior to provide the most comprehensive and easy to understand guide to building construction.

Routledge
Market: Construction Technology
April 2020: 6.85 x 9.69: 770pp
Hb: 978-0-367-13542-3
Pb: 978-0-367-13543-0
eBook: 978-0-429-02713-0
Prev. Ed Pb: 978-1-138-90709-6
* For **full contents** and more information, visit: **www.routledge.com/9780367135430**

3rd Edition

Construction Project Management

An Integrated Approach

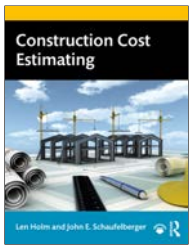


Peter Fewings, University of the West of England, UK, **Peter Fewings** and **Christian Henjewele**, Anglia Ruskin University, UK

This book combines best practice in construction with the theories underpinning project management and presents a wealth of practical case studies – many new. It focuses on all construction disciplines who may manage projects. The book is uniquely valuable for those in the later years of undergraduate courses, specialist postgraduate courses in project management and for practitioners of all disciplines and clients who have experienced the frustration of the fragmentation of construction projects.

Routledge
Market: Construction Management, Project Management
April 2019: 6.85 x 9.69: 524pp
Hb: 978-0-815-35864-0
Pb: 978-0-815-35865-7
eBook: 978-1-351-12203-0
Prev. Ed Pb: 978-0-415-61345-3
* For **full contents** and more information, visit: **www.routledge.com/9780815358657**

Construction Cost Estimating



Len Holm and **John E. Schaufelberger**

Construction Cost Estimating equips a new generation of students and early-career professionals with the skills they need to bid successfully on projects. From developing bid strategies to submitting a completed bid, this innovative textbook introduces the fundamentals of construction estimating through a real life case study that unfolds across its 24 chapters. *Construction Cost Estimating* ensures that readers are familiar with the entire estimating process before they even set foot on the jobsite.

Routledge
Market: Construction/Engineering
April 2021: 6.85 x 9.69: 354pp
Hb: 978-0-367-90271-1
Pb: 978-0-367-90268-1
eBook: 978-1-003-02349-4
* For **full contents** and more information, visit: **www.routledge.com/9780367902681**

2nd Edition

Construction Project Manager's Pocket Book

Duncan Cartlidge, Construction Procurement Consultant, UK

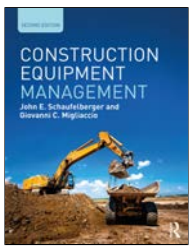
Series: Routledge Pocket Books

The second edition of the Construction Project Manager's Pocket Book maintains its coverage of a broad range of project management skills, from technical expertise to leadership, negotiation, team building and communication. Construction project management activities are tackled in the order they occur on real projects, with reference made to the RIBA Plan of Work throughout. This is the ideal concise reference which no project manager, construction manager, architect, or quantity surveyor should be without.

Routledge
Market: Construction Management/Project Management
May 2020: 296pp
Hb: 978-0-367-43714-5
Pb: 978-0-367-43593-6
eBook: 978-1-003-00521-6
Prev. Ed Pb: 978-0-415-73239-0
* For **full contents** and more information, visit: **www.routledge.com/9780367435936**

2nd Edition

Construction Equipment Management



John E. Schaufelberger, University of Washington, USA and **Giovanni C. Migliaccio**, University of Washington, USA

This revised and updated edition integrates both conceptual and hands-on quantitative knowledge on construction equipment into a process that facilitates student learning. The book can be used on numerous courses at different levels to prepare graduates to apply skills on construction equipment when planning for a new project, estimating its costs, and monitoring field operations. Organized around the major categories of construction equipment, including both commercial and heavy civil examples and case studies. A companion website provides an instructor manual, solutions, additional examples, lecture slides, figures and diagrams.

Routledge
Market: Construction Management, Project Management, Engineering
March 2019: 7.44 x 9.69: 386pp
Hb: 978-0-815-36082-7
Pb: 978-0-815-36083-4
eBook: 978-1-351-11746-3
* For **full contents** and more information, visit: **www.routledge.com/9780815360834**

Construction Superintendents

Essential Skills for the Next Generation

Len Holm, University of Washington, USA and **John E. Schaufelberger**, University of Washington, USA

This is the first college level textbook designed to prepare you to take on a site supervisor role on a complex jobsite. Using examples and case studies of cutting-edge jobsite practices, coverage includes the full spectrum of tasks and skills required from the pre-construction phase, through startup, operation and close out, plus advanced topics for those serious about leading the field. Essential for all on construction management and construction engineering programs, includes online resources, chapter summaries, review questions and exercises to aid both teaching learning.

Routledge
Market: Construction, Construction Management
October 2019: 7.44 x 9.69: 290pp
Hb: 978-0-367-00245-9
Pb: 978-0-367-00246-6
eBook: 978-0-429-40057-5
* For **full contents** and more information, visit: **www.routledge.com/9780367002466**

2nd Edition

Estimator's Pocket Book

Duncan Cartlidge

Series: Routledge Pocket Books

A concise and practical reference covering the main pricing approaches, as well as useful information such as how to process sub-contractor quotations, tender settlement and adjudication. This is the indispensable estimating reference for all quantity surveyors, cost managers, project managers and anybody else with estimating responsibilities. Particular attention is given to NRM2, but the overall focus is on the core estimating skills needed in practice. Updates to this edition include a greater reference to BIM, an update on the current state of the construction industry as well as up to date wage rates, legislative changes and guidance notes.

Routledge
Market: Quantity Surveying
February 2019: 5.06 x 7.81: 292pp
Hb: 978-1-138-36669-5
Pb: 978-1-138-36670-1
eBook: 978-0-429-43017-6
Prev. Ed Pb: 978-0-415-52711-8
* For **full contents** and more information, visit: **www.routledge.com/9781138366701**

Innovating Construction Law

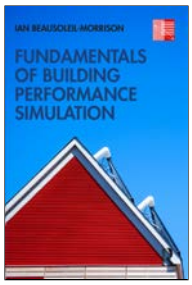
Towards the Digital Age

Jim Mason, University of the West of England, UK

Innovating Construction Law: Towards the Digital Age draws together current and emerging technologies and examines how legal practice in the construction industry can respond to the challenges to its existing arrangements. This book is a readable and engaging guide for students and practitioners looking to learn more about construction law and its relationship with technology and for those that want to shape the future of the field.

Routledge
Market: Construction Law/Construction Management
February 2021: 6.14 x 9.21: 248pp
Hb: 978-0-367-44349-8
Pb: 978-0-367-44352-8
eBook: 978-1-003-00924-5
* For **full contents** and more information, visit: **www.routledge.com/9780367443528**

Fundamentals of Building Performance Simulation



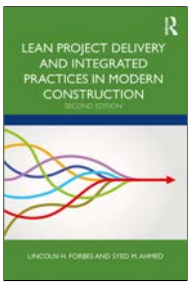
Ian Beausoleil-Morrison, Carleton University Ottawa, Ontario, Canada

Fundamentals of Building Performance Simulation pares the theory and practice of a multi-disciplinary field to the essentials for classroom learning and real-world applications. Authored by a veteran educator and researcher, this textbook equips graduate students and emerging and established professionals in architecture and engineering to predict and optimize buildings' energy use. Each subject is introduced without reference to particular modelling tools while problems at the end of each chapter provide hands-on experience with the tools of the reader's choice.

Routledge
Market: https://routledgetextbooks.com/textbooks/9780367518066/
August 2020: 6.14 x 9.21: 410pp
Hb: 978-0-367-51805-9
Pb: 978-0-367-51806-6
eBook: 978-1-003-05527-3
* For **full contents** and more information, visit: **www.routledge.com/9780367518066**

2nd Edition

Lean Project Delivery and Integrated Practices in Modern Construction



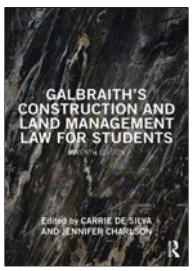
Lincoln H. Forbes, Florida International University, Miami, USA and **Syed M. Ahmed**, East Carolina University, USA

Lean Project Delivery and Integrated Practices in Modern Construction is the new and enhanced edition of *Modern Construction* by Lincoln H. Forbes and Syed M. Ahmed. This book provides a multi-faceted approach for applying lean methodologies to improve design and construction processes. It builds on the groundwork established by the first edition as a compendium of the latest research and thinking on lean and integrated construction practices. Recognizing the wide diversity in the landscape of projects, and encompassing private and public sector activity, buildings and infrastructure, the book offers a number of approaches to improving construction project management.

Routledge
Market: Construction
April 2020: 7.44 x 9.69: 522pp
Hb: 978-1-138-31124-4
eBook: 978-0-429-45898-9
* For **full contents** and more information, visit: **www.routledge.com/9781138311244**

7th Edition

Galbraith's Construction and Land Management Law for Students



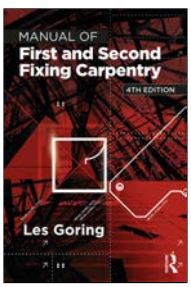
Edited by **Carrie de Silva**, BlueBox Partners and **Jennifer Charlson**, University of Wolverhampton, UK

Clearly written and with wide ranging coverage of key legal principles, this textbook highlights the need for students on built environment related courses to access information on how the law relates to their profession, without getting into the heavy detail of the full-scale legal texts. Chapters provide the background to the English legal system before covering key topics such as contract law, tort, health and safety, land law, planning, landlord and tenant, dispute resolution and employment law. This book is ideal for students taking law modules on construction, surveying, real estate, planning and civil engineering courses.

Routledge
Market: Law/Built Environment
September 2020: 6.85 x 9.69: 386pp
Hb: 978-0-367-46519-3
Pb: 978-0-367-46518-6
eBook: 978-1-003-02925-0
Prev. Ed Pb: 978-0-080-96692-2
* For **full contents** and more information, visit: **www.routledge.com/9780367465186**

4th Edition

Manual of First and Second Fixing Carpentry



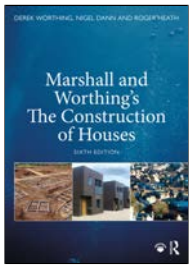
Les Goring, former senior lecturer, Hastings College of Arts & Technology, UK

The book covers the essentials of 1st and 2nd-fixing carpentry, now with formwork for concrete in-situ casting, and fixing shelf arrangements to correct spans. With nearly 500 colour drawings and a detailed step-by-step approach, this is a for apprentices, students on NVQs and Construction Awards within the Wood Occupations from C&G Construction Skills, and a reference for practitioners.

Routledge
Market: Carpentry
April 2018: 276x219: 302pp
Hb: 978-1-138-29600-8
Pb: 978-1-138-29599-5
eBook: 978-1-315-09980-4
Prev. Ed Pb: 978-1-856-17768-9
* For **full contents** and more information, visit: **www.routledge.com/9781138295995**

6th Edition

Marshall and Worthing's The Construction of Houses

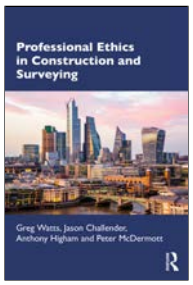


Duncan Marshall, formerly of the University of the West of England, UK, **Derek Worthing**, formerly of the University of the West of England, UK, **Nigel Dann**, University of the West of England, UK and **Roger Heath**, University of the West of England, UK

The 6th Edition of The Construction of Houses builds on the success of the previous five editions. The book provides a comprehensive introduction to the principles and processes of the construction of houses and their services. As such it is aimed at providing a broad understanding of domestic building construction for students as part of their academic studies and as a useful information source for practitioners. The existing chapters have all been updated and most of them expanded to take account of changes to dwelling house construction since the last edition and there are new chapters on 'Modern Methods of Construction' and 'Regulatory controls and building standards'.

Routledge
Market: Building, Construction & Surveying
March 2021: 8.27 x 11.69: 566pp
Hb: 978-0-367-02756-8
Pb: 978-0-367-02758-2
eBook: 978-0-429-39782-0
Prev. Ed Pb: 978-0-080-97100-1
* For **full contents** and more information, visit: **www.routledge.com/9780367027582**

Professional Ethics in Construction and Surveying



Greg Watts, **Jason Challender**, Director of Property and Estates, Development, Health and Safety, and Maintenance, Leeds City College of Further and Higher Education, UK, **Anthony Higham**, University of Salford, UK and **Peter McDermott**

This textbook responds to the increasing demand for practical, industry aligned, ethical practices in Quantity Surveying, Construction Management and related AEC professions. The book addresses how existing ethical standards can be pragmatically applied to both private and contracting practice with case studies aligned with the ethical requirements of the main professional bodies. The result is a professionally focused textbook aimed at vocational learners (at both undergraduate and postgraduate taught levels) and practitioners in construction, engineering, architecture and the wider built environment.

Routledge
Market: Built Environment/Ethics/Professional Development
May 2021: 6.14 x 9.21: 188pp
Hb: 978-0-367-35416-9
Pb: 978-0-367-35419-0
eBook: 978-0-429-33185-5
* For **full contents** and more information, visit: **www.routledge.com/9780367354190**

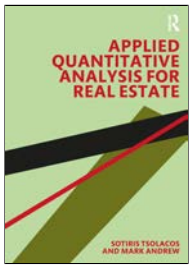
Secondary Research Methods in the Built Environment

Edited by **Emmanuel Manu** and **Julius Akotia**

This textbook provides a systematic step-by-step guide on how to apply secondary research methods in the built environment, including their various underpinning methodologies. *Secondary Research Methods in the Built Environment* is an ideal research textbook for undergraduate and postgraduate students in construction management, construction project management, quantity surveying, construction law and dispute resolution, real estate and property management, building services engineering, architecture and civil engineering.

Routledge
Market: Research Methods/Built Environment
March 2021: 6.14 x 9.21: 270pp
Hb: 978-0-367-42988-1
Pb: 978-0-367-42987-4
eBook: 978-1-003-00053-2
* For **full contents** and more information, visit: **www.routledge.com/9780367429874**

Applied Quantitative Analysis for Real Estate

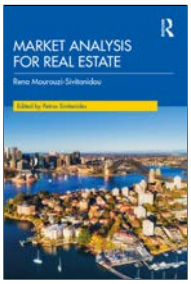


Sotiris Tsolacos, University of Reading, UK and **Mark Andrew**, Cass Business School, UK

This book presents an easy-to-read guide to applying quantitative analysis in real estate aimed at non-cognate undergraduate and Masters students, as well as meeting the requirements of modern professional practice. Both undergraduate and Masters level students, as well as real estate analysts in the professions will find this book to be essential reading.

Routledge
Market: Real Estate
September 2020: 6.85 x 9.69: 326pp
Hb: 978-1-138-56132-8
Pb: 978-1-138-56133-5
eBook: 978-0-203-71087-6
* For **full contents** and more information, visit: **www.routledge.com/9781138561335**

Market Analysis for Real Estate



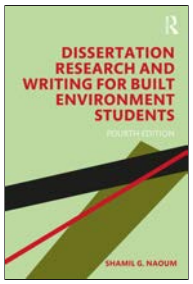
Rena Mourouzi-Sivitanidou, USC University of Southern California, USA and **Petros Sivitanides**, Neapolis Univeristy Pafos, Cyprus

This book is a comprehensive introduction to how real estate markets work and the analytical tools and techniques that can be used to recognize and interpret market signals. Developed in the classroom, the economic and financial theory in this book is rigorous but assumes no previous course work in either. This macroeconomic theory is backed up with numerous real estate case study examples and problems. Including glossary, discussion questions, extensive web links and online slides, this textbook is suitable for use on a variety of degree programs in Real Estate, Finance, Business, Planning and Economics at Undergraduate and MBA level. It is also a useful primer for professionals.

Routledge
Market: Real Estate, Urban Economics
August 2020: 7.44 x 9.69: 466pp
Hb: 978-0-367-23347-1
Pb: 978-0-367-23350-1
eBook: 978-0-429-27940-9
* For **full contents** and more information, visit: **www.routledge.com/9780367233501**

4th Edition

Dissertation Research and Writing for Built Environment Students



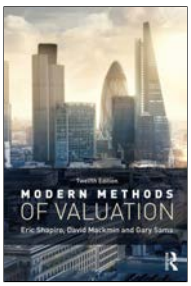
Shamil G. Naoum, London South Bank University, UK

Dissertation Research and Writing for Built Environment Students is the essential guide to get students through their final year research project. Trusted and developed over three previous editions, the new fourth edition shows you how to select a dissertation topic, write a proposal, conduct a literature review, select the research approach, gather the data, analyse and present the information and ultimately produce a well-written dissertation.

Routledge
Market: Research Methods, Built Environment
May 2019: 6.14 x 9.21: 316pp
Hb: 978-0-815-38462-5
Pb: 978-0-815-38463-2
eBook: 978-1-351-20391-3
Prev. Ed Pb: 978-0-415-53844-2
* For **full contents** and more information, visit: **www.routledge.com/9780815384632**

12th Edition

Modern Methods of Valuation

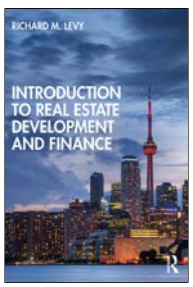


Eric Shapiro, Edward S. Shapiro, PhD, Director, Center for Promoting Research to Practice, and Professor, School Psychology Program, Lehigh University, **David Mackmin**, Sheffield Hallam University, UK and **Gary Sams**, FRICS

Modern Methods of Valuation covers real estate valuation theory and methods, UK valuation standards compliant with international standards and the application of these methods to the valuation of most types of property for most value purposes. This new edition is fully up to date with new professional standards and is an essential text for all three years of University and College degree programmes in Real Estate and related postgraduate conversion courses. It also supports RICS student members preparing for their Assessment of Professional Competence (APC).

Estates Gazette
Market: Property Valuation
January 2019: 6.14 x 9.21: 582pp
Hb: 978-1-138-50350-2
Pb: 978-1-138-50351-9
eBook: 978-1-315-14541-9
Prev. Ed Pb: 978-0-080-97116-2
* For **full contents** and more information, visit: **www.routledge.com/9781138503519**

Introduction to Real Estate Development and Finance

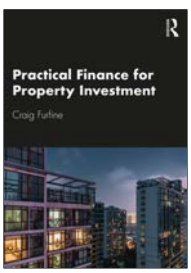


Richard M. Levy, University of Calgary, Canada

This book provides readers with a basic understanding of the principles that underlie real estate development. A brief historical overview and an introduction to basic principles are followed by examples from practice. Case studies focus on how cities change and respond to the economic, technological, social and political forces that shape urban development in North America. This book also provides an overview of the forces of supply and demand that gauge the potential market for a new project. In determining the size of "residual demand", estimates for population growth, family formation, and new development are important.

Routledge
Market: Real Estate Development, Finance
November 2019: 6.85 x 9.69: 288pp
Hb: 978-1-138-60244-1
Pb: 978-1-138-60245-8
eBook: 978-0-429-46956-5
* For **full contents** and more information, visit: **www.routledge.com/9781138602458**

Practical Finance for Property Investment



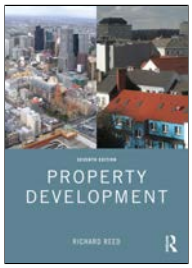
Craig Furfine, Northwestern, USA

Practical Finance for Property Investment provides readers with an introduction to the most fundamental concepts, principles, analytical methods and tools useful for making investing and financing decisions regarding income-producing property. *Practical Finance for Property Investment* offers a unique and novel pedagogy by pairing each book chapter with an in-depth real-world case study, which forces readers to confront the occasional tensions between finance theory and property investment practice.

Routledge
Market: Real Estate/Business/Finance
November 2019: 6.85 x 9.69: 174pp
Hb: 978-0-367-33303-4
Pb: 978-0-367-33304-1
eBook: 978-0-429-31911-2
* For **full contents** and more information, visit: **www.routledge.com/9780367333041**

7th Edition

Property Development



Richard Reed, Deakin University, Australia

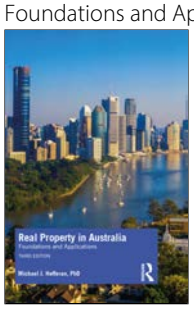
This fully revised 7th edition of *Property Development* has been completely updated to reflect ongoing changes in the property field and maintain the direct relevance of the text to all stakeholders involved in studying the property development process. This new edition of the standard text is ideally suited for all property development and real estate students will also be of interest to early career professionals and those pursuing similar professional degrees in the industry and in wider built environment courses.

Routledge
Market: Real Estate, Property Development
March 2021: 6.85 x 9.69: 376pp
Hb: 978-0-367-85833-9
Pb: 978-0-367-85835-3
eBook: 978-1-003-01530-7
Prev. Ed Pb: 978-0-415-82518-4
* For **full contents** and more information, visit: **www.routledge.com/9780367858353**

3rd Edition

Real Property in Australia

Foundations and Applications



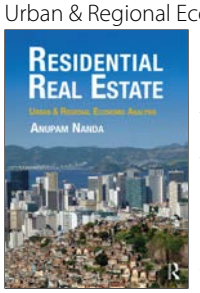
Michael J. Hefferan

The book integrates research-based theory with practical application and first-hand insights into a sector that underpins the Australian economy, its communities and its sustainability. It covers topics such as the nature of real property and its functions, economic drivers, valuation principles, legal and tenure parameters, property taxation, land development and subdivision, asset and property management and sustainability. It provides a wide and balanced perspective for experienced practitioners, investors, students, and anyone involved in property decision-making or wishing to secure a deeper understanding of these areas.

Routledge
Market: Property/Built Environment
August 2020: 6.85 x 9.69: 358pp
Hb: 978-0-367-48589-4
Pb: 978-0-367-48588-7
eBook: 978-1-003-04178-8
* For **full contents** and more information, visit: **www.routledge.com/9780367485887**

Residential Real Estate

Urban & Regional Economic Analysis



Anupam Nanda, University of Reading, UK

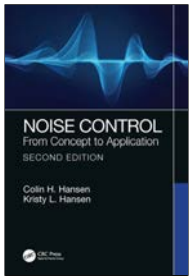
Residential Real Estate introduces readers to the theory and practice of housing markets. Students are taught to recognize the supply and demand drivers of dynamic housing markets in order to develop an understanding of the economic principles that underpin residential property markets. Using international case studies, readers are encouraged to analyse the relationship between the housing market and local, national and international economies. The ideal textbook for students of residential real estate, property and related business studies courses, this book will also be of interest to professionals and policymakers.

Routledge
Market: Real Estate, Housing, Economics
March 2019: 6.85 x 9.69: 262pp
Hb: 978-1-138-89830-1
Pb: 978-1-138-89831-8
eBook: 978-1-315-70864-5
* For **full contents** and more information, visit: **www.routledge.com/9781138898318**

2nd Edition

Noise Control

From Concept to Application



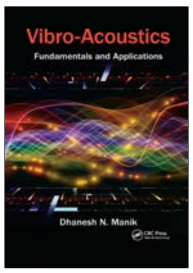
Colin H. Hansen, University of Adelaide, Australia and **Kristy L. Hansen**, Finders University, Australia

The second edition of *Noise Control: From Concept to Application,* newly expanded and thoroughly updated, now includes 180 graded problems with solutions, plus 100 end-of-chapter problems with solutions available for instructors on the authors' website. Working from basic scientific principles, the authors show how an understanding of sound can be applied to real-world settings, working through numerous examples in detail and covering good practice in noise control for both new and existing facilities.

CRC Press
Market: Mechanical and Industrial Engineering
August 2021: 7 x 10: 488pp
Hb: 978-1-138-36901-6
Pb: 978-1-138-36902-3
eBook: 978-0-429-42887-6
Prev. Ed Pb: 978-0-415-35861-3
* For **full contents** and more information, visit: **www.routledge.com/9781138369023**

Vibro-Acoustics

Fundamentals and Applications



Dhanesh N. Manik

Those interested in low-frequency vibration are generally concerned with the modal approach of using natural frequencies and mode shapes, whereas those interested in vibro-acoustics in medium and high frequencies are generally concerned with the wave approach. Since both approaches have their advantages, it is a good idea to study both together, for a better understanding of the physics of vibro-acoustics. This book systematically integrates the relevant aspects of vibro-acoustics from various viewpoints.

CRC Press
December 2020: 254x178: 504pp
Hb: 978-1-466-58093-0
Pb: 978-0-367-73630-9
eBook: 978-1-466-58101-2
* For **full contents** and more information, visit: **www.routledge.com/9780367736309**

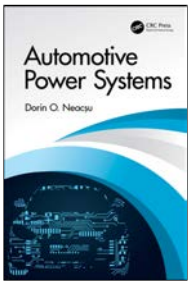
A Practical Guide to Vehicle Refinishing

Julian Woodstock, Colchester Institute, UK

This is a heavily illustrated guide for the Level 2 and 3 vehicle refinishing qualifications and a troubleshooting reference for more advanced technicians. It covers the whole repair process - from identifying different substrates and prepping to applying top coats - along with tools, equipment and health and safety.

CRC Press
Market: Automotive Engineering
October 2019: 6.85 x 9.69: 244pp
Hb: 978-1-138-48666-9
Pb: 978-1-138-48664-5
eBook: 978-1-351-04054-9
* For **full contents** and more information, visit: **www.routledge.com/9781138486645**

Automotive Power Systems



Dorin O. Neacșu, Technical University of Iasi, Romania.

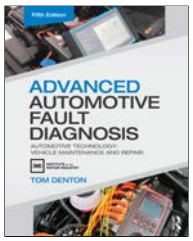
The main challenge in vehicle electrification consists of replacing the engine-based mechanical, pneumatic, or hydraulic ancillary energy sources with electrical energy processed through an electromagnetic device. The book illustrates this evolutionary process with numerous series-production examples for either of body or chassis systems, from old milestones to futuristic luxury vehicles. The first part of the book describes automotive technologies for generation and distribution of electrical power, as well as its usage within body systems, chassis systems, or lighting. The second part explores deeper into the specifics of each component of the vehicle electric power system.

CRC Press
Market: Engineering - Mechanical
September 2020: 235 x 156: 314pp
Hb: 978-0-367-51296-5
eBook: 978-1-003-05323-1
* For **full contents** and more information, visit: **www.routledge.com/9780367512965**

5th Edition

Advanced Automotive Fault Diagnosis

Automotive Technology: Vehicle Maintenance and Repair



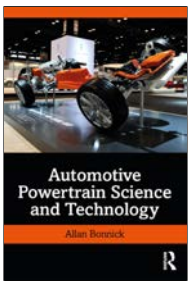
Tom Denton, IMI eLearning Development Manager, UK

This provides all the skills to pass Level 3 and 4 Vehicle Diagnostic courses from IMI, City and Guilds and BTEC, as well as ASE, AUR and other higher level qualifications.

This fifth edition of *Advanced Automotive Fault Diagnosis* includes new content on diagnostic tools and equipment, with ten totally new case studies. It explains the fundamentals of vehicle systems and components and examines diagnostic principles as well as effective vehicle maintenance and repair. Diagnostics, or fault finding, is an essential part of an automotive technician's work, and as automotive systems become increasingly complex there is a greater need for good diagnostics skills.

Routledge
Market: Automotive Engineering
September 2020: 8.62 x 10.8: 418pp
Hb: 978-0-367-33054-5
Pb: 978-0-367-33052-1
eBook: 978-0-429-31778-1
Prev. Ed Pb: 978-0-415-72576-7
* For **full contents** and more information, visit: **www.routledge.com/9780367330521**

Automotive Powertrain Science and Technology



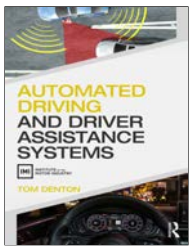
Allan Bonnick

A motor vehicle's powertrain consists of the components which generate power and enable it to move – its engine, exhaust system, transmission, drive shaft, suspension and wheels. Any automotive engineering student going beyond basic mechanics will need a sound knowledge of the mathematics and scientific principles, particularly calculus and algebra, which underpin powertrain technology.

This textbook supports a series of courses, for instance BTEC unit 28 "Further Mathematics for Engineering Technicians", and BTEC higher unit 25 "Engine and Vehicle Design and Performance", without giving full coverage of automotive technology.

Routledge
Market: Automotive Engineering
March 2020: 6.14 x 9.21: 208pp
Hb: 978-0-367-33111-5
Pb: 978-0-367-33113-9
eBook: 978-0-429-31802-3
* For **full contents** and more information, visit: **www.routledge.com/9780367331139**

Automated Driving and Driver Assistance Systems



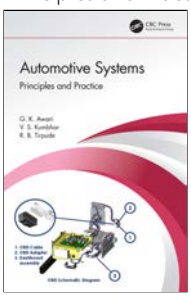
Tom Denton, IMI eLearning Development Manager, UK

Automated driving vehicles are undergoing serious testing around the world. This book explains the technologies straightforwardly, covering the subject from several angles but in particular showing the links to existing ADAS technologies already in use on all modern vehicles. While some manufacturers expect to have vehicles available from 2020, it will be much longer before they are commonplace. Yet it is crucial to be ready for the huge change automated driving will bring. This is the first book of its type available and complements Tom Denton's other books.

Routledge
Market: Automotive Engineering
October 2019: 7.44 x 9.69: 154pp
Hb: 978-0-367-26560-1
Pb: 978-0-367-26559-5
eBook: 978-0-429-29385-6
* For **full contents** and more information, visit: **www.routledge.com/9780367265595**

Automotive Systems

Principles and Practice

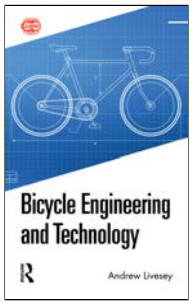


G.K. Awari, Gov. Polytechnic, Nagpur, **V.S. Kumbhar**, Government Polytechnic, Nagpur, INDIA and **R.B. Tirpude**, Government Polytechnic, Nagpur, INDIA

This book introduces the principles and practice of automotive systems including modern automotive systems incorporating the latest trends in the automobile industry. Divided into fifteen chapters, it presents the new and innovative methods to master the complexity of the vehicle of the future. Topics like vehicle classification, structure and layouts, engines, transmissions, braking, suspension, steering are illustrated with modern concepts as battery-electric, hybrid electric, and fuel cell vehicles and vehicle maintenance practices. Each chapter is supported by examples, illustrative figures, review questions and multiple-choice questions.

CRC Press
Market: Automotive Engineering
January 2021: 6.14 x 9.21: 302pp
Hb: 978-0-367-49842-9
eBook: 978-1-003-04763-6
* For **full contents** and more information, visit: **www.routledge.com/9780367498429**

Bicycle Engineering and Technology



Andrew Livesey

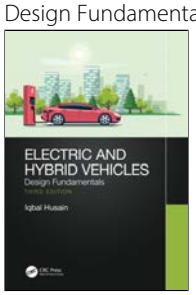
Rather than just explaining how to maintain a cycle, this book delves into the engineering of a bike and *why* it needs to be maintained as it does. Covering the applied science, manufacturing methods and mathematics related to cycles and cycling in an easy-to-understand way which will be accessible to both experienced cyclists and laypeople. This book will be a particularly useful resource for students on IMI, City & Guilds and Cytech Cycle Maintenance courses. It reflects the Bicycle Mechanic Apprenticeship Standard (level 2) and the IMI / C&G VRQs (level 2/3). It is supported by 200 photographs and 300 images for full, practical understanding of each topic.

Routledge
Market: Vehicle Engineering - Bicycles
November 2020: 6.14 x 9.21: 232pp
Hb: 978-0-367-41917-2
Pb: 978-0-367-41916-5
eBook: 978-0-367-81684-1
* For **full contents** and more information, visit: **www.routledge.com/9780367419165**

3rd Edition

Electric and Hybrid Vehicles

Design Fundamentals

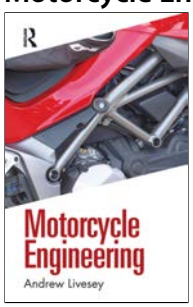


Iqbal Husain, North Carolina State University, Raleigh, North Carolina, USA

This thoroughly revised third edition presents a comprehensive systems level perspective of electric and hybrid vehicles with emphasis on technical aspects, mathematical relationships, and basic design guidelines. The platform has been set in this book for system level simulations to develop models using various softwares used in academia and industry, such as Matlab/Simulink, PLECS, PSIM, Motor-CAD and Altair Flux. Examples and simulation results are provided in this edition using these software tools. Engineers of multiple disciplines can either get a broader overview or explore in depth a particular aspect of electric or hybrid vehicles.

CRC Press
Market: Engineering - Electrical
February 2021: 7 x 10: 498pp
Hb: 978-1-138-59058-8
Pb: 978-0-367-69393-0
eBook: 978-0-429-49092-7
* For **full contents** and more information, visit: **www.routledge.com/9780367693930**

Motorcycle Engineering



Andrew Livesey

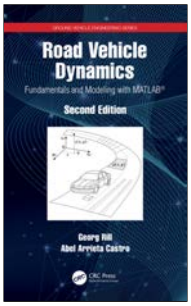
Motorcycle Engineering is written to give the reader a good all-round knowledge of how a motorcycle works. The complex engineering behind the machines is explained in easy-to-understand terms and supported by 350 images. It covers a range of motorcycle types, and will be particularly useful for students on motorcycle and motorsport courses such as those run by the IMI and City & Guilds, as well as BTEC programmes, and will serve as an excellent introductory text for HND and degree students on automotive type programmes.

Routledge
Market: Motorcycle Engineering
April 2021: 6.14 x 9.21: 380pp
Hb: 978-0-367-41920-2
Pb: 978-0-367-41919-6
eBook: 978-0-367-81685-8
* For **full contents** and more information, visit: **www.routledge.com/9780367419196**

2nd Edition

Road Vehicle Dynamics

Fundamentals and Modeling with MATLAB®



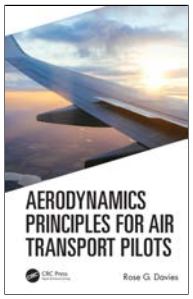
Georg Rill, University of Applied Sciences, Regensburg, Germany and **Abel Arrieta Castro**

Series: Ground Vehicle Engineering

Road Vehicle Dynamics: Fundamentals and Modeling with MATLAB®, Second Edition combines coverage of vehicle dynamics concepts with MATLAB v9.4 programming routines and results, along with examples and numerous chapter exercises. Improved and updated, the revised text offers new coverage of active safety systems, rear wheel steering, race car suspension systems, airsprings, four-wheel drive, mechatronics, and other topics. Based on the lead author's extensive lectures, classes, and research activities, this unique text provides readers with insights into the computer-based modeling of automobiles and other ground vehicles.

CRC Press
Market: Mechanical Engineering
May 2020: 6.14 x 9.21: 375pp
Hb: 978-0-367-19973-9
eBook: 978-0-429-24447-6
* For **full contents** and more information, visit: **www.routledge.com/9780367199739**

Aerodynamics Principles for Air Transport Pilots

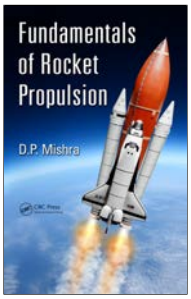


Rose G Davies, Massey University, New Zealand

Equipping readers with the ability to analyze the nature of airflow on aircrafts, the book provides comprehensive knowledge of the characteristics of subsonic and supersonic airflow. Readers will gain a clear understanding of the aerodynamic forces acting on an aircraft across a range of speeds and their effects on the aircraft's performance. The book emphasizes the connection between the operating actions in flight and aerodynamic requirements. The content will be of interest to senior undergraduates studying to obtain their Airline Transport Pilot License (ATPL)/Airline Transport Pilot (ATP) certificate, general aviation and air transport pilots, and aircraft maintenance engineers.

CRC Press
Market: Engineering - Aerospace
April 2020: 6.14 x 9.21: 266pp
Hb: 978-0-367-18854-2
eBook: 978-0-429-26115-2
* For **full contents** and more information, visit: **www.routledge.com/9780367188542**

Fundamentals of Rocket Propulsion



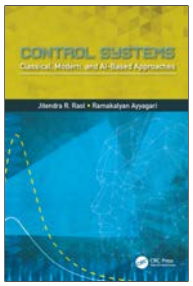
DP Mishra

Designed and developed as an introductory text on the fundamental aspects of rocket propulsion, this textbook comprises of ten chapters ranging from brief introduction and elements of rocket propulsion, aerothermodynamics to solid, liquid and hybrid propellant rocket engines with chapter on electrical propulsion. Worked out examples are provided at the end of chapter for understanding uncertainty analysis and including solutions manual for instructors.

CRC Press
June 2020: 6.14 x 9.21: 482pp
Hb: 978-1-498-78535-8
Pb: 978-0-367-57329-4
eBook: 978-1-498-78536-5
* For **full contents** and more information, visit: **www.routledge.com/9780367573294**

Control Systems

Classical, Modern, and AI-Based Approaches



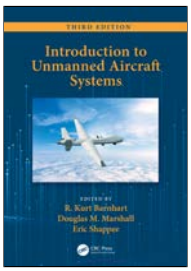
Jitendra R. Raol, Ramaiah Institute of Technology, Bangalore, India and **Ramakalyan Ayyagari**, National Institute of Technology (NIT), India

This book provides a broad and comprehensive study of the principles, mathematics, and applications for studying basic control in Mechanical, Electrical, Aerospace, and other engineering disciplines. The text builds a strong mathematical foundation of control theory, introducing linear, non-linear, digital, optimal, and robust control systems, and builds upon that foundation to address applications in emerging areas such as unmanned aicraft systems, robotic systems, and spacecraft. Numerical coverage with MATLAB® is integrated, and numerous examples and exercises are included in each chapter; and MATLAB® code will be available.

CRC Press
Market: Engineering - Electrical
July 2019: 279 x 216: 668pp
Hb: 978-0-815-34630-2
eBook: 978-1-351-17080-2
* For **full contents** and more information, visit: **www.routledge.com/9780815346302**

3rd Edition

Introduction to Unmanned Aircraft Systems



Edited by **R. Kurt Barnhart**, Kansas State Polytechnic, Salina, USA, **Douglas M. Marshall**, TrueNorth Consulting LLC, Grand Forks, North Dakota, USA and **Eric Shappee**, Kansas State Polytechnic, Salina, USA

Featuring chapters by leading experts, this fully updated bestseller fills the need for an accessible and effective university textbook. Focussing on the civilian applications of UAS, the text begins with an historical overview of unmanned aerial vehicles, and proceeds to examine each major UAS subsystem. Its combination of understandable technical coverage and up-to-date information on policy and regulation makes the text appropriate for both Aerospace Engineering and Aviation programs.

CRC Press
Market: Engineering-Mechanical
March 2021: 7 x 10: 524pp
Hb: 978-0-367-36659-9
eBook: 978-0-429-34749-8
Prev. Ed Hb: 978-1-482-26393-0
* For **full contents** and more information, visit: **www.routledge.com/9780367366599**

Design of Guidance and Control Systems for Tactical Missiles

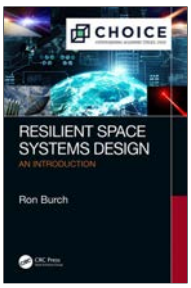
Qi Zaikang and **Lin Defu**

This book presents a modern, comprehensive study of the latest design methods for tactical missile guidance and control. It analyzes autopilot designs, seeker system designs, guidance laws and theories, and the internal and external disturbances affecting the performance factors of missile guidance control systems. The text combines detailed examination of key theories with practical coverage of methods for advanced missile guidance control systems. It is valuable both for college professors and students, as well as engineers and researchers around the world who work in the area of tactical missile guidance and control.

CRC Press
Market: Engineering- Mechanical
September 2019: 7 x 10: 254pp
Hb: 978-0-367-26041-5
eBook: 978-0-429-29120-3
* For **full contents** and more information, visit: **www.routledge.com/9780367260415**

Resilient Space Systems Design

An Introduction



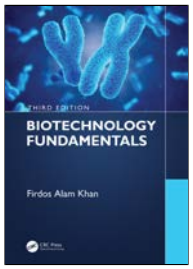
Ron Burch, The Boeing Company, Boeing Space & Launch, California, USA

Presenting a fundamental definition of resilience, the book examines the concept of resilience as it relates to space system design. The book establishes the required definitions, relates its place to existing state-of-the-art systems engineering practices, and explains the exact process and mathematical tools used to achieve a resilient design.

The book begins with space systems basics prior to exploring the details of resilience, and does not assume that the reader has an extensive background in the subject matter of resilience. Engineers and architects in the areas of aerospace, space systems, and space communications will be most interested in the content.

CRC Press
Market: Engineering / Aerospace
September 2019: 235 x 156: 192pp
Hb: 978-0-367-14848-5
eBook: 978-0-429-05360-3
* For **full contents** and more information, visit: **www.routledge.com/9780367148485**

Biotechnology Fundamentals

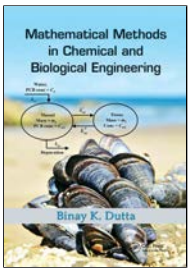


Firdos Alam Khan, Manipal University, Dubai, UAE

Biotechnology Fundamentals, Third Edition breaks down the basic fundamentals of this discipline, and highlights both conventional and modern approaches unique to the industry. The revised work presents new information on Forensic Science, Bioinformatics, Synthetic Biology, Biosimilars and Regenerative Medicine. In addition to recent advances and updates relevant to the previous edition, the revised work also covers ethics in biotechnology and discusses career possibilities in this growing field.

CRC Press
Market: Biomedical Sciences
March 2020: 7 x 10: 389pp
Hb: 978-1-138-61208-2
eBook: 978-1-003-02475-0
* For **full contents** and more information, visit: **www.routledge.com/9781138612082**

Mathematical Methods in Chemical and Biological Engineering



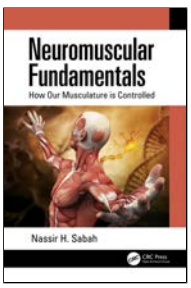
Binay Kanti Dutta

This book describes basic to moderately advanced mathematical techniques useful for shaping the model-based analysis of chemical and biological engineering systems. Covering an ideal balance of basic mathematical principles and applications to physico-chemical problems, the text presents examples drawn from recent literature on chemical engineering, biological and biomedical engineering, food processing, and a variety of diffusional problems to demonstrate the real-world value of the mathematical methods. Emphasis is placed on the background and physical understanding of the problems to prepare students for future challenging and innovative applications.

CRC Press
December 2020: 7 x 10: 718pp
Hb: 978-1-482-21038-5
Pb: 978-0-367-73673-6
eBook: 978-1-315-37391-1
* For **full contents** and more information, visit: **www.routledge.com/9780367736736**

Neuromuscular Fundamentals

How Our Musculature is Controlled



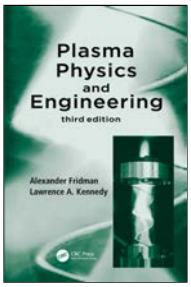
Nassir H. Sabah, American University of Beirut, Lebanon

The book is concerned with the operation of the neuromuscular system, which is the part of our nervous system that enables us to maintain an upright posture and allows voluntary or involuntary movement of our limbs and other body parts. The approach is essentially that of an engineering textbook, emphasizing the quantitative aspects and highlighting the fundamentals and basic concepts involved. The coverage progresses in a logical and systematic manner from the subcellular, starting with the electrophysiology of the cell membrane, then proceeding to synapses, neurons, and muscle, before considering neuronal motor ensembles and the neuromuscular system as a whole.

CRC Press
Market: Biomedical Engineering
November 2020: 6.14 x 9.21: 574pp
Hb: 978-0-367-45692-4
eBook: 978-1-003-02479-8
* For **full contents** and more information, visit: **www.routledge.com/9780367456924**

3rd Edition

Plasma Physics and Engineering

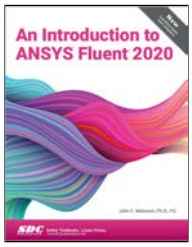


Alexander Fridman, Drexel University, A.J. Drexel Plasma Institute, Philadelphia, Pennsylvania, USA and **Lawrence A. Kennedy**, University of Illinois at Chicago, Dept. of Mechanical & Industrial Engineering, USA

Plasma Physics and Engineering presents basic and applied knowledge on modern plasma physics, plasma chemistry and plasma engineering for senior undergraduate and graduate students as well as for scientists and engineers, working in academia, research labs and industry with plasmas, laser and combustion systems. This is a unique book providing a clear fundamental introduction to all aspects of modern plasma science, describing all electric discharges applied today from vacuum to atmospheric pressure and higher, from thermal plasma sources to essentially cold non-equilibrium discharges. A solutions manual is available, which is helpful in relevant university courses.

CRC Press
Market: Physics
February 2021: 7 x 10: 724pp
Hb: 978-1-498-77221-1
eBook: 978-1-498-77223-5
Prev. Ed Hb: 978-1-439-81228-0
* For **full contents** and more information, visit: **www.routledge.com/9781498772211**

An Introduction to ANSYS Fluent 2020†

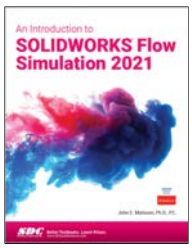


John Matsson

This book uses applied problems to walk you step-by-step through completing CFD simulations for many common flow cases, including internal and external flows, laminar and turbulent flows, steady and unsteady flows, and single-phase and multiphase flows. To better understand the mathematical models being applied, we'll validate the results from ANSYS Fluent with numerical solutions calculated using Mathematica. Throughout this book we'll learn how to create geometry using ANSYS Workbench and ANSYS DesignModeler, how to create mesh using ANSYS Meshing, how to use physical models and how to perform calculations using ANSYS Fluent.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
September 2020: 8.25 x 11: 552pp
Pb: 978-1-630-57396-6
* For **full contents** and more information, visit: **www.routledge.com/9781630573966**
† **This title is unavailable in North and South America**

An Introduction to SOLIDWORKS Flow Simulation 2021†



John Matsson

This book takes you through the steps of creating the SOLIDWORKS part for the simulation followed by the setup and calculation of the SOLIDWORKS Flow Simulation project. The results from calculations are visualized and compared with theoretical solutions and empirical data. Each chapter starts with the objectives and a description of the specific problems that are studied. End of chapter exercises are included for reinforcement and practice of what has been learned.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
April 2021: 8.25 x 11: 350pp
Pb: 978-1-630-57385-0
* For **full contents** and more information, visit: **www.routledge.com/9781630573850**
† **This title is unavailable in North and South America**

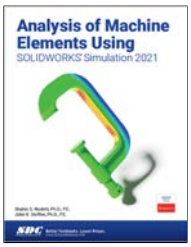
Analysis of Machine Elements Using SOLIDWORKS Simulation 2020†

Shahin Nudehi and John Steffen

Written primarily for first-time SOLIDWORKS Simulation 2020 users this book enables those who wish to understand finite element analysis capabilities applicable to stress analysis of mechanical elements. The focus of examples is on problems commonly found in introductory, undergraduate, Design of Machine Elements or similarly named courses.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 7.44 x 9.69: 600pp
Pb: 978-1-630-57312-6
* For **full contents** and more information, visit: **www.routledge.com/9781630573126**
† **This title is unavailable in North and South America**

Analysis of Machine Elements Using SOLIDWORKS Simulation 2021†



Shahin S. Nudehi and John R. Steffen

This book is written primarily for first-time SOLIDWORKS Simulation 2021 users who wish to understand finite element analysis capabilities applicable to stress analysis of mechanical elements. The focus of examples is on problems commonly found in introductory, undergraduate, Design of Machine Elements or similarly named courses.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
July 2021: 8.25 x 11: 550pp
Pb: 978-1-630-57379-9
* For **full contents** and more information, visit: **www.routledge.com/9781630573799**
† **This title is unavailable in North and South America**

ANSYS Tutorial Release 2020†

Kent Lawrence

The eight lessons in this book introduce you to effective finite element problem solving by demonstrating the use of the comprehensive ANSYS FEM Release 2020 software in a series of step-by-step tutorials. The tutorials are suitable for either professional or student use. The concise treatment includes examples of truss, beam and shell elements completely updated for use with ANSYS APDL 2020.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
September 2020: 279 x 216: 190pp
Pb: 978-1-630-57394-2
* For **full contents** and more information, visit: **www.routledge.com/9781630573942**
† **This title is unavailable in North and South America**

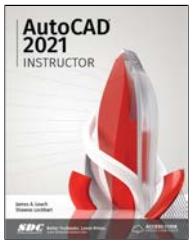
AutoCAD 2021 for the Interior Designer†

Dean Muccio

This book provides the Interior Design student with a non-intimidating, tutorial based approach to learning the AutoCAD program. It accomplishes this by taking students that have no computer design experience from simple commands to complete projects in this single-semester sized text. This well organized and progressive approach to learning AutoCAD sets this text apart from others. To support all users, this book covers AutoCAD for both Macs and PCs.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 6.85 x 9.69: 430pp
Pb: 978-1-630-57349-2
* For **full contents** and more information, visit: **www.routledge.com/9781630573492**
† **This title is unavailable in North and South America**

AutoCAD 2021 Instructor†



Shawna Lockhart and James Leach

This book is your AutoCAD 2021 Instructor. The objective of this book is to provide you with extensive knowledge of AutoCAD, whether you are taking an instructor-led course or learning on your own. AutoCAD 2021 Instructor maintains the pedagogy and in-depth coverage that have always been the hallmark of the Leach texts. As the top-selling university textbook for almost a decade, the AutoCAD Instructor series continues to deliver broad coverage of AutoCAD in a structured, easy-to-comprehend manner.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 8.25 x 11: 1256pp
Pb: 978-1-630-57336-2
* For **full contents** and more information, visit: **www.routledge.com/9781630573362**
† This title is unavailable in North and South America

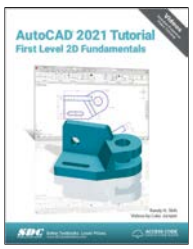
Autodesk AutoCAD 2021 Fundamentals†

Elise Moss

Autodesk AutoCAD 2021 Fundamentals is designed to be used during instructor led training in an eight-week course. It is an introductory level textbook intended for new AutoCAD 2021 users. This book covers all the fundamental skills necessary for effectively using AutoCAD and will provide a strong foundation for advancement. This text not only provides the necessary information to operate AutoCAD 2021 but also provides the skills to use AutoCAD as a tool to work proficiently as a drafter or designer.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
December 2020: 279 x 216: 736pp
Pb: 978-1-630-57346-1
* For **full contents** and more information, visit: **www.routledge.com/9781630573461**
† This title is unavailable in North and South America

AutoCAD 2021 Tutorial First Level 2D Fundamentals†



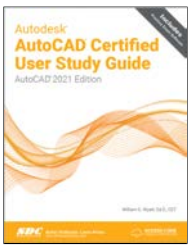
Randy Shih and Luke Jumper

This textbook introduces Computer Aided Design and Drafting (CADD) as a training guide for students and professionals. This text covers AutoCAD 2021 and the lessons proceed in a pedagogical fashion to guide you from constructing basic shapes to making multiview drawings.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 8.25 x 11: 486pp
Pb: 978-1-630-57339-3
* For **full contents** and more information, visit: **www.routledge.com/9781630573393**
† This title is unavailable in North and South America

Autodesk AutoCAD Certified User Study Guide†

AutoCAD 2021 Edition

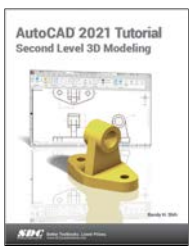


William Wyatt

This Study Guide is designed for the AutoCAD user who is already familiar with AutoCAD. It provides a series of hands on exercises and tutorials in the use of AutoCAD to help you prepare for the Autodesk AutoCAD Certified User Exam. The text covers all the exam objectives for the AutoCAD Certified User Exam. Each topic is covered in detail, and then is followed up with tutorials and quizzes to reinforce the material covered.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 279 x 216: 378pp
Pb: 978-1-630-57361-4
* For **full contents** and more information, visit: **www.routledge.com/9781630573614**
† This title is unavailable in North and South America

AutoCAD 2021 Tutorial Second Level 3D Modeling†



Randy H. Shih

The primary goal of AutoCAD 2021 Tutorial Second Level 3D Modeling is to introduce the aspects of computer based three dimensional modeling. This text is intended to be used as a training guide for both students and professionals. By going through this book you will establish a good basis for exploring and growing in the exciting field of Computer Aided Engineering.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
September 2020: 8.25 x 11: 400pp
Pb: 978-1-630-57357-7
* For **full contents** and more information, visit: **www.routledge.com/9781630573577**
† This title is unavailable in North and South America

Autodesk Inventor 2021†

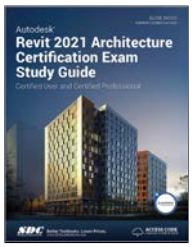
A Tutorial Introduction

L. Scott Hansen

This unique text and video set presents a thorough introduction to Autodesk Inventor for anyone with little or no prior experience with CAD software. It can be used in virtually any setting from four year engineering schools to on-the-job use or self-study. Unlike other books of its kind, it begins at a very basic level and ends at a very advanced level. It's perfect for anyone interested in learning Autodesk Inventor quickly and effectively using a "learning by doing" approach. Additionally, the extensive videos that are included with this book make it easier than ever to learn Inventor by clearly demonstrating how to use its tools.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 6.85 x 9.69: 450pp
Pb: 978-1-630-57364-5
* For **full contents** and more information, visit: **www.routledge.com/9781630573645**
† This title is unavailable in North and South America

Autodesk Revit 2021 Architecture Certification Exam Study Guide†



Elise Moss

This book is geared toward users who have been using Autodesk Revit for at least six months and are ready to pursue their official Autodesk Revit certification. This fast paced book will get you ready for the certification exams quickly with fun and easy to follow instructions, covering everything from masses to views to documentation. Autodesk offers two levels of certification exam: the Autodesk Certified User exam and the Autodesk Certified Professional exam. It covers both of the Autodesk Revit certification exams using step-by-step instructions and is packed with valuable information you'll want to know before taking either of these exams.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 279 x 216: 600pp
Pb: 978-1-630-57367-6
* For **full contents** and more information, visit: **www.routledge.com/9781630573676**
† This title is unavailable in North and South America

Autodesk Revit for Architecture Certified User Exam Preparation†

Revit 2021 Edition

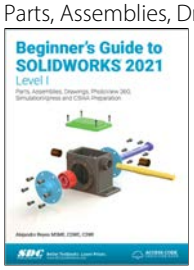
Daniel John Stine

This book is intended for the Revit user who has about 150 hours of instruction and real-world experience with Autodesk Revit software. It will help guide you in your preparation for the Autodesk Certified User, Revit for Architecture exam. It provides an overview of the exam process, the user interface and the four main topics: Creating and Modifying Components, Modeling and Modifying Elements, Managing Views, and Managing Documentation. At the end of the book, there is a sample multiple-choice practice test to self-assess your readiness for the exam. You also get access to sample exam software, which simulates the actual exam, and a discount on taking the actual exam.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 6.85 x 9.69: 150pp
Pb: 978-1-630-57348-5
* For **full contents** and more information, visit: **www.routledge.com/9781630573485**
† This title is unavailable in North and South America

Beginner's Guide to SOLIDWORKS 2021 - Level I†

Parts, Assemblies, Drawings, PhotoView 360 and SimulationXpress



Alejandro Reyes

This book is intended to help new users learn the basic concepts of SOLIDWORKS and good solid modeling techniques in an easy to follow guide that includes video instruction. It is a great starting point for those new to SOLIDWORKS or as a teaching aid in classroom training to become familiar with the software's interface, basic commands and strategies as users complete a series of models while learning different ways to accomplish a particular task.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
January 2021: 279 x 216: 792pp
Pb: 978-1-630-57386-7
* For **full contents** and more information, visit: **www.routledge.com/9781630573867**
† This title is unavailable in North and South America

Beginner's Guide to SOLIDWORKS 2021 - Level II†

Sheet Metal, Top Down Design, Weldments, Surfacing and Molds

Alejandro Reyes

Beginner's Guide to SOLIDWORKS 2021 – Level II starts where Beginner's Guide – Level I ends, following the same easy to read style and companion video instruction, but this time covering advanced topics and techniques. The purpose of this book is to teach advanced techniques including sheet metal, surfacing, how to create components in the context of an assembly and reference other components (Top-down design), propagate design changes with SOLIDWORKS' parametric capabilities, mold design, welded structures and more while explaining the basic concepts of each trade to allow you to understand the how and why of each operation.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
March 2021: 8.25 x 11: 700pp
Pb: 978-1-630-57389-8
* For **full contents** and more information, visit: **www.routledge.com/9781630573898**
† This title is unavailable in North and South America

Certified SOLIDWORKS Professional Advanced Preparation Material (SOLIDWORKS 2021)†

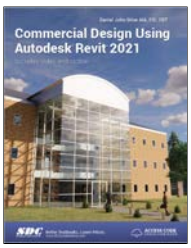
Sheet Metal, Weldments, Surfacing, Mold Tools and Drawing Tools

Paul Tran

Certified SOLIDWORKS Professional Advanced Preparation Material is intended for the SOLIDWORKS user who has already passed the CSWP exam, and is ready to advance to the next level. This book covers the five CSWPA examinations: Sheet Metal, Weldments, Surfacing, Mold Tools, and Drawing Tools.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
December 2020: 279 x 216: 262pp
Pb: 978-1-630-57392-8
* For **full contents** and more information, visit: **www.routledge.com/9781630573928**
† This title is unavailable in North and South America

Commercial Design Using Autodesk Revit 2021†



Daniel John Stine

Designed for the architectural student using Revit 2021, this text provides a well-rounded knowledge of tools and techniques for use in both school and industry. It takes a project based approach to learning Revit's architectural tools in which to develop a three story office building. Each book also includes access to nearly 100 video tutorials designed to further help you master Autodesk Revit. General building codes and industry standard conventions are covered in a way that is applicable to the current exercise.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 6.85 x 9.69: 624pp
Pb: 978-1-630-57351-5
* For **full contents** and more information, visit: **www.routledge.com/9781630573515**
† This title is unavailable in North and South America

Creo Parametric 5.0 Advanced Tutorial†

Roger Toogood

The purpose of *Creo Parametric 5.0 Advanced Tutorial* is to introduce you to some of the more advanced features, commands, and functions in Creo Parametric. Each lesson concentrates on a few of the major topics and the text attempts to explain the "why's" of the commands in addition to a concise step-by-step description of new command sequences.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2018: 279 x 216: 272pp
Pb: 978-1-630-57210-5
* For **full contents** and more information, visit: **www.routledge.com/9781630572105**
† **This title is unavailable in North and South America**

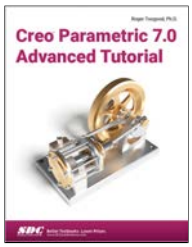
Creo Simulate 5.0 Tutorial†

Roger Toogood

Creo Simulate 5.0 Tutorial introduces new users to finite element analysis using Creo Simulate and how it can be used to analyze a variety of problems. The tutorial lessons cover the major concepts and frequently used commands required to progress from a novice to an intermediate user level. The commands are presented in a click-by-click manner using simple examples and exercises that illustrate a broad range of the analysis types that can be performed.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
July 2018: 279 x 216: 300pp
Pb: 978-1-630-57208-2
* For **full contents** and more information, visit: **www.routledge.com/9781630572082**
† **This title is unavailable in North and South America**

Creo Parametric 7.0 Advanced Tutorial†

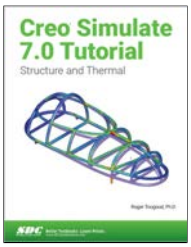


Roger Toogood

The purpose of *Creo Parametric 7.0 Advanced Tutorial* is to introduce you to some of the more advanced features, commands, and functions in Creo Parametric. Each lesson concentrates on a few of the major topics and the text attempts to explain the "why's" of the commands in addition to a concise step-by-step description of new command sequences. This book is suitable for a second course in Creo Parametric and for users who understand the features already covered in Roger Toogood's *Creo Parametric Tutorial*

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
September 2020: 279 x 216: 270pp
Pb: 978-1-630-57378-2
* For **full contents** and more information, visit: **www.routledge.com/9781630573782**
† **This title is unavailable in North and South America**

Creo Simulate 7.0 Tutorial†

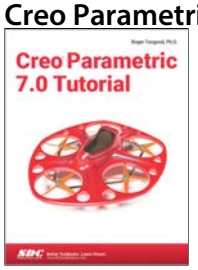


Roger Toogood

Creo Simulate 7.0 Tutorial introduces new users to finite element analysis using Creo Simulate and how it can be used to analyze a variety of problems. The tutorial lessons cover the major concepts and frequently used commands required to progress from a novice to an intermediate user level. The commands are presented in a click-by-click manner using simple examples and exercises that illustrate a broad range of the analysis types that can be performed. ; This tutorial deals exclusively with operation in integrated mode with Creo Parametric. It is suitable for use with both Releases 7.0 of Creo Simulate.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
September 2020: 279 x 216: 300pp
Pb: 978-1-630-57382-9
* For **full contents** and more information, visit: **www.routledge.com/9781630573829**
† **This title is unavailable in North and South America**

Creo Parametric 7.0 Tutorial†



Roger Toogood

The eleven lessons in this tutorial introduce you to the design capabilities of Creo Parametric 7.0. The tutorial covers the major concepts and frequently used commands required to advance from a novice to an intermediate user level. Major topics include part and assembly creation, and creation of engineering drawings. Also illustrated are the major functions that make Creo Parametric a parametric solid modeler.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
September 2020: 279 x 216: 408pp
Pb: 978-1-630-57373-7
* For **full contents** and more information, visit: **www.routledge.com/9781630573737**

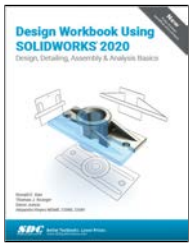
Design Integration Using Autodesk Revit 2021†

Daniel John Stine

Designed to provide a well-rounded knowledge of Autodesk Revit tools and techniques, all three disciplines of the Revit platform are introduced in this textbook. This approach gives you a broad overview of the Building Information Modeling (BIM) process. The topics cover the design integration of most of the building disciplines: Architectural, Interior Design, Structural, Mechanical, Plumbing and Electrical. Civil is not covered, but adding topography to your model is. Each book also includes access to nearly 100 video tutorials designed to further help you master Autodesk Revit.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 6.85 x 9.69: 900pp
Pb: 978-1-630-57362-1
* For **full contents** and more information, visit: **www.routledge.com/9781630573621**

Design Workbook Using SOLIDWORKS 2020†



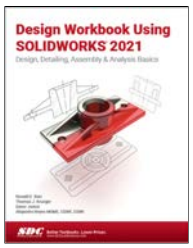
Ronald Barr, Davor Juretic, Thomas Krueger and Alejandro Reyes

Revised and refreshed for SOLIDWORKS 2020, this exercise-based book guides you through a series of easy to understand, step-by-step tutorials that cover basic SOLIDWORKS commands. The 2020 edition includes updated SOLIDWORKS processes and methods to create models more efficiently than ever before. The intended audience is undergraduate engineering majors, but it can also be used in pre-college engineering courses.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 246x174: 300pp
Pb: 978-1-630-57304-1
* For **full contents** and more information, visit: **www.routledge.com/9781630573041**
† **This title is unavailable in North and South America**

Design Workbook Using SOLIDWORKS 2021†

Design, Detailing, Assembly & Analysis Basics

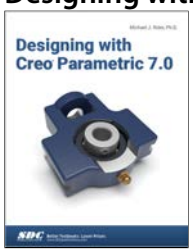


Ronald Barr, Thomas Krueger, Alejandro Reyes and Davor Juricic

Revised and refreshed for SOLIDWORKS 2021, this book is an exercise-based book that guides you through a series of easy to understand, step-by-step tutorials that cover basic SOLIDWORKS commands. The 2021 edition includes updated SOLIDWORKS processes and methods to create models more efficiently than ever before. The intended audience is undergraduate engineering majors, but it can also be used in pre-college engineering courses. The engaging and straightforward lab exercises in this workbook are also ideal for self-learners.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
April 2021: 8.25 x 11: 250pp
Pb: 978-1-630-57398-0
* For **full contents** and more information, visit: **www.routledge.com/9781630573980**
† **This title is unavailable in North and South America**

Designing with Creo Parametric 7.0†



Michael J. Rider

This book provides the high school student, college student, or practicing engineer with a basic introduction to engineering design while learning the 3D modeling Computer-Aided Design software called Creo Parametric from PTC. The topics are presented in tutorial format with exercises at the end of each chapter to reinforce the concepts covered. It is richly illustrated with computer screen shots throughout. Above all, this text is designed to help you expand your creative talents and communicate your ideas through the graphics language.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
September 2020: 279 x 216: 550pp
Pb: 978-1-630-57375-1
* For **full contents** and more information, visit: **www.routledge.com/9781630573751**
† **This title is unavailable in North and South America**

Engineering Analysis with SOLIDWORKS Simulation 2020†

Paul Kurowski

Engineering Analysis with SOLIDWORKS Simulation 2020 goes beyond the standard software manual. Its unique approach concurrently introduces you to the SOLIDWORKS Simulation 2020 software and the fundamentals of Finite Element Analysis (FEA) through hands-on exercises. A number of projects are presented using commonly used parts to illustrate the analysis features of SOLIDWORKS Simulation. Each chapter is designed to build on the skills, experiences and understanding gained from the previous chapters.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
April 2020: 8.25 x 11: 600pp
Pb: 978-1-630-57325-6
* For **full contents** and more information, visit: **www.routledge.com/9781630573256**
† **This title is unavailable in North and South America**

Engineering Analysis with SOLIDWORKS Simulation 2021†

Paul Kurowski

This book goes beyond the standard software manual. Its unique approach concurrently introduces you to the SOLIDWORKS Simulation 2021 software and the fundamentals of Finite Element Analysis (FEA) through hands-on exercises. A number of projects are presented using commonly used parts to illustrate the analysis features of SOLIDWORKS Simulation. Each chapter is designed to build on the skills, experiences and understanding gained from the previous chapters.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
April 2021: 8.25 x 11: 600pp
Pb: 978-1-630-57383-6
* For **full contents** and more information, visit: **www.routledge.com/9781630573836**
† **This title is unavailable in North and South America**

Engineering Design with SOLIDWORKS 2021†

A Step-by-Step Project Based Approach Utilizing 3D Solid Modeling

David C. Planchard

Engineering Design with SOLIDWORKS 2021 is written to assist students, designers, engineers and professionals. The book provides a solid foundation in SOLIDWORKS by utilizing projects with step-by-step instructions for the beginner to intermediate SOLIDWORKS user featuring machined, plastic and sheet metal components.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
February 2021: 8.25 x 11: 800pp
Pb: 978-1-630-57400-0
* For **full contents** and more information, visit: **www.routledge.com/9781630574000**
† **This title is unavailable in North and South America**

Engineering Graphics Essentials with AutoCAD 2021 Instruction†

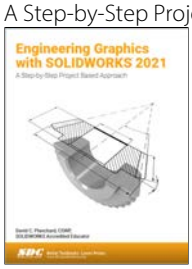
Kirstie Plantenberg, SDC Publications, USA

Engineering Graphics Essentials with AutoCAD 2021 Instruction gives students a basic understanding of how to create and read engineering drawings by presenting principles in a logical and easy to understand manner. It covers the main topics of engineering graphics, including tolerancing and fasteners, while also teaching students the fundamentals of AutoCAD 2021. This book features independent learning material containing supplemental content to further reinforce these principles.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
July 2020: 8.25 x 11: 948pp
Pb: 978-1-630-57350-8
* For **full contents** and more information, visit: **www.routledge.com/9781630573508**
† **This title is unavailable in North and South America**

Engineering Graphics with SOLIDWORKS 2021†

A Step-by-Step Project Based Approach

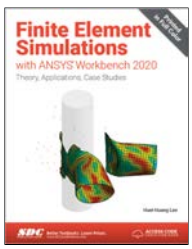


David C. Planchard

Engineering Graphics with SOLIDWORKS 2021 is written to assist students, designers, engineers and professionals who are new to SOLIDWORKS. The book combines the fundamentals of engineering graphics and dimensioning practices with a step-by-step project-based approach to learning SOLIDWORKS. Desired outcomes and usage competencies are listed for each project. Know your objectives up front. Follow the step-by step procedures to achieve your design goals. Work between multiple documents, features, commands, and properties that represent how engineers and designers utilize SOLIDWORKS in industry.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
February 2021: 8.25 x 11: 600pp
Pb: 978-1-630-57407-9
* For **full contents** and more information, visit: **www.routledge.com/9781630574079**
† **This title is unavailable in North and South America**

Finite Element Simulations with ANSYS Workbench 2020†

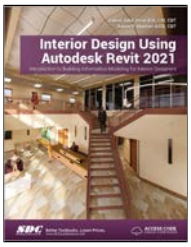


Huei-Huang Lee

Finite Element Simulations with ANSYS Workbench 2020 is a comprehensive and easy to understand workbook. Printed in full color, it utilizes rich graphics and step-by-step instructions to guide you through learning how to perform finite element simulations using ANSYS Workbench. Twenty seven real world case studies are used throughout the book. Many of these case studies are industrial or research projects that you build from scratch. Prebuilt project files are available for download should you run into any problems. Companion videos, that demonstrate exactly how to perform each tutorial, are also available.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
September 2020: 8.25 x 11: 618pp
Pb: 978-1-630-57401-7
* For **full contents** and more information, visit: **www.routledge.com/9781630574017**

Interior Design Using Autodesk Revit 2021†



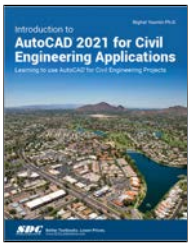
Daniel John Stine and Aaron Hansen

This book provides the interior design student a well-rounded knowledge of Autodesk Revit tools and techniques. These skills can then be applied to enhance professional development in both academia and industry. Each book also includes access to nearly 100 video tutorials designed to further help you master Autodesk Revit. The book helps you learn Revit while developing the interior of a two story law office.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 6.85 x 9.69: 850pp
Pb: 978-1-630-57365-2
* For **full contents** and more information, visit: **www.routledge.com/9781630573652**
† **This title is unavailable in North and South America**

Introduction to AutoCAD 2021 for Civil Engineering Applications†

Learning to use AutoCAD for Civil Engineering Projects

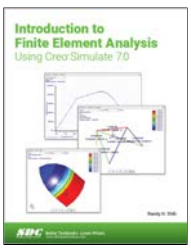


Nighat Yasmin

This book provides you with a clear presentation of the theory of engineering graphics and the use of AutoCAD 2021 as they pertain to civil engineering applications. This combination of theory and its practical application will give you the knowledge and skills necessary to create designs that are accurate and easily understood by others.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
October 2020: 8.25 x 11: 800pp
Pb: 978-1-630-57338-6
* For **full contents** and more information, visit: **www.routledge.com/9781630573386**
† **This title is unavailable in North and South America**

Introduction to Finite Element Analysis Using Creo Simulate 7.0†

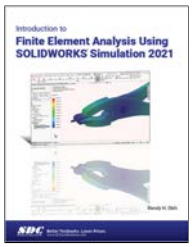


Randy H. Shih

The primary goal of *Introduction to Finite Element Analysis Using Creo Simulate 7.0* is to introduce the aspects of finite element analysis (FEA) that are important to engineers and designers. Theoretical aspects of finite element analysis are also introduced as they are needed to help better understand the operations. This text is intended to be used as a training guide for both students and professionals. This text covers Creo Simulate 7.0 and the lessons proceed in a pedagogical fashion to guide you from constructing basic truss elements to generating three-dimensional solid elements from solid models.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
September 2020: 279 x 216: 438pp
Pb: 978-1-630-57384-3
* For **full contents** and more information, visit: **www.routledge.com/9781630573843**

Introduction to Finite Element Analysis Using SOLIDWORKS Simulation 2021†

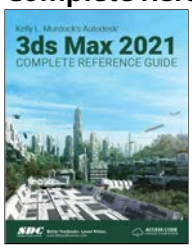


Randy H. Shih

The primary goal of Introduction to Finite Element Analysis Using SOLIDWORKS Simulation 2021 is to introduce the aspects of Finite Element Analysis (FEA) that are important to engineers and designers. Theoretical aspects of FEA are also introduced as they are needed to help better understand the operation.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
April 2021: 8.25 x 11: 500pp
Pb: 978-1-630-57387-4
* For **full contents** and more information, visit: **www.routledge.com/9781630573874**
† **This title is unavailable in North and South America**

Kelly L. Murdock's Autodesk 3ds Max 2021 Complete Reference Guide†

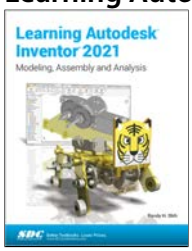


Kelly L. Murdock

The Complete Reference Guide is the ultimate book on 3ds Max. Whether you're new to 3ds Max or an experienced user, you'll find everything you need in this complete resource. The book kicks off with a getting started section, so beginners can jump in and begin working with 3ds Max right away. Experienced 3ds Max users will appreciate advanced coverage of features like crowd simulation, particle systems, radiosity, MAXScript and more. Over 150 tutorials – complete with before and after files – help users at all levels build real world skills.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
September 2020: 279 x 216: 1312pp
Pb: 978-1-630-57334-8
* For **full contents** and more information, visit: **www.routledge.com/9781630573348**
† **This title is unavailable in North and South America**

Learning Autodesk Inventor 2021†

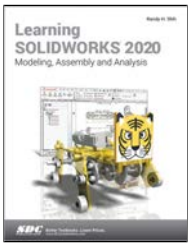


Randy Shih

This book will teach you everything you need to know to start using Autodesk Inventor 2021 with easy to understand, step-by-step tutorials. This book features a simple robot design used as a project throughout the book. You will learn to model parts, create assemblies, run simulations and even create animations of your robot design. An unassembled version of the same robot used throughout the book can be bundled with the book.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
July 2020: 279 x 216: 500pp
Pb: 978-1-630-57344-7
* For **full contents** and more information, visit: **www.routledge.com/9781630573447**
† **This title is unavailable in North and South America**

Learning SOLIDWORKS 2020†



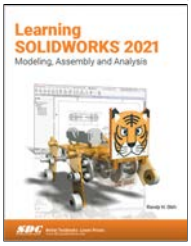
Randy Shih

This book will teach you everything you need to know to start using SOLIDWORKS 2020 with easy to understand, step-by-step tutorials. This book features a simple robot design used as a project throughout the book. You will learn to model parts, create assemblies, run simulations and even create animations of your robot design.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
March 2020: 279 x 216: 550pp
Pb: 978-1-630-57308-9
* For **full contents** and more information, visit: **www.routledge.com/9781630573089**
† **This title is unavailable in North and South America**

Learning SOLIDWORKS 2021†

Modeling, Assembly and Analysis



Randy H. Shih

This book will teach you everything you need to know to start using SOLIDWORKS 2021 with easy to understand, step-by-step tutorials. This book features a simple robot design used as a project throughout the book. You will learn to model parts, create assemblies, run simulations and even create animations of your robot design.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
April 2021: 8.25 x 11: 750pp
Pb: 978-1-630-57411-6
* For **full contents** and more information, visit: **www.routledge.com/9781630574116**
† **This title is unavailable in North and South America**

Machining Simulation Using SOLIDWORKS CAM 2020†

Kuang-Hua Chang

This book will teach all the important concepts and steps used to conduct machining simulations using SOLIDWORKS CAM. It's written to help the user become familiar with the practical applications of conducting machining simulations in SOLIDWORKS CAM. It provides the basic concepts and steps needed to use the software, as well as a discussion of the G-codes generated. Users will gain a clear understanding of how to use SOLIDWORKS CAM for machining simulations and should be able to apply this knowledge to carry out machining assignments on their own product designs.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
July 2020: 6.85 x 9.69: 300pp
Pb: 978-1-630-57333-1
* For **full contents** and more information, visit: **www.routledge.com/9781630573331**
† **This title is unavailable in North and South America**

Machining Simulation Using SOLIDWORKS CAM 2021†

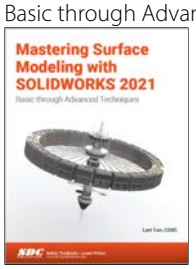
Kuang-Hua Chang

This book will teach you all the important concepts and steps used to conduct machining simulations using SOLIDWORKS CAM. This book is intentionally kept simple. It's written to help you become familiar with the practical applications of conducting machining simulations in SOLIDWORKS CAM. This book provides you with the basic concepts and steps needed to use the software, as well as a discussion of the G-codes generated. After completing this book, you should have a clear understanding of how to use SOLIDWORKS CAM for machining simulations and should be able to apply this knowledge to carry out machining assignments on your own product designs.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
August 2021: 8.25 x 11: 300pp
Pb: 978-1-630-57414-7
* For **full contents** and more information, visit: **www.routledge.com/9781630574147**
† **This title is unavailable in North and South America**

Mastering Surface Modeling with SOLIDWORKS 2021†

Basic through Advanced Techniques

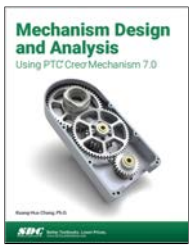


Lani Tran

This book focuses on surfacing tools, an important aspect of SOLIDWORKS' design capabilities that fills in the gaps that might be left by using solid modeling alone. If you are a SOLIDWORKS user currently relying on solid modeling for designs, or are just not familiar with surface modeling techniques, this book will add these skills to your repertoire to help you create the highest-quality models. For instructors teaching this advanced skillset, this book's proven techniques, practical examples and training files will give students a broad understanding of the procedures needed to build freeform shapes.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
January 2021: 279 x 216: 260pp
Pb: 978-1-630-57418-5
* For **full contents** and more information, visit: **www.routledge.com/9781630574185**
† **This title is unavailable in North and South America**

Mechanism Design and Analysis Using PTC Creo Mechanism 7.0†



Kuang-Hua Chang

This book is designed to help you become familiar with Mechanism, a module of the PTC Creo Parametric software family, which supports modeling and analysis (or simulation) of mechanisms in a virtual (computer) environment. The book is written following a project-based learning approach and covers the major concepts and frequently used commands required to advance readers from a novice to an intermediate level. Basic concepts discussed include model creation, such as body and joint definitions; analysis type selection, such as static (assembly) analysis, kinematics and dynamics; and results visualization. The concepts are introduced using simple, yet realistic, examples.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
October 2020: 279 x 216: 200pp
Pb: 978-1-630-57374-4
* For **full contents** and more information, visit: **www.routledge.com/9781630573744**
† **This title is unavailable in North and South America**

Microsoft Office Specialist Excel Associate 365 – 2019 Exam Preparation†

Daniel John Stine

Internationally recognized, certification in Microsoft Excel can open up a world of benefits to you, and *Microsoft Office Specialist Excel Associate 365/2019 Exam Preparation* includes everything you need to prepare for the exam. Designed for those already familiar with Excel, this book provides detailed information about how and where to take the exam and exactly what to expect. Each chapter is built on one of the five exam topics. Ample study material is provided, including practice exam software and video tutorials for every outcome in the book.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 279 x 216: 156pp
Pb: 978-1-630-57332-4
* For **full contents** and more information, visit: **www.routledge.com/9781630573324**
† **This title is unavailable in North and South America**

Motion Simulation and Mechanism Design with SOLIDWORKS Motion 2020†

Kuang-Hua Chang

This book is written to help you become familiar with SOLIDWORKS Motion, an add-on module of the SOLIDWORKS software family. It covers the basic concepts and frequently used commands required to advance readers from a novice to intermediate level in using SOLIDWORKS Motion. Basic concepts discussed include model generation, such as creating assembly mates for proper motion; carrying out simulation and animation; and visualizing simulation results, such as graphs and spreadsheet data. These concepts are introduced using simple, yet realistic examples.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
July 2020: 246x174: 222pp
Pb: 978-1-630-57326-3
* For **full contents** and more information, visit: **www.routledge.com/9781630573263**
† **This title is unavailable in North and South America**

Motion Simulation and Mechanism Design with SOLIDWORKS Motion 2021†

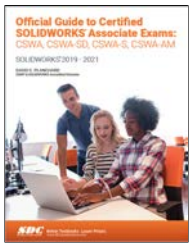
Kuang-Hua Chang

This book is written to help you become familiar with SOLIDWORKS Motion, an add-on module of the SOLIDWORKS software family. This book covers the basic concepts and frequently used commands required to advance readers from a novice to intermediate level in using SOLIDWORKS Motion.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
July 2021: 8.25 x 11: 200pp
Pb: 978-1-630-57388-1
* For **full contents** and more information, visit: **www.routledge.com/9781630573881**
† **This title is unavailable in North and South America**

Official Guide to Certified SOLIDWORKS Associate Exams: CSWA, CSWA-SD, CSWSA-S, CSWA-AM†

SOLIDWORKS 2019–2021



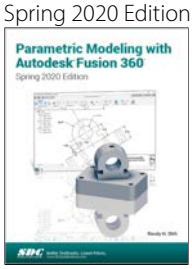
David C. Planchard

This book is written to assist you with passing the SOLIDWORKS associate level exams. It provides you with detailed information and exercises that will aid you in passing the following exams: Certified SOLIDWORKS Associate (CSWA), Certified SOLIDWORKS Associate Sustainable Design (CSWA-SD), Certified SOLIDWORKS Associate Simulation (CSWSA-S) and the Certified SOLIDWORKS Associate Additive Manufacturing (CSWA-AM) exam.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
December 2020: 8.25 x 11: 464pp
Pb: 978-1-630-57421-5
* For **full contents** and more information, visit: **www.routledge.com/9781630574215**
† **This title is unavailable in North and South America**

Parametric Modeling with Autodesk Fusion 360†

Spring 2020 Edition



Randy Shih

This book contains a series of thirteen tutorial-style lessons designed to introduce Autodesk Fusion 360, solid modeling and parametric modeling techniques and concepts. It introduces Autodesk Fusion 360 on a step-by-step basis, starting with constructing basic shapes, all the way through to the creation of assembly drawings and 3D printing your own designs.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 6.85 x 9.69: 402pp
Pb: 978-1-630-57372-0
* For **full contents** and more information, visit: **www.routledge.com/9781630573720**
† **This title is unavailable in North and South America**

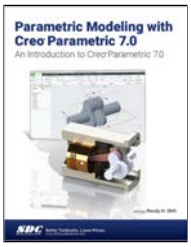
Parametric Modeling with Creo Parametric 5.0†

Randy H. Shih

The basic premise of this book is that the more designs you create using Creo Parametric, the better you learn the software. With this in mind, each lesson introduces a new set of commands and concepts, building on previous lessons. This book will provide you with a good basis for exploring and growing in the exciting field of Computer Aided Engineering.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
July 2018: 279 x 216: 550pp
Pb: 978-1-630-57212-9
* For **full contents** and more information, visit: **www.routledge.com/9781630572129**
† **This title is unavailable in North and South America**

Parametric Modeling with Creo Parametric 7.0†



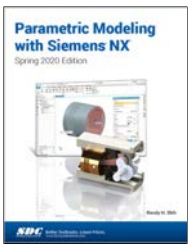
Randy H. Shih

This book introduces the aspects of Solid Modeling and Parametric Modeling. This text is intended to be used as a training guide for any student or professional wanting to learn to use Creo Parametric. This text covers Creo Parametric and the lessons proceed in a pedagogical fashion to guide you from constructing basic shapes to building intelligent solid models and creating multi-view drawings. This text takes a hands-on, exercise-intensive approach to all the important Parametric Modeling techniques and concepts. This textbook contains a series of 13 tutorial style lessons designed to introduce beginning CAD users to Creo Parametric.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
September 2020: 279 x 216: 550pp
Pb: 978-1-630-57376-8
* For **full contents** and more information, visit: **www.routledge.com/9781630573768**
† **This title is unavailable in North and South America**

Parametric Modeling with Siemens NX†

Spring 2020 Edition



Randy Shih

This textbook introduces aspects of designing with Solid Modeling and Parametric Modeling. It is a practical training guide for students and professionals. Using Siemens NX as the modeling tool, the chapters proceed in a pedagogical fashion to guide you from constructing basic solid models to building intelligent mechanical designs, creating multi-view drawings and assembly models. This text takes a hands-on, exercise-intensive approach to all the important Parametric Modeling techniques and concepts.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 6.85 x 9.69: 506pp
Pb: 978-1-630-57380-5
* For **full contents** and more information, visit: **www.routledge.com/9781630573805**
† **This title is unavailable in North and South America**

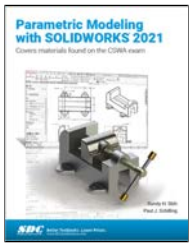
Parametric Modeling with SOLIDWORKS 2020†

Paul Schilling and Randy Shih

Parametric Modeling with SOLIDWORKS 2020 contains a series of seventeen tutorial style lessons designed to introduce SOLIDWORKS 2020, solid modeling and parametric modeling techniques and concepts. This book introduces SOLIDWORKS 2020 on a step-by-step basis, starting with constructing basic shapes, all the way through to the creation of assembly drawings and motion analysis.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
May 2020: 608pp
Pb: 978-1-630-57313-3
* For **full contents** and more information, visit: **www.routledge.com/9781630573133**
† **This title is unavailable in North and South America**

Parametric Modeling with SOLIDWORKS 2021†



Randy H. Shih and Paul J. Schilling

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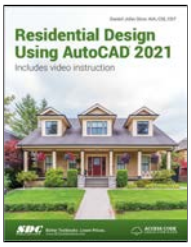
SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
April 2021: 8.25 x 11: 600pp
Pb: 978-1-630-57404-8
* For **full contents** and more information, visit: **www.routledge.com/9781630574048**
† **This title is unavailable in North and South America**

Residential Design Using AutoCAD 2021†

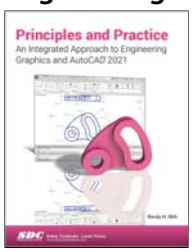


Daniel John Stine

This introductory level tutorial uses residential design exercises as the means to teach you AutoCAD 2021. Each book comes with access to extensive video instruction in which the author explains the most common tools and techniques used when designing residential buildings using AutoCAD 2021. After completing this book you will have a well-rounded knowledge of Computer Aided Drafting that can be used in the industry and the satisfaction of having completed a set of residential drawings.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 6.85 x 9.69: 432pp
Pb: 978-1-630-57369-0
* For **full contents** and more information, visit: **www.routledge.com/9781630573690**
† **This title is unavailable in North and South America**

Principles and Practice An Integrated Approach to Engineering Graphics and AutoCAD 2021†



Randy Shih

This book combines an introduction to AutoCAD 2021 with a comprehensive coverage of engineering graphics principles. By adopting this textbook, you will no longer need to adopt separate CAD and engineering graphics books for your course. Not only will this unified approach give your course a smoother flow, your students will also save money on their textbooks. What's more, the tutorial exercises in this text have been expanded to cover the performance tasks found on the AutoCAD 2021 Certified User Examination.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 8.25 x 11: 600pp
Pb: 978-1-630-57354-6
* For **full contents** and more information, visit: **www.routledge.com/9781630573546**
† **This title is unavailable in North and South America**

Residential Design Using Autodesk Revit 2021†

Daniel John Stine

Designed for users completely new to Autodesk Revit, this text takes a project based approach to learning Autodesk Revit's architectural tools in which you develop a single family residence all the way to photorealistic renderings like the one on the cover. Each book also includes access to extensive video training designed to further help you master Autodesk Revit.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 7.44 x 9.69: 690pp
Pb: 978-1-630-57341-6
* For **full contents** and more information, visit: **www.routledge.com/9781630573416**
† **This title is unavailable in North and South America**

Project Based SOLIDWORKS 2021†

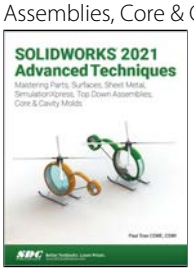
Kirstie Plantenberg

This book is specifically designed to complement an engineering graphics course. It covers how to apply engineering graphics concepts, such as part prints, section views, assembly drawings, tolerancing and fasteners. It also extends these topics into the world of design. Project Based SOLIDWORKS takes a specific part or assembly and teaches you how to model each part and its configurations, create part prints including assembly drawings if appropriate, and takes it one step further and teaches concepts such as FEA, tolerancing, and parametric design.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
April 2021: 8.25 x 11: 400pp
Pb: 978-1-630-57402-4
* For **full contents** and more information, visit: **www.routledge.com/9781630574024**
† **This title is unavailable in North and South America**

SOLIDWORKS 2021 Advanced Techniques†

Mastering Parts, Surfaces, Sheet Metal, SimulationXpress, Top-Down Assemblies, Core & Cavity Molds



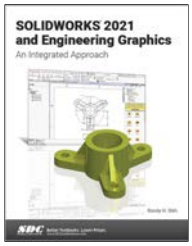
Paul Tran

SOLIDWORKS 2021 Advanced Techniques picks up where SOLIDWORKS 2021 Intermediate Skills leaves off. Its aim is to take you from an intermediate user with a basic understanding of SOLIDWORKS and modeling techniques to an advanced user capable of creating complex models and able to use the advanced tools provided by SOLIDWORKS. The text covers parts, surfaces, SimulationXpress, sheet metal, top-down assemblies and core and cavity molds.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
January 2021: 279 x 216: 786pp
Pb: 978-1-630-57425-3
* For **full contents** and more information, visit: **www.routledge.com/9781630574253**
† **This title is unavailable in North and South America**

SOLIDWORKS 2021 and Engineering Graphics†

An Integrated Approach



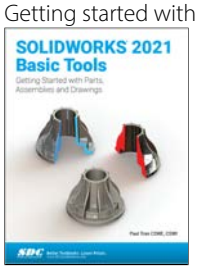
Randy H. Shih

This book combines an introduction to SOLIDWORKS 2021 with a comprehensive coverage of engineering graphics principles. Not only will this unified approach give your course a smoother flow, your students will also save money on their textbooks. What's more, the exercises in this book cover the performance tasks that are included on the Certified SOLIDWORKS Associate (CSWA) Examination. Reference guides located at the front of the book and in each chapter show where these performance tasks are covered.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
April 2021: 8.25 x 11: 750pp
Pb: 978-1-630-57423-9
* For **full contents** and more information, visit: **www.routledge.com/9781630574239**
† This title is unavailable in North and South America

SOLIDWORKS 2021 Basic Tools†

Getting started with Parts, Assemblies and Drawings



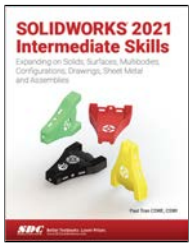
Paul Tran

SOLIDWORKS 2021 Basic Tools is the first book in a three part series. It introduces new users to the SOLIDWORKS interface, SOLIDWORKS tools and basic modeling techniques. It provides you with a strong understanding of SOLIDWORKS and covers the creation of parts, assemblies and drawings. Every lesson and exercise in this book was created based on real world projects. Each of these projects has been broken down and developed into easy and comprehensible steps.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
December 2020: 279 x 216: 678pp
Pb: 978-1-630-57415-4
* For **full contents** and more information, visit: **www.routledge.com/9781630574154**
† This title is unavailable in North and South America

SOLIDWORKS 2021 Intermediate Skills†

Expanding on Solids, Surfaces, Multibodies, Configurations, Drawings, Sheet Metal and Assemblies

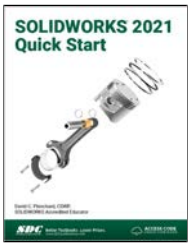


Paul Tran

SOLIDWORKS 2021 Intermediate Skills broadens your SOLIDWORKS knowledge base by covering such features as surveys, lofts and boundaries, the use of multibodies, generating engineering drawings and other SOLIDWORKS functions that are critical for the effective use of this powerful software. This book helps prepare you for the advanced features of SOLIDWORKS which are covered in SOLIDWORKS Advanced Techniques. It uses a step by step tutorial approach with real world projects. This book also features a Quick-Reference-Guide to the SOLIDWORKS 2021 commands, icons, and customized hotkeys. This book is for the mid-level user, who is already familiar with the SOLIDWORKS program.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
January 2021: 279 x 216: 672pp
Pb: 978-1-630-57419-2
* For **full contents** and more information, visit: **www.routledge.com/9781630574192**
† This title is unavailable in North and South America

SOLIDWORKS 2021 Quick Start†



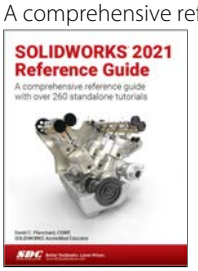
David C. Planchard

SOLIDWORKS 2021 Quick Start introduces new users to the basics of using SOLIDWORKS 3D CAD software in five easy lessons. This book is intended for the student or designer who needs to learn SOLIDWORKS quickly and effectively. This book is perfect for engineers in industry who are expected to have SOLIDWORKS skills for their company's next project or students who need to learn SOLIDWORKS without taking a comprehensive CAD course.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
February 2021: 8.25 x 11: 300pp
Pb: 978-1-630-57381-2
* For **full contents** and more information, visit: **www.routledge.com/9781630573812**
† This title is unavailable in North and South America

SOLIDWORKS 2021 Reference Guide†

A comprehensive reference guide with over 260 standalone tutorials



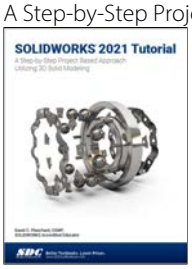
David C. Planchard

The SOLIDWORKS 2021 Reference Guide is a comprehensive reference book written to assist the beginner to intermediate user of SOLIDWORKS 2021. SOLIDWORKS is an immense software package, and no one book can cover all topics for all users. This book provides a centralized reference location to address many of the tools, features and techniques of SOLIDWORKS 2021.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
March 2021: 8.25 x 11: 1000pp
Pb: 978-1-630-57391-1
* For **full contents** and more information, visit: **www.routledge.com/9781630573911**
† This title is unavailable in North and South America

SOLIDWORKS 2021 Tutorial†

A Step-by-Step Project Based Approach Utilizing 3D Modeling



David C. Planchard

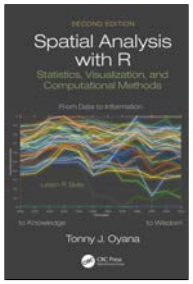
SOLIDWORKS 2021 Tutorial is written to assist students, designers, engineers and professionals who are new to SOLIDWORKS. The text provides a step-by-step, project based learning approach. It also contains information and examples on the five categories in the CSWA exam.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
February 2021: 8.25 x 11: 650pp
Pb: 978-1-630-57409-3
* For **full contents** and more information, visit: **www.routledge.com/9781630574093**
† This title is unavailable in North and South America

2nd Edition

Spatial Analysis with R

Statistics, Visualization, and Computational Methods

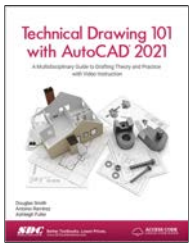


Tonny J. Oyana

The implementation of new tools and methods for spatial analysis using R, the use and growth of artificial intelligence, machine learning and deep learning algorithms with a spatial perspective, and the interdisciplinary use of spatial analysis are all new topics in this second edition. The book provides a balance between concepts and practicums of spatial statistics with a comprehensive coverage of the most important approaches to understand spatial data, analyze spatial relationships and spatial patterns, and predict spatial processes. It offers new datasets, insights, and excellent illustrations to senior undergraduate and first year graduate students in geography and geosciences.

CRC Press
Market: Environmental Science
September 2020: 6.14 x 9.21: 354pp
Hb: 978-0-367-86085-1
eBook: 978-1-003-02164-3
Prev. Ed Hb: 978-1-498-70763-3
* For **full contents** and more information, visit: **www.routledge.com/9780367860851**

Technical Drawing 101 with AutoCAD 2021†



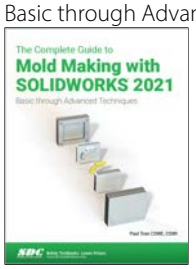
Ashleigh Fuller, **Antonio Ramirez** and **Douglas Smith**

Technical Drawing 101 covers topics ranging from the most basic, such as making freehand, multiview sketches of machine parts, to the advanced—creating an AutoCAD dimension style containing the style settings defined by the ASME Y14.5-2009 Dimensioning and Tolerancing standard. But unlike the massive technical drawing reference texts on the market, *Technical Drawing 101* aims to present just the right mix of information and projects that can be reasonably covered by faculty, and assimilated by students, in one semester. Both mechanical and architectural projects are introduced to capture the interest of more students and to offer a broader appeal.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
August 2020: 279 x 216: 558pp
Pb: 978-1-630-57342-3
* For **full contents** and more information, visit: **www.routledge.com/9781630573423**
† **This title is unavailable in North and South America**

The Complete Guide to Mold Making with SOLIDWORKS 2021†

Basic through Advanced Techniques



Paul Tran

The Complete Guide to Mold Making with SOLIDWORKS 2021 is a quick paced book written to provide experienced SOLIDWORKS users with in-depth knowledge of the mold tools provided by SOLIDWORKS. Throughout this book you will learn the procedures necessary for using these tools to create and analyze effective mold designs.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
December 2020: 279 x 216: 268pp
Pb: 978-1-630-57395-9
* For **full contents** and more information, visit: **www.routledge.com/9781630573959**
† **This title is unavailable in North and South America**

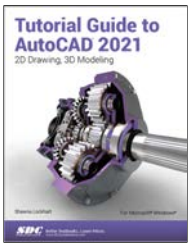
Tools for Design Using AutoCAD 2021 and Autodesk Inventor 2021†

Randy Shih

Tools for Design is intended to provide you with an overview of computer aided design using two popular CAD software packages from Autodesk: AutoCAD and Autodesk Inventor. This book explores the strengths of each package and shows how they can be used in design, both separately and in combination with each other.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
July 2020: 279 x 216: 650pp
Pb: 978-1-630-57353-9
* For **full contents** and more information, visit: **www.routledge.com/9781630573539**
† **This title is unavailable in North and South America**

Tutorial Guide to AutoCAD 2021†

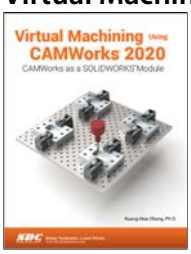


Shawna Lockhart

Tutorial Guide to AutoCAD 2021 provides a step-by-step introduction to AutoCAD with commands presented in the context of each tutorial. In fifteen clear and comprehensive chapters, it guides you through all the important commands and techniques in AutoCAD 2021, from 2D drawing to solid modeling and finally finishing with rendering. Each lesson includes frequent illustrations showing exactly what appears on the AutoCAD screen. Later you are asked to apply what you've learned by completing sequences on your own. A carefully developed pedagogy reinforces this cumulative-learning approach and supports you in becoming a skilled AutoCAD user.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 6.85 x 9.69: 702pp
Pb: 978-1-630-57363-8
* For **full contents** and more information, visit: **www.routledge.com/9781630573638**
† **This title is unavailable in North and South America**

Virtual Machining Using CAMWorks 2020†



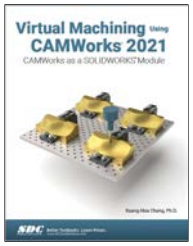
Kuang-Hua Chang, University of Oklahoma, USA

This book is written to help you learn the core concepts and steps used to conduct virtual machining using CAMWorks. CAMWorks is a virtual machining tool designed to increase your productivity and efficiency by simulating machining operations on a computer before creating a physical product. CAMWorks is embedded in SOLIDWORKS as a fully integrated module. The book covers the basic concepts and frequently used commands and options you'll need to know to advance from a novice to an intermediate level CAMWorks user.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
July 2020: 279 x 216: 288pp
Pb: 978-1-630-57322-5
* For **full contents** and more information, visit: **www.routledge.com/9781630573225**
† **This title is unavailable in North and South America**

Virtual Machining Using CAMWorks 2021†

CAMWorks as a SOLIDWORKS Module



Kuang-Hua Chang

This book is written to help you learn the core concepts and steps used to conduct virtual machining using CAMWorks. The book covers the basic concepts and frequently used commands and options you'll need to know to advance from a novice to an intermediate level CAMWorks user. Basic concepts and commands introduced include extracting machinable features (such as 2.5 axis features), selecting machine and tools, defining machining parameters (such as feed rate), generating and simulating toolpaths, and post processing CL data to output G-codes for support of CNC machining. The concepts and commands are introduced in a tutorial style presentation using simple but realistic examples.

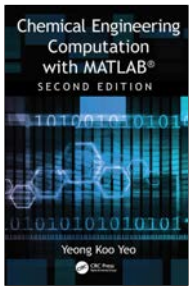
SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
August 2021: 8.25 x 11: 250pp
Pb: 978-1-630-57406-2

* For **full contents** and more information, visit: **www.routledge.com/9781630574062**

† This title is unavailable in North and South America

2nd Edition

Chemical Engineering Computation with MATLAB®



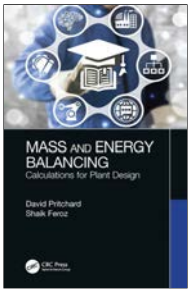
Yeong Koo Yeo, Hanyang University, Seoul, South Korea

This new edition continues to present basic to advanced levels of problem-solving techniques using MATLAB. It provides even more examples and problems extracted from core chemical engineering subject areas and all code is updated to MATLAB version 2020. It also includes a new chapter on computational intelligence. This essential textbook readies engineering students, researchers, and professionals to be proficient in the use of MATLAB to solve sophisticated real-world problems within the interdisciplinary field of chemical engineering.

CRC Press
Market: Engineering - Chemical
December 2020: 7 x 10: 847pp
Hb: 978-0-367-54782-0
eBook: 978-1-003-09060-1
Prev. Ed Hb: 978-1-138-03989-6
* For **full contents** and more information, visit: **www.routledge.com/9780367547820**

Mass and Energy Balancing

Calculations for Plant Design



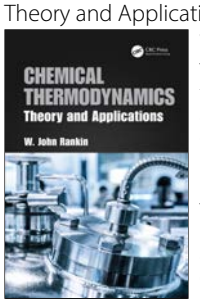
David Pritchard and **Shaik Feroz**

The text provides a comprehensive set of calculations relating to mass and energy balances for an entire process plant. An ammonia synthesis plant is taken as a calculation model to develop the relevant mass and energy balances necessary for the design and subsequent production. Instead of teaching the basics, the text gives a detailed series of process integrated and illustrated calculations to help readers develop and design a process plant. This book will serve undergraduate Chemical Engineering students as a teaching aid in capstone design and related courses and gives useful insights to advanced students, researchers, and industry personnel within the Chemical Engineering field.

CRC Press
Market: Chemical Engineering
May 2021: 6.14 x 9.21: 146pp
Hb: 978-0-367-71079-8
Pb: 978-0-367-70967-9
eBook: 978-1-003-14920-0
* For **full contents** and more information, visit: **www.routledge.com/9780367709679**

Chemical Thermodynamics

Theory and Applications



W.J. Rankin

This book develops the theory of chemical thermodynamics from first principles, demonstrates its relevance across scientific and engineering disciplines, and shows how thermodynamics can be used as a practical tool for understanding natural phenomenon and developing and improving technologies and products.

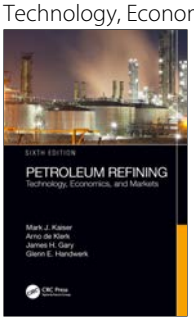
The book provides the necessary foundations for the intelligent use of thermodynamic software packages. Another unique aspect is the inclusion of three applications chapters: heat and energy aspects of processing; the thermodynamics of metal production and recycling; and applications of electrochemistry.

CRC Press
Market: Chemical Engineering
November 2019: 254 x 178: 344pp
Hb: 978-0-367-22247-5
eBook: 978-0-429-27725-2
* For **full contents** and more information, visit: **www.routledge.com/9780367222475**

6th Edition

Petroleum Refining

Technology, Economics, and Markets



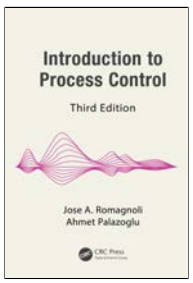
Mark J. Kaiser, Louisiana State University, Baton Rouge, USA, **Arno de Klerk**, **James H. Gary**, Colorado School of Mines, Golden, USA and **Glenn E. Handwerk**, Consulting Chemical Engineer, Golden, Colorado, USA

One of the few petroleum refining textbooks for academic use, this updated edition provides broad and rigorous coverage of all the process technologies of the industry along with discussions of crude oil properties, product specifications, capital cost curves, environmental regulation, and process operations. The book contains a review and edit of the solution manual with new homework problems and relevant interface material that adds to its relevancy and broadens its audience without distracting from the technical aspects.

CRC Press
Market: Chemical Engineering
September 2019: 7 x 10: 722pp
Hb: 978-1-466-56300-1
eBook: 978-0-429-18889-3
Prev. Ed Hb: 978-0-849-37038-0
* For **full contents** and more information, visit: **www.routledge.com/9781466563001**

3rd Edition

Introduction to Process Control



Jose A. Romagnoli, Louisiana State University, Baton Rouge and **Ahmet Palazoglu**, University of California, Davis, USA

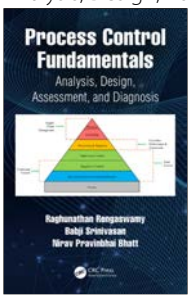
Series: Chemical Industries

The new edition blends conventional topics with a modern perspective of integrated process operation, control, and information systems. Updated throughout, it addresses smart manufacturing, new data preprocessing techniques, and machine learning and artificial intelligence concepts. It guides the reader to resources needed to solve modeling, classification, and monitoring problems. It introduces the link between process optimization and process control and links discussion of modern architectures of industrial computer control systems with real case studies and applications to pilot-scale operations. It features exercises throughout and downloadable MATLAB toolboxes to reinforce learning.

CRC Press
Market: Engineering - Chemical
July 2020: 6.14 x 9.21: 740pp
Hb: 978-0-367-36778-7
eBook: 978-0-429-35139-6
Prev. Ed Hb: 978-1-439-85486-0
* For **full contents** and more information, visit: **www.routledge.com/9780367367787**

Process Control Fundamentals

Analysis, Design, Assessment, and Diagnosis

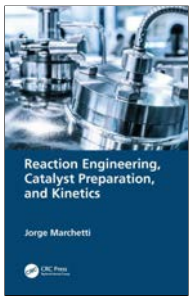


Raghunathan Rengaswamy, Department of Chemical Engineering, Indian Institute of Technology Madras, India, **Babji Srinivasan**, Indian Institute of Technology, Madras and **Nirav Pravinbhai Bhatt**, Indian Institute of Technology Madras, India

Discussing fundamental concepts of process control, this textbook introduces topics including control loop performance assessment and diagnosis, and model predictive control in a comprehensive manner. It will be a valuable resource for senior undergraduate and graduate students in the field of chemical engineering. The text covers different tuning techniques for controllers including Zeigler Nichols tuning, advanced stability based tuning techniques, tuning for non-minimum phase systems and tuning for inverse response systems.

CRC Press
Market: Engineering - Chemical
June 2020: 6.14 x 9.21: 354pp
Hb: 978-0-367-43342-0
eBook: 978-0-367-43343-7
* For **full contents** and more information, visit: **www.routledge.com/9780367433420**

Reaction Engineering, Catalyst Preparation, and Kinetics

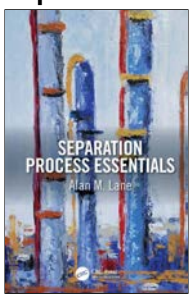


Jorge Marchetti

This textbook covers reaction engineering, catalyst preparation, and kinetics. It features a section of fully solved examples as well as end of chapter problems. It includes coverage of catalyst characterization and its impact on kinetics and reactor modeling. It presents simpler cases as well as fully developed complicated scenarios.

CRC Press
Market: Engineering - Chemical
June 2021: 6.14 x 9.21: 386pp
Hb: 978-1-138-60598-5
eBook: 978-0-429-46684-7
* For **full contents** and more information, visit: **www.routledge.com/9781138605985**

Separation Process Essentials



Alan M. Lane, The University of Alabama

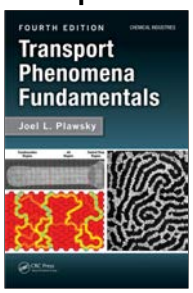
Separation Process Essentials provides an interactive approach for students to learn the main separation processes (distillation, absorption, stripping, and solvent extraction) using material and energy balances with equilibrium relationships, while referring readers to other more complete works when needed. Membrane separations are included as an example of non-equilibrium processes.

This book is aimed at second and third year undergraduate students in Chemical engineering, as well as professionals in the field of Chemical engineering, and can be used for a one semester course in separation processes and unit operations.

CRC Press
Market: Engineering - Chemical
October 2019: 235 x 156: 374pp
Hb: 978-1-138-08608-1
eBook: 978-1-315-11113-1
* For **full contents** and more information, visit: **www.routledge.com/9781138086081**

4th Edition

Transport Phenomena Fundamentals



Joel L. Plawsky, Rensselaer Polytechnic Institute, Troy, New York, USA

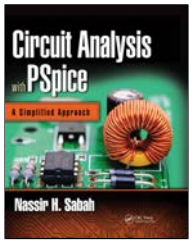
Series: Chemical Industries

The Fourth edition of Transport Phenomena Fundamentals continues with its streamlined approach to the subject of transport phenomena, based on a unified treatment of heat, mass, and momentum transport using a balance equation approach. The new edition includes more worked examples within each chapter and adds confidence building problems at the end of each chapter. Some solutions will be included in an appendix for students to check their comprehension of key concepts. A companion website will include author videos and COMSOL®, Maple®, and MATLAB® exercises. This edition also incorporates a wider range of problems to expand the utility of the text beyond chemical engineering.

CRC Press
Market: Engineering-Chemical
March 2020: 7 x 10: 862pp
Hb: 978-1-138-08056-0
eBook: 978-1-315-11338-8
Prev. Ed Hb: 978-1-466-55533-4
* For **full contents** and more information, visit: **www.routledge.com/9781138080560**

Circuit Analysis with PSpice

A Simplified Approach



Nassir H. Sabah

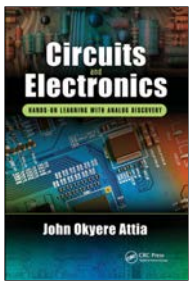
Electric circuit analysis is a foundation for all hardware courses taken by students in electrical engineering and allied fields, such as electronics, computer hardware, communications and control systems, and electric power. This book is intended to help students master basic electric circuit analysis, as an essential component of their professional education. Furthermore, the objective of this book is to approach circuit analysis by developing a sound understanding of fundamentals and a problem-solving methodology that encourages critical thinking.

CRC Press
March 2021: 8.62 x 10.8: 838pp
Hb: 978-1-498-79604-0
Pb: 978-0-367-78216-0
eBook: 978-1-315-40222-2

* For **full contents** and more information, visit: **www.routledge.com/9780367782160**

Circuits and Electronics

Hands-on Learning with Analog Discovery



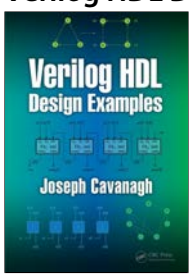
John Okyere Attia

The book provides instructions on building circuits on breadboards, connecting the Analog Discovery wires to the circuit under test, and making electrical measurements. Various measurement techniques are described and used in this book, including: impedance measurements, complex power measurements, frequency response measurements, power spectrum measurements, current versus voltage characteristic measurements of diodes, bipolar junction transistors, and Mosfets. The book includes end-of-chapter problems for additional exercises geared towards hands-on learning, experimentation, comparisons between measured results and those obtained from theoretical calculations.

CRC Press
March 2021: 6.14 x 9.21: 206pp
Hb: 978-1-138-29732-6
Pb: 978-0-367-78171-2
eBook: 978-1-315-09866-1

* For **full contents** and more information, visit: **www.routledge.com/9780367781712**

Verilog HDL Design Examples



Joseph Cavanagh

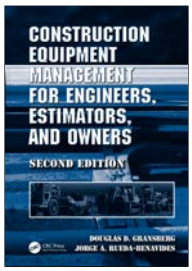
The Verilog language provides a means to model a digital system at many levels of abstraction from a logic gate to a complex digital system to a mainframe computer. The purpose of this book is to present the Verilog language together with a wide variety of examples, so that the reader can gain a firm foundation in the design of the digital system using Verilog HDL. Emphasis is placed on the detailed design of various Verilog projects. The projects include the design module, the test bench module, and the outputs obtained from the simulator that illustrate the complete functional operation of the design. Numerous examples and homework problems are included throughout the text.

CRC Press
March 2021: 7 x 10: 673pp
Hb: 978-1-138-09995-1
Pb: 978-0-367-77881-1
eBook: 978-1-315-10384-6

* For **full contents** and more information, visit: **www.routledge.com/9780367778811**

2nd Edition

Construction Equipment Management for Engineers, Estimators, and Owners



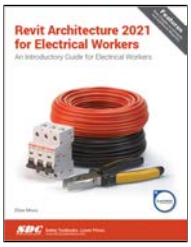
Douglas D. Gransberg, Iowa State University, Ames, USA and **Jorge A. Rueda- Benavides**

Construction Equipment Management for Engineers, Estimators, and Construction *Managers*, *Second Edition* has been extensively rewritten to not only bring it up to date with the state of current practice, but also to serve as a textbook for university courses in construction engineering and management.

The authors advanced the previous edition's practical, hands-on approach and added material on the future of construction equipment fleet management, which they believe will require a new technology-based skillset to maximize the cost-effectiveness of construction equipment operations. As such, the book covers the latest construction equipment technologies.

CRC Press
Market: Engineering - Civil
June 2020: 7 x 10: 350pp
Hb: 978-1-498-78848-9
eBook: 978-0-429-18635-6
* For **full contents** and more information, visit: **www.routledge.com/9781498788489**

Revit Architecture 2021 for Electrical Workers†

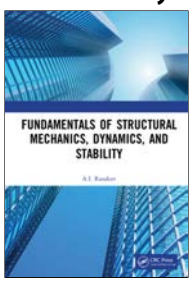


Elise Moss

Finally! The book electrical workers have been waiting for, an introduction to Autodesk Revit written just for you! Featuring exercises based on real work situations, *Revit Architecture 2021 for Electrical Workers* will help get you up to speed quickly on developing your own construction documents. The author developed and coordinated this book with a local chapter of electrical workers to ensure it would meet the needs of electrical journeymen. This textbook shows you how to work with Revit documents provided by outside contractors and architects.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 6.85 x 9.69: 604pp
Pb: 978-1-630-57370-6
* For **full contents** and more information, visit: **www.routledge.com/9781630573706**
† This title is unavailable in North and South America

Fundamentals of Structural Mechanics, Dynamics, and Stability

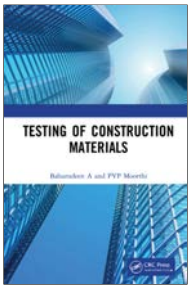


A.I. Rusakov, Rostov State Transport University, Rostov-na-Donu, Russia Federation

Fundamentals of Structural Mechanics, Dynamics, and Stability examines structural mechanics from a foundational point of view and allows students to use logical inference and creative reasoning to solve problems versus rote memorization. It presents underlying theory and emphasizes the relevant mathematical concepts as related to structural mechanics in each chapter. Problems, examples, and case studies are provided throughout, as well as simulations to help further illustrate the content.

CRC Press
Market: Engineering - Civil
December 2020: 7 x 10: 468pp
Hb: 978-1-498-77042-2
eBook: 978-0-429-15529-1
* For **full contents** and more information, visit: **www.routledge.com/9781498770422**

Testing of Construction Materials



Bahurudeen A, BITS Pilani, Hyderabad, India and **P.V.P. Moorthi**, Engineering Delight Academy, Salem, India

The main aim of the proposed book is to provide understanding about peer-reviewed international construction materials testing methods in a simple way with high technical level. The book focusses on specific construction material as cement, concrete, bricks, lime, paints, steel and so forth, distributed in ten different chapters. Using real time quality control as underlying determinant, book exclusively follows Indian, American, European, German and South African standards. Modern sophisticated material testing techniques like Scanning Electron Microscope (SEM), Thermo Gravimetric Analysis (TGA) and X-Ray Diffraction (XRD) are also decribed.

CRC Press
Market: Structural Engineering
December 2020: 6.14 x 9.21: 484pp
Hb: 978-0-367-64495-6
eBook: 978-1-003-12482-5
* For **full contents** and more information, visit: **www.routledge.com/9780367644956**

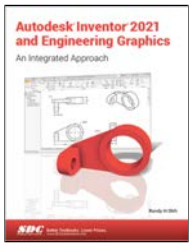
Offshore Semi-Submersible Platform Engineering

Srinivasan Chandrasekaran, Dept of Ocean Engineering, Indian Institute of Technology, Madras

Offshore Semi-Submersible Platform Engineering presents a primer to the analysis and design of semi-submersibles platforms in particular while also covering general analysis and design guidelines of offshore compliant platforms. It introduces general structural designs and also examines the details of the various environmental impacts that act upon them, such as fatigue, fire, collisions, and water waves.

CRC Press
Market: Civil Engineering
December 2020: 6.14 x 9.21: 250pp
Hb: 978-0-367-67330-7
eBook: 978-1-003-13092-5
* For **full contents** and more information, visit: **www.routledge.com/9780367673307**

Autodesk Inventor 2021 and Engineering Graphics†



Randy Shih

This book teaches principles of engineering graphics while instructing on how to use the powerful 3D modeling capabilities of Autodesk Inventor 2021. Using step-by-step tutorials, it teaches how to create and read engineering drawings while becoming proficient at using the most common features of Autodesk Inventor. By the end of the book the reader will be fully prepared to take and pass the Autodesk Inventor Certified User Exam. It intended to be used as a training guide for students and professionals, taking a hands-on, exercise-intensive approach to all the important concepts of Engineering Graphics, as well as in-depth discussions of parametric feature-based CAD techniques.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 246x174: 700pp
Pb: 978-1-630-57340-9
* For **full contents** and more information, visit: **www.routledge.com/9781630573409**
† **This title is unavailable in North and South America**

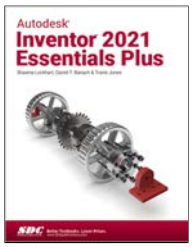
Autodesk Maya 2020 Basics Guide†

Kelly L. Murdock

Written by a renowned author and 3D artist *Autodesk Maya 2020 Basics Guide* is designed to give new users a solid understanding of the fundamental skills needed to create beautiful 3D models and stunning animations with Autodesk Maya. Using clear and easy to follow instructions this book will guide you through learning all the major features of Maya. The text is complemented by video instruction. Each chapter has a corresponding video tutorial that introduces you to the topics and allows you to watch and learn how functions are performed in a way that a text alone cannot do.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 8.25 x 11: 576pp
Pb: 978-1-630-57255-6
* For **full contents** and more information, visit: **www.routledge.com/9781630572556**
† **This title is unavailable in North and South America**

Autodesk Inventor 2021 Essentials Plus†



Daniel T. Banach, Travis Jones and Shawna Lockhart

This book provides the foundation for a hands-on course that covers basic and advanced Autodesk Inventor features used to create, edit, document, and print parts and assemblies. It demonstrates critical CAD concepts, from basic sketching and modeling through advanced modeling techniques, as it equips the skills to master this powerful professional tool. The book walks through every component of the software, including the user interface, toolbars, dialogue boxes, sketch tools, drawing views, assembly modeling, and more. Packed with vivid illustrations and practical exercises that emphasize modern-day applications.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
July 2020: 6.85 x 9.69: 534pp
Pb: 978-1-630-57359-1
* For **full contents** and more information, visit: **www.routledge.com/9781630573591**
† **This title is unavailable in North and South America**

Autodesk Revit 2021 Architectural Command Reference†

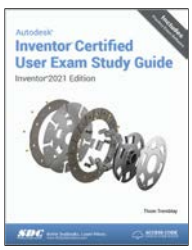
Jeff Hanson and Daniel John Stine

This book provides you with an easy to use reference for all of Autodesk Revit's Architectural Commands. This command reference can be used as you are working in the software to help you understand what each command does and how it may be used in your overall workflow. Also included with this book are nearly 100 video tutorials which will further help you master Autodesk Revit. The book is organized in the same way the Revit user interface is presented. Whatever level of user you are, this command reference becomes a valuable resource to you as you work with Revit.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
July 2020: 6.85 x 9.69: 750pp
Pb: 978-1-630-57355-3
* For **full contents** and more information, visit: **www.routledge.com/9781630573553**
† **This title is unavailable in North and South America**

Autodesk Inventor Certified User Exam Study Guide†

Inventor 2021 Edition



Thom Tremblay

Designed for the user who is already familiar with Inventor, this book provides a series of hands on exercises and tutorials to help prepare for the Autodesk Inventor Certified User Exam. The text covers all the exam objectives for the Inventor Certified User Exam. Each topic is covered in detail, and then is followed up with tutorials, quizzes and accompanying practice software access to reinforce the material covered.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
June 2020: 6.85 x 9.69: 100pp
Pb: 978-1-630-57368-3
* For **full contents** and more information, visit: **www.routledge.com/9781630573683**
† **This title is unavailable in North and South America**

Autodesk Revit 2021 Architecture Basics†

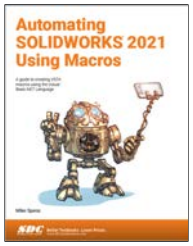
Elise Moss

Autodesk Revit 2021 Architecture Basics is geared towards beginning architectural students or professional architects who want to get a jump-start into 3D parametric modeling for commercial structures. This book is filled with tutorials, tips and tricks, and will help you get the most out of your software in very little time. The text walks you through from concepts to site plans to floor plans and on through reflected ceiling plans, then ends with an easy chapter on how to customize Autodesk Revit to boost your productivity.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
August 2020: 8.25 x 11: 700pp
Pb: 978-1-630-57356-0
* For **full contents** and more information, visit: **www.routledge.com/9781630573560**
† **This title is unavailable in North and South America**

Automating SOLIDWORKS 2021 Using Macros†

A guide to creating VSTA macros using the Visual Basic.NET Language



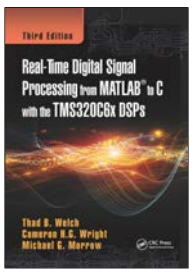
Mike Spens

This book is designed as a tutorial to help beginner to intermediate programmers develop macros for SOLIDWORKS. Experience with programming isn't required. The book starts with a new chapter on the fundamentals of Visual Basic.NET and the SOLIDWORKS API to make the learning process easier for beginners. The rest of the book introduces you to developing macros using the SOLIDWORKS API. The book concludes with a chapter dedicated to some of the author's favorite source code for you to use as the basis for typical automation procedures.

SDC Publications
Market: CAD CAE CAM - Computing & Information Technology
March 2021: 8.25 x 11: 400pp
Pb: 978-1-630-57377-5
* For **full contents** and more information, visit: **www.routledge.com/9781630573775**
† **This title is unavailable in North and South America**

3rd Edition

Real-Time Digital Signal Processing from MATLAB to C with the TMS320C6x DSPs

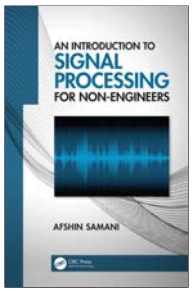


Thad B. Welch, Cameron H.G. Wright and Michael G. Morrow

The software in this new edition supports the latest high-performance hardware, including the powerful, inexpensive, and versatile OMAP-L138 Low Cost Development Kit from Texas Instruments. This book utilizes a highly practical, step-by-step framework that provides hands-on experience in real-time DSP, rather than relying on theory alone. The chapters utilize a series of demonstrations, exercises, and applied projects that begins with a quick overview of the pertinent theory, progresses to applying the concepts using MATLAB, and ultimately running applicable programs in real-time on some of the latest high-performance DSP hardware.

CRC Press
December 2020: 7 x 10: 480pp
Hb: 978-1-498-78101-5
Pb: 978-0-367-73645-3
eBook: 978-1-315-36568-8
* For **full contents** and more information, visit: **www.routledge.com/9780367736453**

An Introduction to Signal Processing for Non-Engineers



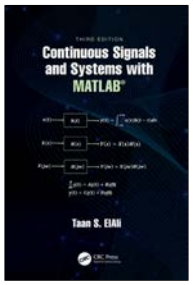
Afshin Samani, Aalborg University, Denmark.

This book introduces the main and basic concepts of signal processing for scientists and students with no engineering background. The book presents the concepts with minimum use of mathematical formulations and more emphasis on visual illustrations. The idea is to present an intuitive approach to understand the basis of signal processing and exemplify some practical applications of the concepts by which the readers achieve basic knowledge and skills in signal processing. Most of illustrations in the book have been created by computer programming in MATLAB, thus the reader will learn the basis of using computer in signal processing applications.

CRC Press
Market: Computer Science & Engineering
November 2019: 235 x 156: 111pp
Hb: 978-0-367-20755-7
eBook: 978-0-429-26333-0
* For **full contents** and more information, visit: **www.routledge.com/9780367207557**

3rd Edition

Continuous Signals and Systems with MATLAB®



Taan S. ElAli, Benedict College, Columbia, South Carolina, USA

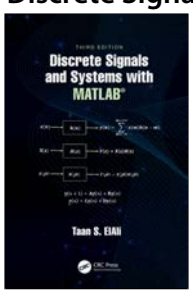
Series: Electrical Engineering Textbook Series

Continuous Signals and Systems with MATLAB offers comprehensive coverage of continuous linear systems, based on basic mathematical principles. It presents many solved problems from various engineering disciplines using analytical tools as well as MATLAB. This book is intended primarily for undergraduate junior and senior electrical, mechanical, aeronautical, and aerospace engineering students. Practicing engineers will also find this book useful. This book explains the subject matter with easy-to-follow mathematical development and numerous solved examples. The book covers traditional topics and includes an extensive coverage of state-space representation and analysis.

CRC Press
Market: Engineering - Electrical
October 2020: 6.14 x 9.21: 362pp
Hb: 978-0-367-53359-5
eBook: 978-1-003-08858-5
Prev. Ed Hb: 978-1-420-05474-3
* For **full contents** and more information, visit: **www.routledge.com/9780367533595**

3rd Edition

Discrete Signals and Systems with MATLAB®



Taan S. ElAli, Benedict College, Columbia, South Carolina, USA

This book is primarily intended for electrical and computer engineering students, and especially for the use of juniors or seniors in these undergraduate engineering disciplines. It can also be very useful to practicing engineers. It is detailed, broad, based on mathematical basic principles, focused, and contains many solved problems using analytical tools as well as MATLAB. ; The book is ideal for a one-semester course in the area of discrete linear systems or digital signal processing. Numerous examples are presented within each chapter to illustrate each concept when and where it is presented.

CRC Press
Market: Engineering - Electrical
October 2020: 6.14 x 9.21: 360pp
Hb: 978-0-367-53993-1
eBook: 978-1-003-08859-2
Prev. Ed Hb: 978-1-439-82818-2
* For **full contents** and more information, visit: **www.routledge.com/9780367539931**

3rd Edition

Systems and Signal Processing with MATLAB®

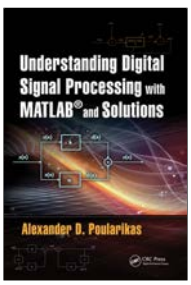
Two Volume Set

Taan S. ElAli, Benedict College, Columbia, South Carolina, USA

Most books on linear systems for undergraduates cover discrete and continuous systems material together in a single volume. Such books also include topics in discrete and continuous filter design, and discrete and continuous state-space representations. However, with this magnitude of coverage, the student typically gets a little of both discrete and continuous linear systems but not enough of either. Continuous linear systems and discrete linear systems are broad topics and each merit a single book devoted to the respective subject matter. The objective of this set of two volumes is to present material for each at the undergraduate level using MATLAB.

CRC Press
Market: Engineering - Electrical
October 2020: 6.14 x 9.21: 722pp
Hb: 978-0-367-53556-8
eBook: 978-1-003-09176-9
* For **full contents** and more information, visit: **www.routledge.com/9780367535568**

Understanding Digital Signal Processing with MATLAB® and Solutions



Alexander D. Poularikas

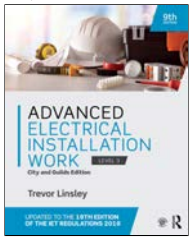
The book discusses signals that most electrical engineers detect and study. The vast majority of signals could never be detected due to random additive signals, known as noise, that distorts them or completely overshadows them. The text presents the methods for extracting the desired signals from the noise. Each new development includes examples that use MATLAB to provide the answer in graphic forms for the reader's comprehension and understanding.

CRC Press
March 2021: 7 x 10: 471pp
Hb: 978-1-138-08143-7
Pb: 978-0-367-77912-2
eBook: 978-1-315-11285-5
* For **full contents** and more information, visit: **www.routledge.com/9780367779122**

9th Edition

Advanced Electrical Installation Work

City and Guilds Edition



Trevor Linsley, formerly a Senior Lecturer at Blackpool and the Fylde College and Head of the NVQ Assessment Centre, UK.

This new edition covers the City and Guilds 2365-03 course, updated in line with the 18th Edition of the Wiring Regulations. Written in an accessible style with a chapter dedicated to each unit of the syllabus, this book helps you to master each topic before moving on to the next. This new edition includes information on construction and demolition sites, fire proofing, energy efficiency and LED lights, as well as some updated diagrams. End of chapter revision questions help you to check your understanding and consolidate the key concepts learned in each chapter. Full colour diagrams and extensive online material explain difficult concepts.

Routledge
Market: Electrical Installation
September 2019: 8.62 x 10.8: 434pp
Hb: 978-0-367-35976-8
Pb: 978-0-367-35975-1
eBook: 978-0-429-34297-4
Prev. Ed Pb: 978-1-138-84877-1
* For **full contents** and more information, visit: **www.routledge.com/9780367359751**

2nd Edition

Electrical Installation Work: Level 2

EAL Edition

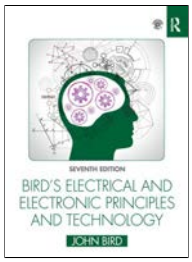
Trevor Linsley, formerly a Senior Lecturer at Blackpool and the Fylde College and Head of the NVQ Assessment Centre, UK.

Updated in line with the 18th Edition of the Wiring Regulations and written specifically for the EAL Diploma in Electrical Installation, this book has a chapter dedicated to each unit of the EAL syllabus, allowing you to master each topic before moving on to the next. End of chapter revision questions help you to check your understanding and consolidate the key concepts learned in each chapter. A must have for all learners working towards EAL electrical installations qualifications.

Routledge
Market: Electrical Installation
May 2019: 8.62 x 10.8: 378pp
Hb: 978-0-367-19562-5
Pb: 978-0-367-19561-8
eBook: 978-0-429-20317-6
Prev. Ed Pb: 978-1-138-91714-9
* For **full contents** and more information, visit: **www.routledge.com/9780367195618**

7th Edition

Bird's Electrical and Electronic Principles and Technology



John Bird, Defence College of Technical Training, UK

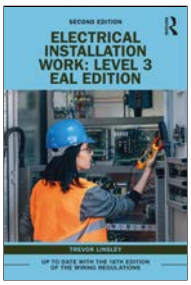
This practical textbook introduces the essentials of electrical and electronic engineering, and their uses in technology. It sets out detailed examples and lab experiments, for future technicians in electrical engineering, electronics, and telecommunications, and is ideal for vocational courses at Levels 2 and 3, foundation degrees and introductory courses for undergraduates. Now with more on glass batteries, and global climate change and the future of electricity production. The companion website gives resources for both students and lecturers, including lists of essential formulae, multiple choice tests, and full solutions for all 900 further questions.

Routledge
Market: Further Education / Electrical Engineering
October 2021: 8.25 x 11: 592pp
Hb: 978-0-367-67237-9
Pb: 978-0-367-67235-5
eBook: 978-1-003-13040-6
Prev. Ed Pb: 978-1-138-67352-6
* For **full contents** and more information, visit: **www.routledge.com/9780367672355**

2nd Edition

Electrical Installation Work: Level 3

EAL Edition



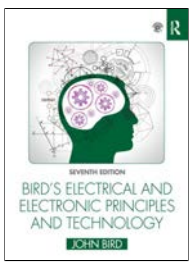
Trevor Linsley, formerly a Senior Lecturer at Blackpool and the Fylde College and Head of the NVQ Assessment Centre, UK.

Updated in line with the 18th Edition of the Wiring Regulations and written specifically for the EAL Diploma in Electrical Installation, this book has a chapter dedicated to each unit of the EAL syllabus, allowing you to master each topic before moving on to the next. This new edition also includes a section on LED lighting. End of chapter revision questions help you to check your understanding and consolidate the key concepts learned in each chapter. A must have for all learners working towards EAL electrical installations qualifications.

Routledge
Market: Electrical Installations
July 2019: 8.62 x 10.8: 530pp
Hb: 978-0-367-19564-9
Pb: 978-0-367-19563-2
eBook: 978-0-429-20318-3
Prev. Ed Pb: 978-1-138-91717-0
* For **full contents** and more information, visit: **www.routledge.com/9780367195632**

7th Edition

Bird's Electrical Circuit Theory and Technology



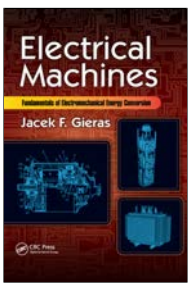
John Bird, Defence College of Technical Training, UK

This fully comprehensive text explains electrical circuit theory and associated technology topics in a straightforward manner, supported by practical engineering examples and applications to ensure that readers can relate theory to practice. Containing over 800 worked examples, this is an excellent text for a range of courses, in particular for Degree and Foundation Degree in electrical principles, circuit theory, telecommunications, and electrical technology.

Routledge
Market: Further Education / Electrical Engineering
October 2021: 8.25 x 11: 928pp
Hb: 978-0-367-67224-9
Pb: 978-0-367-67222-5
eBook: 978-1-003-13033-8
Prev. Ed Pb: 978-1-138-67349-6
* For **full contents** and more information, visit: **www.routledge.com/9780367672225**

Electrical Machines

Fundamentals of Electromechanical Energy Conversion



Jacek F. Gieras

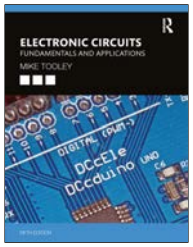
This book endeavors to break the stereotype that basic electrical machine courses are limited only to transformers, DC brush machines, induction machines, and wound-field synchronous machines. It is intended to serve as a textbook for basic courses on Electrical Machines covering the fundamentals of the electromechanical energy conversion, transformers, classical electrical machines, i.e., DC brush machines, induction machines, wound-field rotor synchronous machines and modern electrical machines, i.e., switched reluctance machines (SRM) and permanent magnet (PM) brushless machines.

CRC Press
December 2020: 234x156: 450pp
Hb: 978-1-498-70883-8
Pb: 978-0-367-73694-1
eBook: 978-1-498-70885-2
* For **full contents** and more information, visit: **www.routledge.com/9780367736941**

5th Edition

Electronic Circuits

Fundamentals and Applications



Mike Tooley

This fifth edition provides all the information required to get to grips with the fundamentals of electronics, detailing the underpinning knowledge necessary to appreciate the operation of a wide range of electronic circuits. An additional chapter shows how a wide range of useful electronic applications can be developed in conjunction with the increasingly popular Arduino microcontroller, and a new section details batteries for use in electronic equipment and some additional/updated student assignments. The book's content is matched to the latest pre-degree level courses (from Level 2 up to, and including, Foundation Degree and HND).

Routledge
Market: Electrical Engineering
November 2019: 7.44 x 9.69: 522pp
Hb: 978-0-367-42199-1
Pb: 978-0-367-42198-4
eBook: 978-0-367-82265-1
Prev. Ed Pb: 978-1-138-82892-6
* For **full contents** and more information, visit: **www.routledge.com/9780367421984**

Optimization of Trustworthy Biomolecular Quantitative Analysis Using Cyber-Physical Microfluidic Platforms

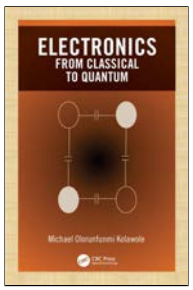
Mohamed Ibrahim, Technical University of Munich, and the University of Breme, Germany. and **Krishnendu Chakrabarty**, Duke University, Durham, North Carolina, USA

Recent studies suggest that state-of-the-art design techniques for microfluidics have two drawbacks (1) current lab-on-chip systems were only optimized as auxiliary components and are suitable for sample-limited analyses; (2) integrity of these automated lab-on-chip systems and their biochemical operations is an open question, since no protection schemes were developed against adversarial contamination. This book provides solutions to these challenges by introducing a new design flow based on the realistic modeling of contemporary molecular biology protocols. It also presents a microfluidic security flow that provides a high-level of confidence in the integrity of such protocols.

CRC Press
Market: Engineering - Electrical
July 2020: 6.14 x 9.21: 363pp
Hb: 978-0-367-22352-6
eBook: 978-1-003-05318-7
* For **full contents** and more information, visit: **www.routledge.com/9780367223526**

Electronics

from Classical to Quantum



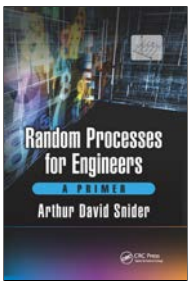
Michael Olorunfunmi Kolawole, Jolade Consulting Company, Australia.

This book discusses formulation and classification of integrated circuits, develops hierarchical structure of functional logic blocks to build more complex digital logic circuits, outlines the structure of transistors, their processing techniques, their arrangement forming logic gates and digital circuits, optimal pass transistor stages of buffered chain, and performance of designed circuits under noisy conditions. It also outlines the principles of quantum electronics leading to the development of lasers, masers, reversible quantum gates and circuits and applications of quantum cells.

CRC Press
Market: Electrical Engineering
July 2020: 7 x 10: 342pp
Hb: 978-0-367-51222-4
eBook: 978-1-003-05291-3
* For **full contents** and more information, visit: **www.routledge.com/9780367512224**

Random Processes for Engineers

A Primer



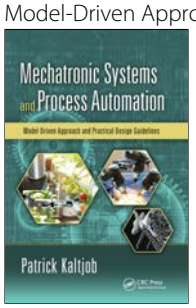
Arthur David Snider

This book discusses the statistical description of processes, including an extensive review of probability and statistics and the analysis of raw data using spectral methods. Various theoretical models (ARMA, Bernoulli, shot, Markov, and random walks) are explored, as well as techniques that are used for prediction—least mean-squared error, Wiener-Hopf and Kalman filters, etc. Everything in this book is introduced at a nuts and bolts level and fills in the gap between the undergraduate engineering statistics course and the axiomatic approaches venerated by specialists.

CRC Press
September 2020: 6.14 x 9.21: 207pp
Hb: 978-1-498-79903-4
Pb: 978-0-367-65635-5
eBook: 978-1-315-36548-0
* For **full contents** and more information, visit: **www.routledge.com/9780367656355**

Mechatronic Systems and Process Automation

Model-Driven Approach and Practical Design Guidelines

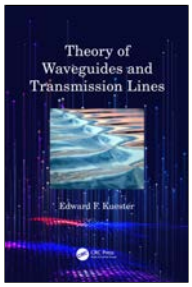


Patrick O.J. Kaltjob

The book discusses the concept of process automation and mechatronic system design, while offering a unified approach and methodology for the modeling, analysis, automation and control, networking, monitoring, and sensing of various machines and processes from single electrical-driven machines to large-scale industrial process operations. This step-by-step guide covers design applications from various engineering disciplines (mechanical, chemical, electrical, computer, biomedical) through real-life mechatronics problems and industrial automation case studies with topics such as manufacturing, power grid, cement production, wind generator, oil refining, incubator, etc.

CRC Press
December 2020: 234x156: 467pp
Hb: 978-0-815-37079-6
Pb: 978-0-367-73502-9
eBook: 978-1-351-24859-4
* For **full contents** and more information, visit: **www.routledge.com/9780367735029**

Theory of Waveguides and Transmission Lines



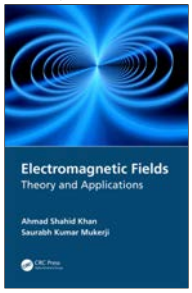
Edward F. Kuester, University of Colorado Boulder, USA

This book provides the principles of operation of electromagnetic waveguides and transmission lines. The approach is divided between mathematical descriptions of basic behaviors and treatment of specific types of waveguide structures. Classic transmission lines, their basic properties, their connection to lumped-element networks, and the distortion of pulses are discussed followed by a full field analysis of waveguide modes. Modes of specific kinds of waveguides - traditional hollow metallic waveguides, dielectric (including optical) waveguides, etc.are discussed. Problems of excitation and scattering of waveguide modes are addressed followed by real systems and performance.

CRC Press
Market: Engineering - Electrical
September 2020: 7 x 10: 610pp
Hb: 978-1-498-73087-7
eBook: 978-1-498-73089-1
* For **full contents** and more information, visit: **www.routledge.com/9781498730877**

Electromagnetic Fields

Theory and Applications



Ahmad Shahid Khan, Aligarh Muslim University, India and **Saurabh Kumar Mukerji**, Aligarh Muslim University, India

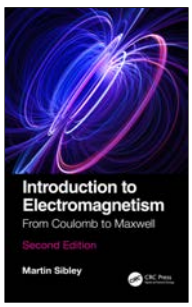
The study of electromagnetic field theory is required for proper understanding of every device wherein electricity is used for operation. The proposed textbook on electromagnetic fields covers all the generic and unconventional topics including electrostatic boundary value problems involving two- and three-dimensional Laplacian fields and one- and two-dimensional Poissonion fields, magnetostatic boundary value problems, eddy currents, and electromagnetic compatibility. The subject matter is supported by practical applications, illustrations to supplement the theory, solved numerical problems, solutions manual and Powerpoint slides including appendices and mathematical relations.

CRC Press
Market: Electromagnetics, RF & Microwaves
October 2020: 6.14 x 9.21: 820pp
Hb: 978-0-367-49430-8
eBook: 978-1-003-04613-4
* For **full contents** and more information, visit: **www.routledge.com/9780367494308**

2nd Edition

Introduction to Electromagnetism

From Coulomb to Maxwell



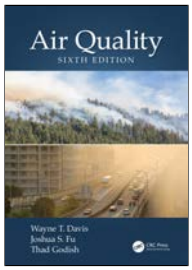
Martin J N Sibley, University of Huddersfield, West Yorkshire, United Kingdom

This edition aims to expand the on the first edition and take the reader through to the wave equation on coaxial cable and free-space by using Maxwell's equations. The new chapters will include time varying signals and fundamentals of Maxwell's equation. This book is intended for first and second year electrical and electronics undergraduates, and can also be used for undergraduates in mechanical engineering, computing and physics. The book will include examples and homework problems.

CRC Press
Market: Electrical Engineering
March 2021: 6.14 x 9.21: 246pp
Hb: 978-0-367-46056-3
eBook: 978-0-367-46270-3
* For **full contents** and more information, visit: **www.routledge.com/9780367460563**

6th Edition

Air Quality



Wayne T. Davis, University of Tennessee, Knoxville, USA and **Joshua S. Fu**, University of Knoxville, Tennessee, USA

The Air Quality field changes rapidly as new regulations are developed, particularly driven by climate change. This updated edition provides the latest information, including the newest technologies, regulations, and air quality management approaches. The areas on climate change are updated substantially. Through simple and precise language, scientific terms are explained in a holistic sense, and beginners and environmental practitioners alike with consider this book a trustworthy companion. The sixth edition includes additional information related to global air quality to better assess worldwide air quality conditions.

CRC Press
Market: Environmental Engineering
February 2021: 7 x 10: 423pp
Hb: 978-0-367-86092-9
eBook: 978-1-003-03259-5
Prev. Ed Hb: 978-1-466-58444-0
* For **full contents** and more information, visit: **www.routledge.com/9780367860929**

2nd Edition

Environmental Policy and Public Health

Barry L. Johnson, North Carolina State University, USA. and **Maureen Y. Lichtveld**

Written from a global perspective, this second edition describes both current and emerging environmental hazards to human and related ecosystem health and discusses policies and their public health foundations. Current hazards described include air pollution, impure water, unsafe food, toxic substances, pesticides, tobacco products, and hazardous waste. It explains the interventions that policymakers and experts can consider in mitigating or preventing specific environmental hazards. ;

CRC Press
June 2020: 280x216: 536pp
Hb: 978-1-498-79939-3
Pb: 978-0-367-57276-1
eBook: 978-1-351-22847-3
* For **full contents** and more information, visit: **www.routledge.com/9780367572761**

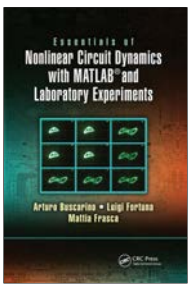
Cost Engineering for Pollution Prevention and Control

Paul Mac Berthouex, University of Wisconsin, Madison, USA (retired) and **Linfield C. Brown**, Tufts University, Medford, MA, USA

Cost Engineering for Pollution Prevention and Control examines how monetary and non-monetary factors are evaluated to select the best alternative from competitive engineering proposals-judged with respect to some measure of system performance, such as total capital cost, annual cost, annual net profit, return on investment, cost-benefit ratio, net present worth, minimum production time, maximum production rate, minimum energy utilization, and so on.

CRC Press
Market: Environmental Engineering
May 2021: 7 x 10: 472pp
Hb: 978-0-367-71060-6
eBook: 978-1-003-15469-3
* For **full contents** and more information, visit: **www.routledge.com/9780367710606**

Essentials of Nonlinear Circuit Dynamics with MATLAB® and Laboratory Experiments



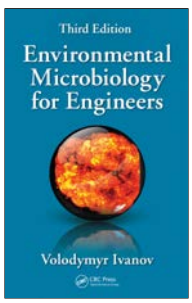
Arturo Buscarino, **Luigi Fortuna** and **Mattia Frasca**

This book deals with nonlinear dynamics of electronic circuits, which could be used in robot control, secure communications, sensors and synchronized networks. The efforts are devoted in order to emulate with nonlinear electronic circuits nonlinear dynamics. Step-by-step methods show the essential concepts of complex systems by using the Varela diagrams and accompanying MATLAB® exercises to reinforce new information. The aim of the book is to give to readers a comprehensive view of the main concepts of nonlinear dynamics to help them better understand complex systems and their control through the use of electronics devices.

CRC Press
March 2021: 6.14 x 9.21: 299pp
Hb: 978-1-138-19813-5
Pb: 978-0-367-78222-1
eBook: 978-1-315-22630-9
* For **full contents** and more information, visit: **www.routledge.com/9780367782221**

3rd Edition

Environmental Microbiology for Engineers



Volodymyr Ivanov, Iowa State University, Ames, USA; Nanyang Technological University, Singapore

The third edition of Environmental Microbiology for Engineers explores the role that microorganisms play in the engineered protection and enhancement of an environment. Offering a perfect balance of microbiological knowledge and environmental biotechnology principles, it provides a practical understanding of microorganisms and their functions in the environment and in the environmental engineering systems. The book also presents a quantitative description of applied microbiological processes and their engineering design.

CRC Press
Market: Environmental Science
July 2020: 7 x 10: 524pp
Hb: 978-0-367-32165-9
eBook: 978-0-429-31715-6
Prev. Ed Hb: 978-1-498-70212-6
* For **full contents** and more information, visit: **www.routledge.com/9780367321659**

2nd Edition

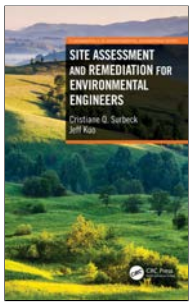
Introduction to Environmental Management

Mary K. Theodore, Manhattan College, Riverdale, New York, USA and **Louis Theodore**, Manhattan College, New York, USA

Written at a level that is accessible to students in all disciplines, *Introduction to Environmental Management, Second Edition* translates complex environmental issues into practical and understandable terms. The book provides students and practitioners an understanding of the regulations, pollutants, and waste management issues that can be applied in various related environmental fields and industries. This new edition is updated throughout and adds eleven new chapters, including coverage of water conservation, water toxins, measurement methods, desalination, industrial ecology, legal issues, and more.

CRC Press
Market: Environmental Engineering
May 2021: 7 x 10: 556pp
Hb: 978-0-367-75810-3
eBook: 978-1-003-17112-6
Prev. Ed Hb: 978-1-420-08907-3
* For **full contents** and more information, visit: **www.routledge.com/9780367758103**

Site Assessment and Remediation for Environmental Engineers



Cristiane Q. Surbeck and **Jeff Kuo**, California State University, Fullerton, USA

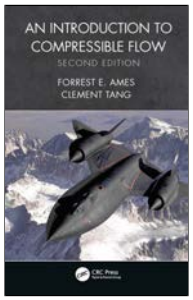
Series: Fundamentals of Environmental Engineering

This book serves as a primary textbook for environmental site investigation and remediation of subsurface soil and groundwater. It introduces concepts and principles of field investigative techniques to adequately determine the extent of contamination in the subsurface for the selection of clean-up alternatives. It then focuses on practical calculations and skills needed to design and operate remediation systems that will both educate students and be useful for entry-level professionals in the field.

CRC Press
Market: Environmental Engineering
February 2021: 6.14 x 9.21: 322pp
Hb: 978-1-138-38545-0
eBook: 978-0-429-42710-7
* For **full contents** and more information, visit: **www.routledge.com/9781138385450**

2nd Edition

An Introduction to Compressible Flow

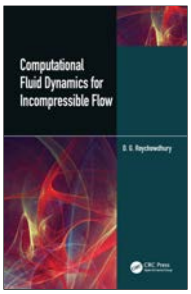


Forrest E. Ames, University of North Dakota, USA and **Clement C. Tang**, University of North Dakota, USA

This book is designed to better support and cover compressible flow material in gas turbine and aerodynamics courses. It begins with a brief review of thermodynamics and control volume fluid dynamics, which sets the entry point for the study of compressible flow. The book proceeds to cover isentropic flow, normal shock waves, shock tubes, oblique shock waves, Prandtl-Meyer expansion fans, Fanno-line flow, Rayleigh-line flow, and conical shock waves. The book is intended for senior undergraduate engineering students studying thermal-fluids and practicing engineers in the areas of aerospace or energy conversion.

CRC Press
Market: Engineering - Mechanical
July 2021: 6.14 x 9.21: 224pp
Hb: 978-0-367-89567-9
eBook: 978-1-003-04294-5
* For **full contents** and more information, visit: **www.routledge.com/9780367895679**

Computational Fluid Dynamics for Incompressible Flows



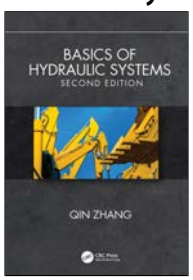
D.G. Roychowdhury

Presenting fundamental as well as advanced concepts in the field of computational fluid dynamics in an easy to understand manner, this textbook will be useful for senior undergraduate and graduate students in the field of mechanical and aerospace engineering. It discusses various finite difference methods and finite volume methods including Von Neumann's method, Lax equivalence theorem, time, dependent method, one-step method, Dufort-Frankel method, and MacCormack method.

CRC Press
August 2020: 6.14 x 9.21: 416pp
Hb: 978-0-367-40806-0
eBook: 978-0-367-80917-1
* For **full contents** and more information, visit: **www.routledge.com/9780367408060**

2nd Edition

Basics of Hydraulic Systems, Second Edition



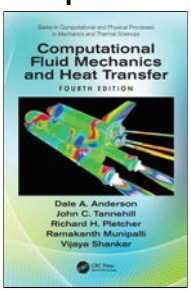
Qin Zhang, Washington State University, Prosser, USA

Basics of Hydraulic Systems, Second Edition provides students and professionals in both engineering and technology management fields a basic book to assist in their study of fluid power systems technology. This edition is expanded to include new chapters on system modeling and hydraulic systems controls. The text covers subjects essential to understanding operating principles, configuration features, functionalities, applications of composing elements, and controls of hydraulic systems. It presents them in a systematic, accessible way, following the course of energy transmission in hydraulic power generation, distribution, deployment, modeling, and control in fluid power systems.

CRC Press
Market: Engineering - Mechanical
March 2019: 7 x 10: 338pp
Hb: 978-1-138-48466-5
eBook: 978-0-429-19726-0
Prev. Ed Hb: 978-1-420-07098-9
* For **full contents** and more information, visit: **www.routledge.com/9781138484665**

4th Edition

Computational Fluid Mechanics and Heat Transfer



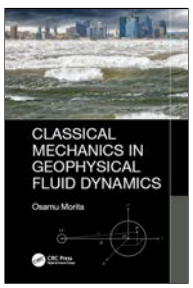
Dale Anderson, University of Texas at Arlington, USA, **John C. Tannehill**, Iowa State University, Ames, USA, **Richard H. Pletcher**, Iowa State University, Ames, USA., **Ramakanth Munipalli**, HyPerComp, Inc., USA and **Vijaya Shankar**, HyPerComp, Inc., USA

Series: Computational and Physical Processes in Mechanics and Thermal Sciences

This book is a fully updated version of the classic text on finite-difference and finite-volume computational methods. As an introductory text for advanced undergraduates and first-year graduate students, the new edition provides the background necessary for solving complex problems in fluid mechanics and heat transfer. Divided into two parts, the text covers essential concepts in the first part, and then moves on to fluids equations in the second. Designed as a valuable resource for practitioners and students, new examples and homework problems have been added to further enhance the student's understanding of the fundamentals and applications.

CRC Press
Market: Engineering - Mechanical
December 2020: 7 x 10: 974pp
Hb: 978-0-815-35712-4
eBook: 978-1-351-12402-7
Prev. Ed Hb: 978-1-591-69037-5
* For **full contents** and more information, visit: **www.routledge.com/9780815357124**

Classical Mechanics in Geophysical Fluid Dynamics



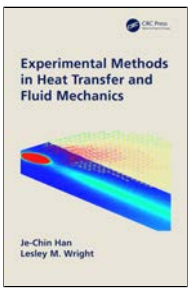
Osamu Morita

This textbook for senior undergraduate and graduate students outlines and provides links between classical mechanics and geophysical fluid dynamics. It is particularly suitable for the mechanics and fluids dynamics courses of geophysics, meteorology, or oceanography students as well as serving as a general textbook for a course on geophysical fluid dynamics.

It describes the motions of rigid bodies and shows how classical mechanics has important applications of to geophysics, as in the precession of the earth, oceanic tide, and the retreat of the moon from the earth owing to the tidal friction.

CRC Press
Market: Geophysics
August 2019: 235 x 156: 320pp
Hb: 978-0-367-26649-3 eBook:
978-0-429-29438-9
* For **full contents** and more information, visit: **www.routledge.com/9780367266493**

Experimental Methods in Heat Transfer and Fluid Mechanics



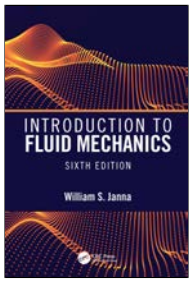
Je-Chin Han and **Lesley M. Wright**

Experimental Methods in Heat Transfer and Fluid Mechanics focuses on how to analyze and solve the classic heat transfer and fluid mechanics measurement problems in one volume. This work serves the need of graduate students and researchers looking for advanced measurement techniques for thermal, flow, and heat transfer engineering applications. The text focuses on analyzing and solving classic heat transfer and fluid mechanics measurement problems, emphasizing fundamental principles, measurement techniques, data presentation and uncertainty analysis. Overall, the text builds a strong and practical background for solving complex engineering heat transfer and fluid flow problems.

CRC Press
Market: Engineering - Mechanical
June 2020: 6.14 x 9.21: 382pp
Hb: 978-0-367-89792-5
eBook: 978-1-003-02117-9
* For **full contents** and more information, visit: **www.routledge.com/9780367897925**

6th Edition

Introduction to Fluid Mechanics



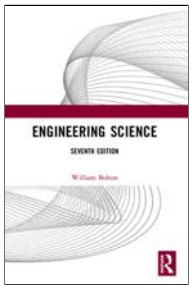
William S. Janna, University of Memphis, Tennessee, USA

Introduction to Fluid Mechanics, Sixth Edition, is intended for a first course in Fluid Mechanics, as taken by a range of engineering majors. Beginning with dimensions, units, and fluid properties, the text continues with explanation of key equations and coverage of the control-volume approach.

CRC Press
Market: Mechanical Engineering
April 2020: 7 x 10: 754pp
Hb: 978-0-367-34127-5
eBook: 978-0-429-32453-6
Prev. Ed Hb: 978-1-482-21161-0
* For **full contents** and more information, visit: **www.routledge.com/9780367341275**

7th Edition

Engineering Science



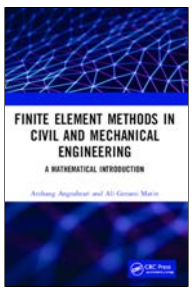
William Bolton, former Head of Research, Development and Monitoring at BTEC

Engineering Science is a comprehensive textbook for all vocational and pre-degree courses at Level 2 and beginning Level 3. It goes beyond the core science to include applications in the real world and the mechanical and electrical principles needed for the majority of courses. It is well supported by numerous worked examples and problems, with answers. Main changes in this edition are arithmetic, algebraic and graphical methods in engineering (for sections A and B of the BTEC Level 2 unit), and a new chapter introducing the basics of calculus.

Routledge
Market: Engineering Education
November 2020: 6.14 x 9.21: 598pp
Hb: 978-0-367-55443-9
Pb: 978-0-367-55445-3
eBook: 978-1-003-09359-6
Prev. Ed Pb: 978-1-138-82893-3
* For **full contents** and more information, visit: **www.routledge.com/9780367554453**

Finite Element Methods in Civil and Mechanical Engineering

A Mathematical Introduction



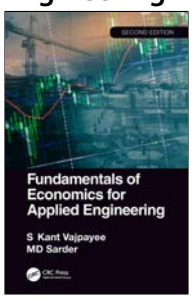
Arzhang Angoshtari, George Washington University, USA and **Ali Gerami Matin**, George Washington University, USA

The finite element method is widely employed for numerical simulations in engineering and science due to its efficiency. This concise introduction to the mathematical theory of the finite element method presents a selection of applications in civil and mechanical engineering such as beams and frames, Poisson's equation, heat transfer, advection-diffusion, linear elasticity, and incompressible fluids. Simple MATLAB codes and /or FENICS scripts of these examples can be downloaded from the book's companion website.

CRC Press
Market: Civil and Mechanical Engineering
December 2020: 6.14 x 9.21: 176pp
Hb: 978-1-138-33516-5
Pb: 978-1-138-33517-2
eBook: 978-0-429-44250-6
* For **full contents** and more information, visit: **www.routledge.com/9781138335172**

2nd Edition

Fundamentals of Economics for Applied Engineering



S. Kant Vajpayee, University of Southern Mississippi, USA and **MD Sarder**, Bowling Green State University, USA

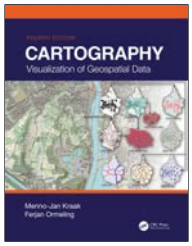
This one-semester introduction to basic engineering economics provides an overview of the theory and mathematics underlying operational business decisions that engineering technology, engineering, and industrial technology students will face in the workplace. Plain language is used and concepts have been kept straightforward with an emphasis on applying economic principles. Practical examples as throughout the text make good use of Microsoft Excel templates, provided on the book's companion website, for students. Exercises provide discussion and multiple-choice questions along with numerical problems, and a solutions manual and instructor resources is given for adopting instructors.

CRC Press
Market: Engineering Economics
August 2019: 254 x 178: 470pp
Hb: 978-0-367-18946-4
Pb: 978-0-367-18947-1
eBook: 978-0-429-19945-5
* For **full contents** and more information, visit: **www.routledge.com/9780367189471**

4th Edition

Cartography

Visualization of Geospatial Data



Menno-Jan Kraak and **Ferjan Ormeling**

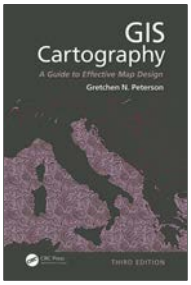
This fourth edition serves as an excellent introduction to general cartographic principles and as an examination of the best ways to optimize the visualization and use of spatio-temporal data. It incorporates all the changes and new developments in the world of maps such as open street maps and GPS-based crowdsourcing, the use of new web mapping technology, and adds new case studies and examples. Printed in full color, this fully-revised edition provides students with the knowledge and skills needed to read and understand maps and mapping changes, and offers professional cartographers an updated reference with the latest developments in cartography.

CRC Press
Market: Environmental Science
July 2020: 8.25 x 11: 261pp
Hb: 978-1-138-61395-9
eBook: 978-0-429-46419-5
Prev. Ed Hb: 978-1-138-13826-1
* For **full contents** and more information, visit: **www.routledge.com/9781138613959**

3rd Edition

GIS Cartography

A Guide to Effective Map Design

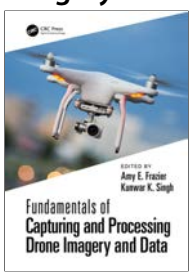


Gretchen N. Peterson, PetersonGIS, Seattle, Washington, USA

Discussing map design theory and technique rather than map design tools, this book focuses on digital cartography and its best practices. The third edition has completely new sections on how to deal with maps that go viral and the ethics, presentation techniques, features such as amenities, climate data, and hazards, the Equal Earth projection, and vector tile design considerations. All chapters are thoroughly updated with new illustrations and sections for datasets that didn't exist when the 2nd edition was published, as well as new techniques and trends in cartography. This edition is faithful to the original vision that cartography instruction should be software agnostic.

CRC Press
Market: Enviormental Science
November 2020: 6.14 x 9.21: 336pp
Hb: 978-0-367-85794-3 eBook: 978-1-003-04632-5
Prev. Ed Hb: 978-1-482-22067-4
* For **full contents** and more information, visit: **www.routledge.com/9780367857943**

Fundamentals of Capturing and Processing Drone Imagery and Data



Edited by **Amy E. Frazier** and **Kunwar K. Singh**

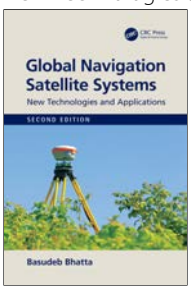
Unmanned Aircraft Systems are rapidly emerging as flexible platforms for capturing imagery and other data across sciences. Many colleges and universities are developing courses on UAS-based data acquisition. This book is a comprehensive, introductory text on how to use unmanned aircraft systems for data capture and analysis. It provides best practices for planning data capture missions and hands-on learning modules geared toward UAS data collection, processing, and applications. Readers will learn how to process different types of UAS imagery for applications such as Precision Agriculture, Forestry, Urban Landscapes, and apply this knowledge in environmental monitoring and land-use studies.

CRC Press
Market: Environmental Science
July 2021: 6.85 x 9.69: 390pp
Hb: 978-0-367-24572-6
eBook: 978-0-429-28323-9
* For **full contents** and more information, visit: **www.routledge.com/9780367245726**

2nd Edition

Global Navigation Satellite Systems

New Technologies and Applications



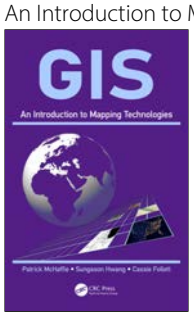
Basudeb Bhatta, Computer Aided Design Centre, Jadavpur University, Kolkata, India

Global navigation systems GNSS and their technology have advanced in the recent years and this revised and updated second edition provides a thorough understanding of the basic principles and techniques of GNSS, analyzes all four active systems and explains clearly how each GNSS works. Because of its straightforward treatment of the subject readers gain an insight into the techniques, trends, and applications of GNSS, and develop knowledge on selecting an appropriate GNSS instrument. Written for students and practitioners in Geoinformatics, Geomatics Engineering, Surveying and Remote Sensing and GIS, this introductory and practical book includes questions and exercises in each chapter.

CRC Press
Market: GIS / Surveying
May 2021: 6.14 x 9.21: 386pp
Hb: 978-0-367-47408-9
eBook: 978-1-003-14875-3
Prev. Ed Hb: 978-0-415-66560-5
* For **full contents** and more information, visit: **www.routledge.com/9780367474089**

GIS

An Introduction to Mapping Technologies

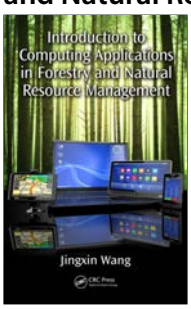


Patrick McHaffie, **Sungsoon Hwang** and **Cassie Follett**

The purpose of this textbook is to provide an accessible introduction to geotechnology for a wide range of students. The techniques and approaches to problem solving, project organization and management, and data visualization are used with the intension of introducing students to the possibility of using *GIS* as a platform for making contributions to a wide range of programs that are concerned with social, economic, political, and environmental change. Includes activities that lead students through hands-on workflows to create flexible and functional "solutions" to specific tasks that are typical for geospatial analysts.

CRC Press
June 2020: 234x156: 362pp
Hb: 978-1-498-74023-4
Pb: 978-0-367-57090-3
eBook: 978-1-498-74024-1
* For **full contents** and more information, visit: **www.routledge.com/9780367570903**

Introduction to Computing Applications in Forestry and Natural Resource Management

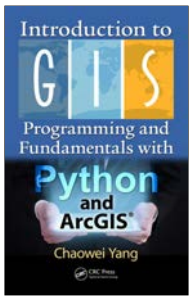


Jingxin Wang

Due to the complexity of operational forestry problems, computing applications are becoming pervasive in all aspects of forest and natural resource management. This book provides a comprehensive introduction to computers and their applications in forest and natural resource management and is designed for both undergraduate and graduate students in forestry and natural resources. It introduces state-of-the-art applications for several of the most important computer technologies in terms of data acquisition, data manipulation, basic programming techniques, and other related computer and Internet concepts and applications. This book consists of six parts and 19 chapters.

CRC Press
June 2020: 234x156: 398pp
Hb: 978-1-138-62630-0
Pb: 978-0-367-57308-9
eBook: 978-1-315-22617-0
* For **full contents** and more information, visit: **www.routledge.com/9780367573089**

Introduction to GIS Programming and Fundamentals with Python and ArcGIS®



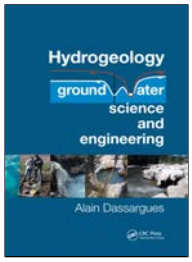
Chaowei Yang

Combining GIS concepts and fundamental spatial thinking methodology with real programming examples, this book introduces popular Python-based tools and their application to solving real-world problems. It elucidates the programming constructs of Python with its high-level toolkits and demonstrates its integration with ArcGIS Theory. Filled with hands-on computer exercises in a logical learning workflow this book promotes increased interactivity between instructors and students while also benefiting professionals in the field with vital knowledge to sharpen their programming skills.

CRC Press
June 2020: 234x156: 328pp
Hb: 978-1-466-51008-1
Pb: 978-0-367-57377-5
eBook: 978-1-466-51009-8
* For **full contents** and more information, visit: **www.routledge.com/9780367573775**

Hydrogeology

Groundwater Science and Engineering

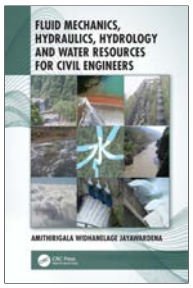


Alain Dassargues

This text combines the science and engineering of hydrogeology. It provides a physical description and characterisation of hydrogeological processes and sets out the corresponding mathematical equations for groundwater flow and solute/heat transport calculations for graduate students and professionals.

CRC Press
September 2020: 6.85 x 9.69: 492pp
Hb: 978-1-498-74400-3
Pb: 978-0-367-65714-7
eBook: 978-0-429-47066-0
* For **full contents** and more information, visit: **www.routledge.com/9780367657147**

Fluid Mechanics, Hydraulics, Hydrology and Water Resources for Civil Engineers



Amithirigala Widhanelage Jayawardena, The University of Hong Kong

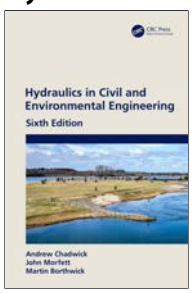
This textbook combines the essentials of water science and engineering needed by civil engineering students and practitioners: fluid mechanics, hydraulics, hydrology and water resources. It also touches on water related disasters and the role of water in sustainability. Traditional textbooks tend to look at these themes discretely, and so miss the natural connections between them, and the commonality of their underlying foundations.

Students from junior undergraduate to Masters level should find this a useful text and key reference.

CRC Press
Market: Civil and Environmental Engineering
January 2021: 7 x 10: 894pp
Hb: 978-1-138-39080-5
Pb: 978-1-138-39081-2
eBook: 978-0-429-42311-6
* For **full contents** and more information, visit: **www.routledge.com/9781138390812**

6th Edition

Hydraulics in Civil and Environmental Engineering



Andrew Chadwick, former university lecturer, UK, **John Morfett** and **Martin Borthwick**, Environment Agency, UK

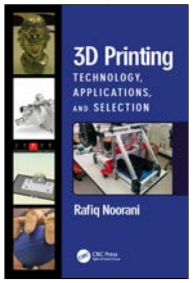
This classic textbook brings together the basic principles of civil engineering hydraulics with a wide-range of practical, real-world applications.

This new edition gives more on hydrostatics, along with new problems for students to practice with. Uncertainty estimation and its application to design is presented in the hydrology, river and coastal engineering chapters. Recommendations for climate change predictions, impacts and adaptation measures have been updated, as has the chapter on computational hydraulics for the application of computational simulation techniques.

CRC Press
Market: Civil and Environmental Engineering
June 2021: 6.85 x 9.69: 652pp
Hb: 978-0-367-46090-7
Pb: 978-0-367-46089-1
eBook: 978-1-003-02683-9
* For **full contents** and more information, visit: **www.routledge.com/9780367460891**

3D Printing

Technology, Applications, and Selection

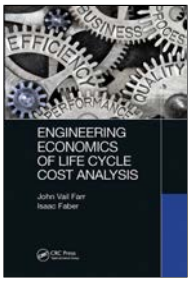


Rafiq Noorani, Loyola Marymount University, Los Angeles, California, USA

3D Printing is a faster, more cost-effective method for building prototypes from three-dimensional computer-aided design (CAD) drawings. *3D Printing* provides a fundamental overview of the general product design and manufacturing process and presents the technology and application for designing and fabricating parts in a format that makes learning easy. This user-friendly book clearly covers the 3D printing process for designers, teachers, students, and hobbyists and can also be used as a reference book in a product design and process development.

CRC Press
Market: Engineering - Industrial & Manufacturing
August 2017: 6.14 x 9.21: 293pp
Hb: 978-1-498-78375-0
Pb: 978-0-367-78196-5
eBook: 978-1-498-78376-7
* For **full contents** and more information, visit: **www.routledge.com/9781498783750**

Engineering Economics of Life Cycle Cost Analysis



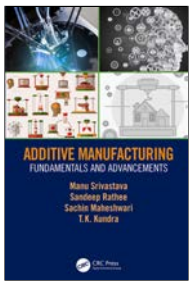
John Vail Farr and **Isaac Faber**

Engineering has changed dramatically in the last century. With modern computing systems, instantanious communcation, elimination of low/mid management, and extremely efficent supply chains has dramatically affected the responsibilities of engineers at all levels. The future will requires systems that are move complex. Employees at all levels need to be able to develop accurate cost estimates based upon defensible cost analysis. It is under this backdrop that this book is being written. By presenting the methods, processes, and tools needed to conduct cost analysis, estimation, and management of complex systems, this textbook is the next step beyond basic engineering economics.

CRC Press
March 2021: 6.14 x 9.21: 378pp
Hb: 978-1-138-60678-4
Pb: 978-0-367-78074-6
eBook: 978-0-429-46630-4
* For **full contents** and more information, visit: **www.routledge.com/9780367780746**

Additive Manufacturing

Fundamentals and Advancements



Manu Srivastava, IMS Engineering College, Ghaziabad, India, **Sandeep Rathee**, Netaji Subhas Institute of Technology, New Delhi, India, **Sachin Maheshwari**, Netaji Subhas Institute of Technology, New Delhi, India and **TK Kundra**, Department of Mechanical Engineering, Indian Institute of Technology Delhi Hauz Khas, New Delhi, INDIA

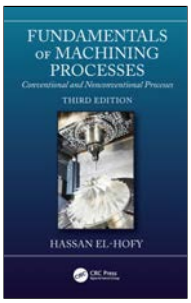
There is a growing need for manufacturing optimization all over the world, and the immense market of Additive Manufacturing (AM) technologies proves dictates a need for a book that will provide knowledge of the various aspects of AM for anyone interested in learning about this fast growing topic. This book will disseminate knowledge of AM amongst scholars at graduate level, post graduate level, doctoral level, as well as industry personnel. The objective is to offer a state-of-the-art book which covers all aspects of AM and incorporates all information regarding trends, history, principles, limitations and advancements in a one-stop resource.

CRC Press
Market: Engineering - Industrial & Manufacturing
September 2019: 6.14 x 9.21: 320pp
Hb: 978-1-138-48545-7
Pb: 978-0-367-77654-1
eBook: 978-1-351-04938-2
* For **full contents** and more information, visit: **www.routledge.com/9781138485457**

3rd Edition

Fundamentals of Machining Processes

Conventional and Nonconventional Processes

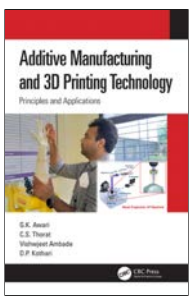


Hassan El-Hofy, Egypt-Japan University of Science and Technology

Written by an expert with over 40 years of experience in research and teaching machining and related topics, this new edition textbook presents the principles and theories of material removal and applications for conventional and nonconventional machining processes. The new edition is ideal for undergraduate students in production, materials, industrial, mechatronics, marine, mechanical, and manufacturing engineering programs, and also useful for graduate programs related to higher-level machining topics, as well as professional engineers and technicians. All chapters will be updated, with 4 new chapters added.

CRC Press
Market: Engineering - Industrial & Manufacturing
November 2018: 6.14 x 9.21: 602pp
Hb: 978-1-138-33490-8
eBook: 978-0-429-44332-9
Prev. Ed Hb: 978-1-466-57702-2
* For **full contents** and more information, visit: **www.routledge.com/9781138334908**

Additive Manufacturing and 3D Printing Technology



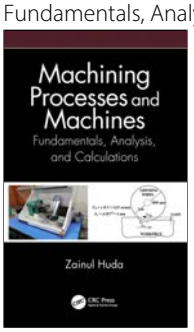
G. K. Awari, Gov. Polytechnic, Nagpur, **C. S. Thorat**, Gov. Polytechnic, Nagpur, **Vishwjeet Ambade**, Assistant Professor, Dept. of Mechanical Engineering, Tulsiramji gaikwad-Patil College of Engineering and Technology, India and **D. P. Kothari**, Professor Emeritus, Honorary Adjunct Professor, Visvesvaraya National Institute of Technology (VNIT), India

This standard textbook consists of the construction and working details of all modern as well as fundamentals of Additive Manufacturing and 3D Printing technology processes and machines. The book is written so that it will help the reader to understand the systems fundamentally. The reader of any level irrespective of basic knowledge will be able to understand this book. With the block diagrams, self-explanatory figures, chapter questions, and photographs of lab developed prototypes, along with case studies, this new textbook will be useful to students studying courses in Mechanical, Production, Design, and Electrical Engineering.

CRC Press
Market: Engineering - Industrial & Manufacturing
February 2021: 6.14 x 9.21: 309pp
Hb: 978-0-367-43622-3
eBook: 978-1-003-01385-3
* For **full contents** and more information, visit: **www.routledge.com/9780367436223**

Machining Processes and Machines

Fundamentals, Analysis, and Calculations



Zainul Huda, Department of Mechanical Engineering, King Abdulaziz University, Jeddah, Saudi Arabia

This textbook covers the fundamentals and engineering analysis of conventional and advanced/non-traditional material removal processes along with gear cutting/manufacturing and computer numerically controlled (CNC) machining.

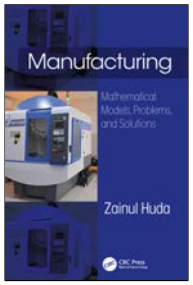
It provides a holistic understanding of machining processes and machines in manufacturing; it enables critical thinking through mathematical modeling and problem solving, and offers 200 worked examples/calculations and 70 multiple choice questions on machining operations as well as on CNC machining, with the eBook in color.

This unique book is useful to both engineering-degree students and production engineers practicing in manufacturing industry.

CRC Press
Market: Engineering - Industrial and Manufacturing
December 2020: 6.14 x 9.21: 300pp
Hb: 978-0-367-53269-7
eBook: 978-1-003-08120-3
* For **full contents** and more information, visit: **www.routledge.com/9780367532697**

Manufacturing

Mathematical Models, Problems, and Solutions



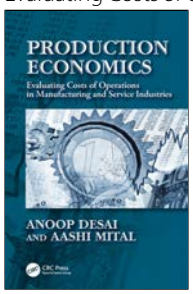
Zainul Huda, Department of Mechanical Engineering, King Abdulaziz University, Jeddah, Saudi Arabia

This book is written for readers who are either practicing engineers in industry or engineering-degree students taking a course in manufacturing technology. The book is divided into three parts which includes problems and solutions in basic manufacturing processes, problems and solutions in non-traditional and computer aided manufacturing, and problems and solutions in quality assurance and economics of manufacturing.

CRC Press
Market: Engineering - Industrial & Manufacturing
May 2018: 6.14 x 9.21: 392pp
Hb: 978-1-138-50136-2
Pb: 978-0-367-78127-9
eBook: 978-1-315-14433-7
* For **full contents** and more information, visit: **www.routledge.com/9781138501362**

Production Economics

Evaluating Costs of Operations in Manufacturing and Service Industries



Anoop Desai, Georgia Southern University, Statesboro, USA and **Aashi Mital**, Private Consultant, West Chester, Ohio, USA

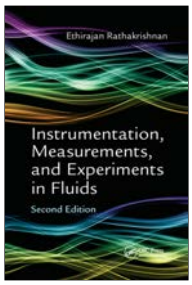
Series: Industrial Engineering

This book will serve a unique purpose within the world of production engineering. It will cover the economics of modern manufacturing and focus on examining the techniques and methods from a cost perspective. Additionally, it will deal with the computation of direct and indirect cost for manufacturing operations, including a variety of overhead operations in such an environment. Costing of manufacturing methods such as casting, forging, turning, milling, and welding is addressed along with inventory analysis and MRP costing. Related topics such as equipment replacement, comparison of alternatives, depreciation, buy versus make decisions, interest factors and equivalence are covered as well.

CRC Press
Market: Engineering - Industrial & Manufacturing
June 2018: 235 x 156: 550pp
Hb: 978-1-138-03326-9
eBook: 978-0-429-48704-0
* For **full contents** and more information, visit: **www.routledge.com/9781138033269**

2nd Edition

Instrumentation, Measurements, and Experiments in Fluids

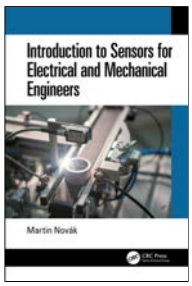


Ethirajan Rathakrishnan

This title is primarily focused on essentials required for experimentation in fluids, explaining basic principles, and addressing the tools and methods needed for advanced experimentation. It also provides insight into the vital topics and issues associated with the devices and instruments used for fluid mechanics and gas dynamics experiments. The second edition adds exercise problems with answers, along with PIV systems of flow visualization, water flow channel for flow visualization, and pictures with Schlieren and shadowgraph—from which possible quantitative information can be extracted. Ancillary materials include detailed solutions manual and lecture slides for the instructors.

CRC Press
December 2020: 6.14 x 9.21: 612pp
Hb: 978-1-498-78485-6
Pb: 978-0-367-73670-5
eBook: 978-1-315-36561-9
* For **full contents** and more information, visit: **www.routledge.com/9780367736705**

Introduction to Sensors for Electrical and Mechanical Engineers



Martin Novák, Czech Technical University, Prague.

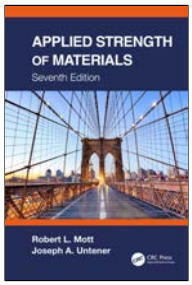
The objective of this book is to provide the basic knowledge to electrical and mechanical engineers, engineering students and hobbyist from the field of sensors to help them with the selection of "proper" sensors for their designs. No background knowledge in electrical engineering is required, all the necessary basics are provided. The book explains how a sensor works, in what ranges it can be used, with what accuracy etc. It also provides examples of industrial application for selected sensors.

The book covers all the major variables in mechanical engineering such as temperature, force, torque, pressure, humidity, position, speed, acceleration etc.

CRC Press
Market: Electrical Engineering
August 2020: 6.14 x 9.21: 328pp
Hb: 978-0-367-51821-9
eBook: 978-1-003-08169-2
* For **full contents** and more information, visit: **www.routledge.com/9780367518219**

7th Edition

Applied Strength of Materials



Robert L. Mott, University of Dayton, Ohio, USA and **Joseph A. Untener**, University of Dayton, Ohio, USA

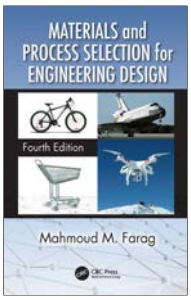
Introducing the theoretical background of the subject, with a strong visual component, the book equips the reader with problem-solving techniques. The updated seventh edition incorporates new technologies, with a pedagogical approach. It emphasizes realistic engineering applications for the analysis and design of structural members.

A "Big Picture" section starts each chapter to help students grasp the overall objectives and their application in industrial applications. Step-by-step problem-solving approaches are included throughout the book. While calculus is used sparingly, detailed developments of important design-related formulas are provided.

CRC Press
Market: Mechanical Engineering
July 2021: 6.14 x 9.21: 1202pp
Hb: 978-0-367-82078-7
eBook: 978-1-003-17320-5
Prev. Ed Hb: 978-1-498-71675-8
* For **full contents** and more information, visit: **www.routledge.com/9780367820787**

4th Edition

Materials and Process Selection for Engineering Design



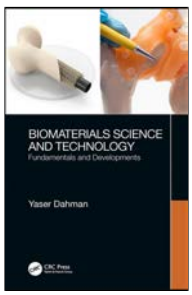
Mahmoud M. Farag, The American University in Cairo, Egypt

The Fourth Edition of this best-selling text helps readers develop designs, reach economic decisions, select materials, choose manufacturing processes, and assess environmental impact. It has been comprehensively revised to reflect the many advances in the fields of materials and manufacturing over the past decade. Aimed at students in mechanical, manufacturing, and materials engineering, as well as professionals in these fields, this book provides the practical know-how in order to choose the right materials and processes for development of new or enhanced products.

CRC Press
Market: Materials Science
December 2020: 6.14 x 9.21: 562pp
Hb: 978-0-367-43834-0
Pb: 978-0-367-41947-9
eBook: 978-1-003-00609-1
Prev. Ed Pb: 978-1-466-56409-1
* For **full contents** and more information, visit: **www.routledge.com/9780367419479**

Biomaterials Science and Technology

Fundamentals and Developments



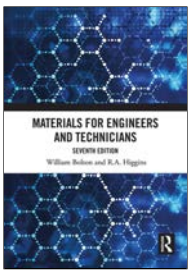
Yaser Dahman, Ryerson University

This book presents a broad scope of the field, focusing on theory, advances, and applications of biomaterials. It reviews fabrication and properties of different classes of biomaterials and biocompatibility. It details methods used to characterize major properties of biomaterials and their modification to tailor properties for different applications. It discusses nanotechnology in biomaterials, reviews applications, and defines the set of tailored properties. Major applications are in the emerging fields of regenerative medicine as soft and hard tissues scaffolds, 3D printing as bioinks, and drug delivery.

CRC Press
Market: Materials Science
February 2019: 235 x 156: 376pp
Hb: 978-1-138-61147-4
eBook: 978-0-429-46534-5
* For **full contents** and more information, visit: **www.routledge.com/9781138611474**

7th Edition

Materials for Engineers and Technicians



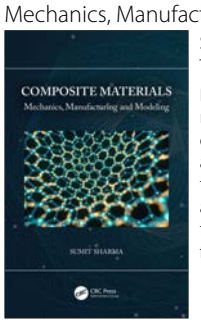
William Bolton, retired Head of Research and Development and Monitoring at BTEC and **R.A. Higgins**

This comprehensive introduction to materials engineering and manufacturing processes for BTEC Level 2 students and beginning level 3 students remains straightforward and readable. The references to specifications for materials and materials testing have been updated to include current European-wide standards. The chapter on selection of materials provides more cases, and the sections on new developments in materials and recycling of materials have been extended. Sustainability and 3D printing are now included, more applications have been indicated, and a number of case studies of materials and associated problems have been added.

Routledge
Market: Engineering Education
October 2020: 7 x 10: 460pp
Hb: 978-0-367-53549-0
Pb: 978-0-367-53550-6
eBook: 978-1-003-08244-6
Prev. Ed Pb: 978-1-138-77875-7
* For **full contents** and more information, visit: **www.routledge.com/9780367535506**

Composite Materials

Mechanics, Manufacturing and Modeling



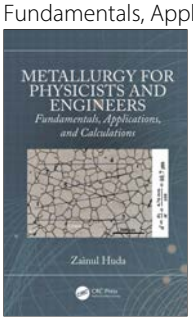
Sumit Sharma, Dr. B. R. Ambedkar National Institute of Technology (NIT) Jalandhar, Punjab, INDIA

Discussing in a single volume the fundamental concepts, manufacturing, mechanics and dynamic mechanical analysis of composites, this textbook will be useful for senior undergraduate and graduate students for a course on composite materials in the fields of mechanical engineering, automobile engineering and electronics engineering. A separate chapter discusses failure theories including Tsai-Wu criterion, Tsai-Hill criterion, Hoffman failure criterion and maximum strain criterion.

CRC Press
March 2021: 6.14 x 9.21: 558pp
Hb: 978-0-367-68755-7
eBook: 978-1-003-14775-6
* For **full contents** and more information, visit: **www.routledge.com/9780367687557**

Metallurgy for Physicists and Engineers

Fundamentals, Applications, and Calculations

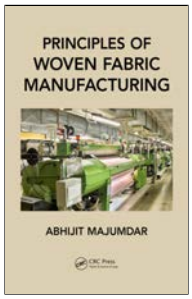


Zainul Huda, Department of Mechanical Engineering, King Abdulaziz University, Jeddah, Saudi Arabia

Relating theory with practice to provide a holistic understanding of the subject and enable critical thinking, this book covers fundamentals of materials technology, microstructural development engineering metallurgy, non-metallic materials, and applications. The book provides mathematical modeling for metals, polymers, ceramics, composites, and semiconductors. It features more than 250 solved problems and each chapter ends with exercise problems and answers to selected problems followed by references for additional reading. The text offers in-depth treatment of design against failure to help readers develop the skill of designing materials and components against failure.

CRC Press
Market: Materials Science
February 2020: 235 x 156: 380pp
Hb: 978-0-367-19838-1
eBook: 978-0-429-26558-7
* For **full contents** and more information, visit: **www.routledge.com/9780367198381**

Principles of Woven Fabric Manufacturing



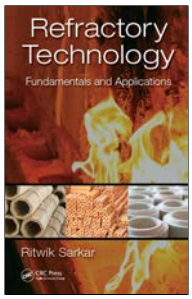
Abhijit Majumdar

Weaving as a subject is an integral part of any textile engineering/technology program, the others being fibre manufacturing, yarn manufacturing and textile chemical processing. This book amalgamates both the compartments (preparatory processes and the loom mechanism) of weaving technology and presents a holistic picture. The machine descriptions are presented from the viewpoint of principles and no attempt has been made to make them exhaustive by incorporating various models or variants. The mathematical relations among various parameters have been derived starting from the first principles and each chapter concludes with solved numerical examples.

CRC Press
June 2020: 234x156: 454pp
Hb: 978-1-498-75911-3
Pb: 978-0-367-57419-2
eBook: 978-1-498-75914-4
* For **full contents** and more information, visit: **www.routledge.com/9780367574192**

Refractory Technology

Fundamentals and Applications



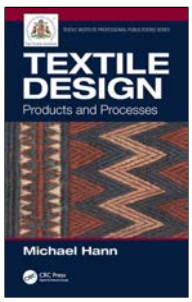
Ritwik Sarkar

This book provides a basic understanding of refractories. This includes the fundamentals of refractory technology supported by phase diagrams as well as detailing the prominent applications of these essential industrial materials. This book covers all the facets of refractory technology, starting from classification, properties, standard specifications, details of the conventional shaped refractories, including relevant phase diagrams & application areas and also the details of unshaped refractories including various classifications, bonding, additives and their applications.

CRC Press
June 2020: 234x156: 314pp
Hb: 978-1-498-75425-5
Pb: 978-0-367-57429-1
eBook: 978-1-315-36805-4
* For **full contents** and more information, visit: **www.routledge.com/9780367574291**

Textile Design

Products and Processes



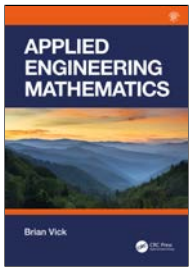
Michael Hann, School of Design, University of Leeds, UK

Series: Textile Institute Professional Publications

This book includes fundamentals of textile processing technology with explanation of craft techniques, various stages of processing fibres and yarns with useful, readily understandable, line drawings. Fibrous types, dyes, yarns and cloths have been explained and material is supported by glossary and explanation of processing stages from fibre to finished cloth. Further, the considerations of relevance to the development and preparation of a design collection are outlined and discussed. Various testing procedures, including fibre, yarn and cloth identification methods, and important innovations in textile products and processing are identified and explained as well.

CRC Press
Market: Textile manufacturing
October 2020: 6.14 x 9.21: 268pp
Hb: 978-0-367-31308-1
Pb: 978-0-367-31306-7
eBook: 978-0-429-31617-3
* For **full contents** and more information, visit: **www.routledge.com/9780367313067**

Applied Engineering Mathematics



Brian Vick, Virginia Tech, USA

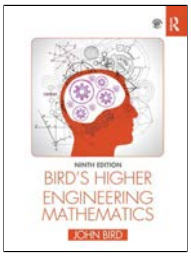
Undergraduate engineering students need good mathematics skills, and this textbook supports this with a strong emphasis on visualization and the methods and tools needed across the whole of engineering.

The visual approach is emphasised, and excessive proofs and derivations are avoided. The visual images explain and teach the mathematical methods. The book's website provides dynamic and interactive codes in *Mathematica* to accompany the examples for the reader to explore on their own.

CRC Press
Market: Mathematics for Engineering
May 2020: 7 x 10: 246pp
Hb: 978-0-367-43277-5
Pb: 978-0-367-43276-8
eBook: 978-1-003-00226-0
* For **full contents** and more information, visit: **www.routledge.com/9780367432768**

9th Edition

Bird's Higher Engineering Mathematics



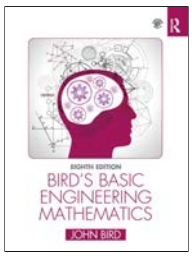
John Bird, Defence College of Technical Training, UK

Higher Engineering Mathematics has helped thousands of students to succeed in their exams by developing problem-solving skills, It is supported by over 600 practical engineering examples and applications which relate theory to practice. The extensive and thorough topic coverage makes this a solid text for undergraduate and upper-level vocational courses. Its companion website provides resources for both students and lecturers, including lists of essential formulae, and full solutions to all 2,000 further questions contained in the 277 practice exercises; and illustrations and answers to revision tests for adopting course instructors.

Routledge
Market: Engineering Mathematics
March 2021: 8.25 x 11: 934pp
Hb: 978-0-367-64375-1
Pb: 978-0-367-64373-7
eBook: 978-1-003-12422-1
Prev. Ed Pb: 978-1-138-67357-1
* For **full contents** and more information, visit: **www.routledge.com/9780367643737**

8th Edition

Bird's Basic Engineering Mathematics

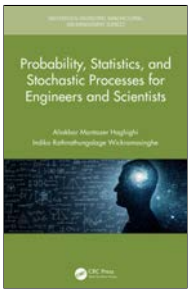


John Bird, Defence College of Technical Training, UK

Basic Engineering Mathematics has helped thousands of students to succeed in their exams. Mathematical theories are explained in a straightforward manner, supported by over 500 practical engineering examples and applications to ensure that readers can relate theory to practice. The extensive and thorough topic coverage makes this a superb text for introductory level engineering courses. Its companion website provides resources for both students and lecturers, including lists of essential formulae, multiple choice tests, and full solutions for all 1,700 further questions; and illustrations and answers to revision tests for adopting course instructors.

Routledge
Market: Engineering
March 2021: 8.25 x 11: 480pp
Hb: 978-0-367-64370-6
Pb: 978-0-367-64367-6
eBook: 978-1-003-12421-4
Prev. Ed Pb: 978-1-138-67370-0
* For **full contents** and more information, visit: **www.routledge.com/9780367643676**

Probability, Statistics, and Stochastic Processes for Engineers and Scientists



Aliakbar Montazer Haghighi, Prairie View A&M University, Houston, Texas and **Indika Wickramasinghe**, Prairie View A&M University, TX, USA

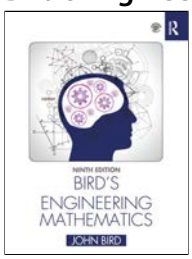
Series: Mathematical Engineering, Manufacturing, and Management Sciences

Featuring recent advances in probability, statistics, and stochastic processes, this new textbook presents Probability and Statistics, and an introduction to Stochastic Processes. The book presents key information for understanding the essential aspects of basic probability theory and concepts of reliability as an application. The purpose of this book is to provide an option in this field that combines these areas in one book, balances both theory and practical applications, and also keeps the practitioners in mind.

CRC Press
Market: Engineering - Industrial & Manufacturing
July 2020: 6.14 x 9.21: 634pp
Hb: 978-0-815-37590-6
eBook: 978-1-351-23840-3
* For **full contents** and more information, visit: **www.routledge.com/9780815375906**

9th Edition

Bird's Engineering Mathematics



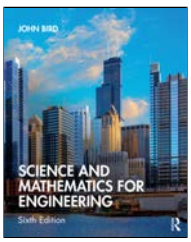
John Bird, Defence College of Technical Training, UK

Engineering Mathematics has helped thousands of students to succeed in their exams, using worked examples and interactive problems. Mathematics is explained in a straightforward manner, supported by over 550 practical engineering examples and applications which relate theory to practice. This is a great text for a range of Level 2 and 3 engineering courses, and for A level revision. Its companion website provides resources for both students and lecturers, including lists of essential formulae and multiple-choice tests and full solutions for all 1900 further questions; and illustrations and answers to revision tests for adopting course instructors.

Routledge
Market: Engineering
March 2021: 8.25 x 11: 758pp
Hb: 978-0-367-64379-9
Pb: 978-0-367-64378-2
eBook: 978-1-003-12423-8
Prev. Ed Pb: 978-1-138-67359-5
* For **full contents** and more information, visit: **www.routledge.com/9780367643782**

6th Edition

Science and Mathematics for Engineering



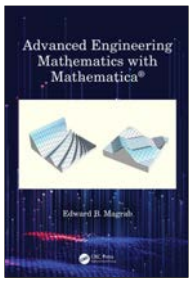
John Bird, formerly Senior Lecturer, HMS Sultan, UK

Science and Mathematics for Engineering is an introductory textbook that assumes no prior background in engineering. This 6th edition covers the fundamental scientific knowledge that all trainee engineers must acquire in order to pass their examinations and has been brought fully in line with the compulsory science and mathematics units in the new engineering course specifications. A new chapter covers ways of generating electricity – the present and the future, an important topic in the subject going forward.

This book includes over 580 worked examples, 1300 further problems and 425 multiple choice questions and is supported by a companion website.

Routledge
Market: Engineering Education
October 2019: 8.62 x 10.8: 576pp
Hb: 978-0-367-20475-4
Pb: 978-0-367-20474-7
eBook: 978-0-429-26170-1
Prev. Ed Pb: 978-1-138-82688-5
* For **full contents** and more information, visit: **www.routledge.com/9780367204747**

Advanced Engineering Mathematics with Mathematica

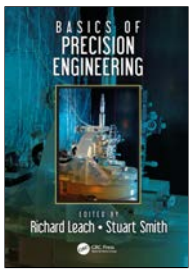


Edward B. Magrab

Advanced Engineering Mathematics with Mathematica presents advanced analytical solution methods that are used to solve boundary value problems in engineering and integrates these methods with over 200 Mathematica programs. It emphasizes the Sturm-Liouville system and the generation and application of orthogonal functions, which are used by the separation of variables method to solve partial differential equations.

CRC Press
Market: Mechanical Engineering
March 2020: 254 x 178: 549pp
Hb: 978-0-367-89325-5
eBook: 978-1-003-01856-8
* For **full contents** and more information, visit: **www.routledge.com/9780367893255**

Basics of Precision Engineering



Edited by **Richard Leach** and **Stuart T. Smith**

BASICS OF PRECISION MACHINERY provides students and professionals a comprehensive and up-to-date survey of the field. The text reviews basic dynamics of machinery and kinematics concepts, and the design of mechanisms. Engineering materials selection and behavior is examined, along with environmental isolation. Metrology principles and applications, and dimensional metrology, are presented in detail, since these topics are essential to precision engineering; uncertainty analysis and probability are covered as well. Numerous figures, tables, examples and problems are included throughout the text, and a Solutions Manual and Figure Slides are available for professors who adopt the textbook.

CRC Press
March 2021: 7 x 10: 675pp
Hb: 978-1-498-76085-0
Pb: 978-0-367-78139-2
eBook: 978-1-351-20411-8
* For **full contents** and more information, visit: **www.routledge.com/9780367781392**

4th Edition

Continuum Mechanics for Engineers

G. Thomas Mase, California Polytechnic State University, San Luis Obispo, USA, **Ronald E. Smelser**, University of North Carolina, Charlotte, USA and **Jenn Stroud Rossmann**, Lafayette College, Easton, Pennsylvania, USA

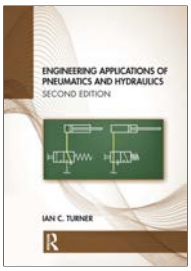
Series: Applied and Computational Mechanics

A bestselling textbook in its first three editions, Continuum Mechanics for Engineers, Fourth Edition provides engineering students with a complete, concise, and accessible introduction to advanced engineering mechanics. It provides information that is useful in emerging engineering areas, such as micro-mechanics and biomechanics. Through a mastery of this volume's contents and additional rigorous finite element training, readers will develop the mechanics foundation necessary to skilfully use modern, advanced design tools.

CRC Press
Market: Engineering - Mechanical
May 2020: 7 x 10: 450pp
Hb: 978-1-482-23868-6
Prev. Ed Hb: 978-1-420-08538-9
* For **full contents** and more information, visit: **www.routledge.com/9781482238686**

2nd Edition

Engineering Applications of Pneumatics and Hydraulics



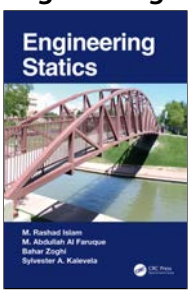
Ian C. Turner, Chartered Consulting Engineer, UK

Requiring only a very basic knowledge of the physics of fluids, this book provides a sound understanding of fluid power systems and their uses. It takes a strongly practical approach and covers maintenance and trouble-shooting, with a particular emphasis on safety systems and regulations.

This second edition completely updates the guidance on safety legislation, codes of practice, technical standards and standardisation organisations, reflecting advances in technology. It is written for students from Levels 3 to 5, and for a wide range of practising engineers: especially plant, operations, and measurement and control engineers.

Routledge
Market: Engineering
August 2020: 6.85 x 9.69: 184pp
Hb: 978-0-367-46085-3
Pb: 978-0-367-46084-6
eBook: 978-1-003-02681-5
Prev. Ed Pb: 978-0-415-50288-7
* For **full contents** and more information, visit: **www.routledge.com/9780367460846**

Engineering Statics

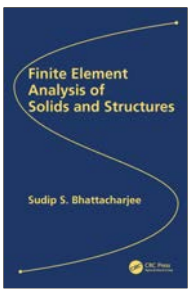


M. Rashad Islam, **M. Abdullah Al Faruque**, **Bahar Zoghi** and **Sylvester A. Kalevela**

Engineering Statics presents the cutting-edge topics in engineering statics, focusing on practical applications knowledge, with numerous real-world examples, practice problems, and case studies throughout. It covers theory concisely and uses plain language and coverage that can be completed in a one-semester course. It also covers the related concepts required to take the Fundamentals of Engineering (FE) exam.

CRC Press
Market: Civil Engineering
December 2020: 7 x 10: 308pp
Hb: 978-0-367-56106-2
eBook: 978-1-003-09815-7
* For **full contents** and more information, visit: **www.routledge.com/9780367561062**

Finite Element Analysis of Solids and Structures

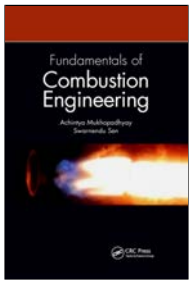


Sudip Bhattacharjee

This textbook combines the theory of elasticity (advanced analytical treatment of stress analysis problems) and finite element methods (numerical details of finite element formulations) into one academic course derived from author's teaching, research, and applied work in automotive product development as well as in civil structural analysis. This work contains 12 discrete chapters that can be covered in a single semester university graduate course on linear elastic finite element analysis methods. The book also serves as a reference for practicing engineers working on design assessment and analysis of solids and structures.

CRC Press
Market: Mechanical Engineering/Materials
July 2021: 6.14 x 9.21: 288pp
Hb: 978-0-367-43705-3
eBook: 978-1-003-02784-3
* For **full contents** and more information, visit: **www.routledge.com/9780367437053**

Fundamentals of Combustion Engineering



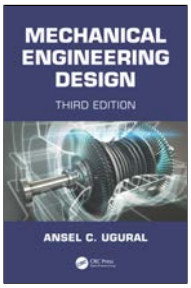
Achintya Mukhopadhyay and **Swarnendu Sen**

This book is an introductory text on fundamental aspects of combustion meant for use by senior undergraduate and graduate students, covering including thermodynamics, heat and mass transfer and chemical kinetics. The book covers combustion of gaseous, liquid and solid fuels and deals with emission of pollutants and greenhouse gases.

CRC Press
December 2020: 234x156: 335pp
Hb: 978-1-482-23330-8
Pb: 978-0-367-73154-0
eBook: 978-0-429-15821-6
* For **full contents** and more information, visit: **www.routledge.com/9780367731540**

3rd Edition

Mechanical Engineering Design



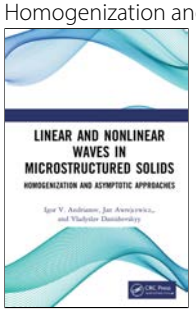
Ansel C. Ugural, New Jersey Institute of Technology, Newark, USA

Mechanical Engineering Design, Third Edition strikes a balance between theory and application, and prepares students for more advanced study or professional practice. Updated throughout, it outlines basic concepts and provides the necessary theory to gain insight into mechanics with numerical methods in design. Divided into three sections, the text presents background topics, addresses failure prevention across a variety of machine elements, and covers the design of machine components as well as entire machines. Optional sections treating special and advanced topics are also included.

CRC Press
Market: Engineering - Mechanical
December 2020: 7 x 10: 852pp
Hb: 978-0-367-51347-4
eBook: 978-1-003-09928-4
Prev. Ed Hb: 978-1-498-73536-0
* For **full contents** and more information, visit: **www.routledge.com/9780367513474**

Linear and Nonlinear Waves in Microstructured Solids

Homogenization and Asymptotic Approaches



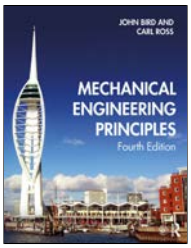
Igor V. Andrianov, RWTH Aachen University, Germany, **Jan Awrejcewicz**, Lodz University of Technology, Poland and **Vladyslav Danishevskyy**, Prydniprovska State Academy of Civil Engineering and Architecture, Ukraine

Presenting original solutions to common issues within mechanics, this book builds upon years of research to demonstrate the benefits of implementing asymptotic techniques within mechanical engineering and material science. Focusing on linear and nonlinear wave phenomena in complex micro-structured solids, the book determines their global characteristics through analysis of their internal structure, using homogenization and asymptotic procedures, in line with the latest thinking within the field. The book's cutting-edge methodology can be applied to optimal design, non-destructive control and in deep seismic sounding, providing a valuable alternative to widely used numerical methods.

CRC Press
Market: Mechanical Engineering
April 2021: 6.14 x 9.21: 250pp
Hb: 978-0-367-70412-4
eBook: 978-1-003-14616-2
* For **full contents** and more information, visit: **www.routledge.com/9780367704124**

4th Edition

Mechanical Engineering Principles



John Bird, formerly Senior Lecturer, HMS Sultan, UK and **Carl Ross**, Professor of Structural Dynamics, University of Portsmouth, UK

A student-friendly introduction to core mechanical engineering topics, focusing on examples and applications. The book contains 400 fully worked problems, 700 further problems with answers, and 300 multiple-choice questions. Two new chapters are included, covering the basic principles of matrix algebra and the matrix displacement method. The latter will also include guidance on software that can be used via SmartPhones, iPads or laptops. The new edition is up to date with the latest BTEC National specifications and can also be used on undergraduate courses in mechanical, civil, structural, aeronautical and marine engineering, and naval architecture.

Routledge
Market: Mechanical Engineering
September 2019: 8.62 x 10.8: 388pp
Hb: 978-0-367-25326-4
Pb: 978-0-367-25324-0
eBook: 978-0-429-28720-6
Prev. Ed Pb: 978-1-138-78157-3
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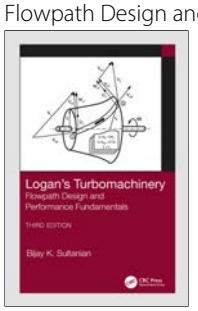
3rd Edition

Logan's Turbomachinery

Flowpath Design and Performance Fundamentals, Third Edition



Bijay Sultanian, University of Central Florida, FL

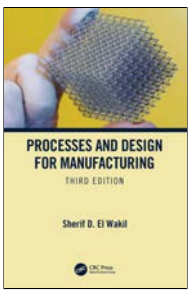
Series: Mechanical Engineering

Logan's Turbomachinery: Flowpath Design and Performance Fundamentals, Third Edition is the long-awaited revision of this classic textbook, thoroughly updated by Dr. Bijay Sultanian. While the basic concepts remain constant, turbomachinery design has advanced since the Second Edition was published in 1993. Airfoils in modern turbomachines feature three-dimensional geometries, Computational Fluid Mechanics (CFD) has become a standard design tool, and major advances have been made in the materials and manufacturing technologies that affect turbomachinery design. The new edition adresses these trends to best serve today's students, and design engineers working in turbomachinery industries.

CRC Press
Market: Engineering - Mechanical
January 2019: 7 x 10: 341pp
Hb: 978-1-138-19820-3
eBook: 978-1-315-22648-4
* For **full contents** and more information, visit: **www.routledge.com/9781138198203**

3rd Edition

Processes and Design for Manufacturing



Sherif D. El Wakil, University of Massachusetts Dartmouth

Processes and Design for Manufacturing, Third Edition examines manufacturing processes from the viewpoint of the product designer, examining the selection of manufacturing methods in the early phases of design, and how this affects the constructional features of a product. Stages from design process to product development are examined, integrating evaluation of cost factors. The text emphasizes both a general design orientation and a systems approach, and covers topics such as additive manufacturing, concurrent engineering, polymeric and composite materials, cost estimation, design for assembly, and environmental factors. Appendices with materials engineering data are also included.

CRC Press
Market: Engineering - Mechanical
April 2019: 7 x 10: 551pp
Hb: 978-1-138-58108-1
eBook: 978-0-429-50663-5
* For **full contents** and more information, visit: **www.routledge.com/9781138581081**

2nd Edition

Shipboard Electrical Power Systems

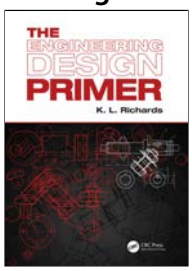
Mukund R. Patel, U.S. Merchant Marine Academy, Kings Point, New York, USA

The second edition of Shipboard Electrical Power Systems addresses new developments in this rapidly growing field. Focusing on the industry trend towards electric propulsion for cruise, navy and commercial ships, the book aids new or experienced engineers in mastering the cutting-edge technologies required for power system design, control, protection, and economic use of power.

Covering the latest emission standards on ships, and the clean power technologies necessary to meet such stringent regulations, the book compiles essential information on power system design, analysis and operation, uniquely bringing all three together under one cover.

CRC Press
Market: Engineering-Mechanical
July 2021: 6.14 x 9.21: 426pp
Hb: 978-0-367-43035-1
eBook: 978-1-003-19151-3
Prev. Ed Hb: 978-1-138-07543-6
* For **full contents** and more information, visit: **www.routledge.com/9780367430351**

The Engineering Design Primer



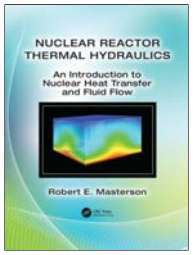
K. L. Richards, Consulting Engineer, Gillingham, United Kingdom

Created to support senior-level courses/modules in product design, K. L. Richard's ENGINEERING DESIGN PRIMER reflects the author's deep experience in engineering product management and design. The combination of specific engineering design processes within the boader context of creative, team-based product design, makes this the ideal resource for project-based coursework. Starting with design concepts and tasks, the text then explores materials selection, optimisation, reliability, statistics, testing, and economic factors- all supported with real-life examples. Student readers will gain a practical perspective of the work they'll be doing as their engineering careers begin.

CRC Press
Market: Engineering
February 2020: 254 x 178: 324pp
Hb: 978-0-367-21013-7
eBook: 978-0-429-26491-7
* For **full contents** and more information, visit: **www.routledge.com/9780367210137**

Nuclear Reactor Thermal Hydraulics

An Introduction to Nuclear Heat Transfer and Fluid Flow



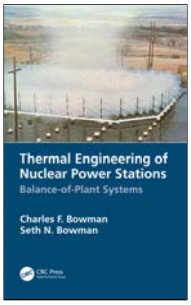
Robert E. Masterson, Virginia Polytechnic and State University, Blacksburg, USA

Nuclear Thermal-Hydraulic Systems provides a comprehensive approach to nuclear reactor thermal-hydraulics, reflecting the latest technologies, reactor designs, and safety considerations. The text makes extensive use of color images, internet links, computer graphics, and other innovative techniques to explore nuclear power plant design and operation. Key fluid mechanics, heat transfer, and nuclear engineering concepts are carefully explained, and supported with worked examples, tables, and graphics. Intended for use in one or two semester courses, the text is suitable for both undergraduate and graduate students. A complete Solutions Manual is available for professors.

CRC Press
Market: Engineering - Mechanical
September 2019: 254 x 203: 1388pp
Hb: 978-1-138-03537-9
eBook: 978-1-315-22623-1
* For **full contents** and more information, visit: **www.routledge.com/9781138035379**

Thermal Engineering of Nuclear Power Stations

Balance-of-Plant Systems



Charles F. Bowman, Chuck Bowman Associates, Inc., USA and **Seth N. Bowman**, Consolidated Nuclear Security, LLC, USA

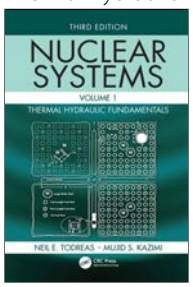
The book serves as a ready reference to better analyze common engineering challenges in the areas of turbine cycle analysis, thermodynamics, and heat transfer.Written for engineers in the fields of nuclear plant and thermal engineering, the book examines the daily, practical problems encountered by mechanical design, system, and maintenance engineers. It provides clear examples and solutions drawn from numerous case studies in actual, operating nuclear stations.The scope of the book is broad and comprehensive, encompassing the mechanical aspects of the entire nuclear station balance-of-plant from the source of the motive steam to the discharge and/or utilization of waste heat.

CRC Press
Market: Engineering - Nuclear
July 2020: 6.14 x 9.21: 366pp
Hb: 978-0-367-82039-8
eBook: 978-1-003-01160-6
* For **full contents** and more information, visit: **www.routledge.com/9780367820398**

3rd Edition

Nuclear Systems Volume I

Thermal Hydraulic Fundamentals



Neil E. Todreas, Massachusetts Institute of Technology, Cambridge, USA and **Mujid S. Kazimi**, Massachusetts Institute of Technology, Cambridge, USA

This bookprovides an in-depth introduction to nuclear power, focussing on thermal hydraulic design and analysis of the nuclear core and other key nuclear plant components. The authors stress the integration of fluid flow and heat transfer as applied to all power reactor types and energy source distribution. The text features new chapter examples and problems using concept parameters, full color text and art, computer programs, figure slides, and a solutions manual. Readers will develop the knowledge and design skills needed to improve the next generation of nuclear reactors.

CRC Press
Market: Engineering - Mechanical
January 2021: 7 x 10: 926pp
Hb: 978-1-138-49244-8
eBook: 978-1-351-03050-2
Prev. Ed Hb: 978-1-439-80887-0
* For **full contents** and more information, visit: **www.routledge.com/9781138492448**

7th Edition

Thermal Radiation Heat Transfer

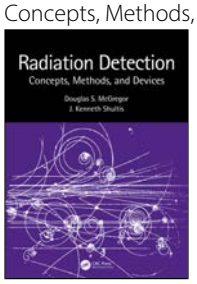
John R. Howell, The University of Texas at Austin, Austin, USA, **M. Pinar Mengüc**, Ozyegin Universities, Istanbul, Turkey, **Kyle Daun** and **Robert Siegel**, Heat Transfer Consultant, Shaker Heights, Ohio, USA

The Seventh Edition of this classic text outlines the fundamental physical principles of thermal radiation, as well as analytical and numerical techniques for quantifying radiative transfer between surfaces and within participating media. The textbook includes newly expanded sections on surface properties, electromagnetic theory, scattering and absorption of particles, near-field radiative transfer, and emphasizes the broader connections to thermodynamic principles. Sections on inverse analysis and Monte Carlo methods have been updated, along with new material on manufacturing, renewable energy, climate change, building energy efficiency, and biomedical applications.

CRC Press
Market: Mechanical Engieering
December 2020: 7 x 10: 1040pp
Hb: 978-0-367-34707-9
eBook: 978-0-429-32730-8
Prev. Ed Hb: 978-1-466-59326-8
* For **full contents** and more information, visit: **www.routledge.com/9780367347079**

Radiation Detection

Concepts, Methods, and Devices



Douglas McGregor, Kansas State University, Manhattan, USA and **J. Kenneth Shultis**

Radiation Detection: Concepts, Methods, and Devices provides a modern overview of radiation detection devices and radiation measurement methods. The book topics have been selected on the basis of the authors' many years of experience designing radiation detectors and teaching radiation detection and measurement in a classroom environment. This book is designed to give the reader more than a glimpse at radiation detection devices and a few packaged equations. Rather it seeks to provide an understanding that allows the reader to choose the appropriate detection technology for a particular application, to design detectors, and to competently perform radiation measurements.

CRC Press
Market: Nuclear Engineering
September 2020: 8.25 x 11: 1312pp
Hb: 978-1-439-81939-5
eBook: 978-1-439-81940-1
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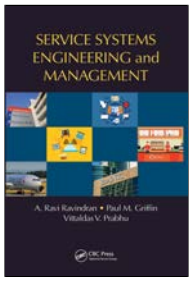
Service Systems Engineering and Management



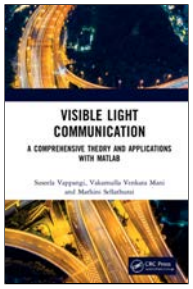
A. Ravi Ravindran, Paul M. Griffin and Vittaldas V. Prabhu

This is a comprehensive textbook on service systems engineering and management. It emphasizes the use of engineering principles to the design and operation of service enterprises. Service systems engineering relies on mathematical models and methods to solve problems in the service industries. This textbook covers state-of-the-art concepts, models and solution methods important in the design, control, operations and management of service enterprises.

CRC Press
March 2021: 6.14 x 9.21: 618pp
Hb: 978-1-498-72306-0
Pb: 978-0-367-78132-3
eBook: 978-1-498-72307-7
* For **full contents** and more information, visit: **www.routledge.com/9780367781323**

Visible Light Communication

A Comprehensive Theory and Applications with MATLAB®

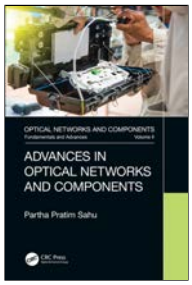


Suseela Vappangi, National Institute of Technology, Warangal, India., **Vakamulla Venkata Mani**, National Institute of Technology, Warangal, India. and **Mathini Sellathurai**, Heriot-Watt University, UK

Discussing key aspects of visible light communication such as channel modelling and modulation formats, this textbook introduces theoretical concepts along with diverse applications of visible light communication in a comprehensive manner. The text highlights diverse applications of visible light communication in designing smart cities and vehicular communication. It will be a valuable resource for senior undergraduate and graduate students in the field of electronics and communication engineering.

CRC Press
Market: Electrical Engineering
August 2021: 6.14 x 9.21: 520pp
Hb: 978-0-367-63217-5
eBook: 978-1-003-19153-7
* For **full contents** and more information, visit: **www.routledge.com/9780367632175**

Advances in Optical Networks and Components

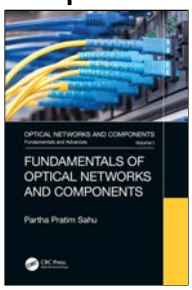


Partha Pratim Sahu

This book is intended as a graduate/post graduate level textbook for courses on high speed optical networks as well as computer networks. The ten chapters cover basic principles of the technology as well as latest developments, and further discusses network security, survivability and reliability of optical networks and priority schemes used in wavelength routing. The book also goes on to examine FTTH standards, deployments and research issues and includes examples throughout all the chapters aid understanding of problems and solutions.

CRC Press
Market: Electrical Engineering
July 2020: 235 x 156: 466pp
Hb: 978-0-367-26565-6
eBook: 978-0-429-29396-2
* For **full contents** and more information, visit: **www.routledge.com/9780367265656**

Fundamentals of Optical Networks and Components



Partha Pratim Sahu

This book is intended as an undergraduate/post graduate level textbook for courses on high speed optical networks as well as computer networks. Nine chapters cover basic principles of the technology and different devices for optical networks, as well as processing of integrated waveguide devices of optical networks using different technologies. It provides students, researchers and practicing engineers with an expert guide to the fundamental concepts, issues and state of the art developments in optical networks. Includes examples throughout all the chapters of the book to aid understanding of basic problems and solutions.

CRC Press
Market: Electrical Engineering
July 2020: 235 x 156: 388pp
Hb: 978-0-367-26545-8
eBook: 978-0-429-29376-4
* For **full contents** and more information, visit: **www.routledge.com/9780367265458**

Introduction to Plant Automation and Controls

Raymond F. Gardner, U.S. Merchant Marine Academy, USA

The increasing complexity of plant control systems requires engineers who can relate plant operations and behaviors to their control requirements. This book is ideal for readers with limited electrical and electronic experience, particularly those looking for a multidisciplinary approach for obtaining a practical understanding of control systems related to the best operating practices of large or small plants. It is an invaluable resource for becoming an expert in this field or as a single-source reference for plant control systems.

CRC Press
Market: Mechanical Engineering
November 2020: 7 x 10: 558pp
Hb: 978-0-367-49420-9
eBook: 978-1-003-09113-4
* For **full contents** and more information, visit: **www.routledge.com/9780367494209**

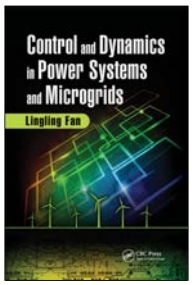
Power Plant Engineering

Farshid Zabihian, California State University, Sacramento, USA

This textbook begins with conventional power generation technologies, including steam power plants and gas turbine cycles. It then introduces more advanced cycles, including combined heat and power (CHP) cycles, combined cycle power plants (CCPP), integrated gasification combined cycles (IGCC), and fuel cells. The book is intended for Mechanical and Nuclear Engineering instructors and students taking a power plant design or operation course. It also covers power generation technologies based on renewable energy resources and the environmental effects of each.

CRC Press
Market: Engineering - Mechanical
June 2021: 6.14 x 9.21: 1250pp
Hb: 978-1-498-70712-1
eBook: 978-0-429-06945-1
* For **full contents** and more information, visit: **www.routledge.com/9781498707121**

Control and Dynamics in Power Systems and Microgrids

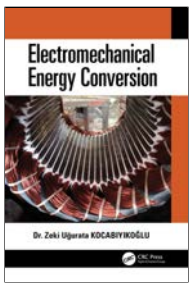


Lingling Fan

In traditional power system dynamics and control books, the focus is on synchronous generators. In current industry, where renewable energy, power electronics converters, and microgrids arise, the related system-level dynamics and control need coverage. It covers wind energy system dynamics and microgrid system control. The text also offers insight to using programming examples, state-of-the-art control design tools, and advanced control concepts to explain traditional power system dynamics and control. The reader will gain knowledge of dynamics and control in both synchronous generator-based power system and power electronic converter enabled renewable energy systems.

CRC Press
March 2021: 6.14 x 9.21: 230pp
Hb: 978-1-138-03499-0
Pb: 978-0-367-78215-3
eBook: 978-1-315-26954-2
* For **full contents** and more information, visit: **www.routledge.com/9780367782153**

Electromechanical Energy Conversion



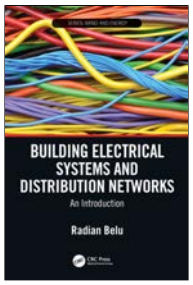
Zeki Uğurata Kocabiyikoğlu, TOBB Economy and Technology University, Turkey.

This book is intended to be a text book on "Electromechanical Energy Conversion" for the undergraduates of electrical and electronic engineering students of universities and colleges. Therefore the level and amount of the knowledge to be transferred to the reader is kept as much as what can be transferred in one academic semester of a university or college. Although the subject is rather classical and somehow well established in some respects it is vast and can be difficult to grasp if went in to details. In this book it is aimed to be as short, lean and as easily understandable as possible with minimum of wording and maximum of drawings, figures and tables.

CRC Press
Market: Engineering-Electrical
August 2020: 6.14 x 9.21: 296pp
Hb: 978-0-367-32267-0
eBook: 978-0-429-31763-7
* For **full contents** and more information, visit: **www.routledge.com/9780367322670**

Building Electrical Systems and Distribution Networks

An Introduction



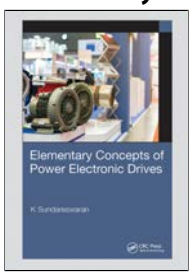
Radian Belu, University of Alaska Anchorage, Alaska, USA

Series: Nano and Energy

This book covers all important, new and conventional aspects of building electrical systems, power distribution, lighting, transformers and rotating electric machines, wiring and building installations. Solved examples, end of chapter questions and problems, case studies, and design considerations are included in each chapter, highlighting concepts, diverse and critical features of building and industrial electrical systems. Support materials are included for interested instructors.

CRC Press
Market: Electrical Engineering
March 2020: 7 x 10: 606pp
Hb: 978-1-482-26351-0
* For **full contents** and more information, visit: **www.routledge.com/9781482263510**

Elementary Concepts of Power Electronic Drives

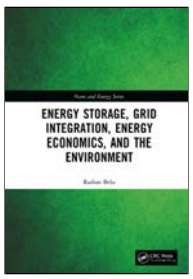


K Sundareswaran

"Elementary Concepts of Power Electronic Drives" aims to facilitate a smooth transition from basic knowledge of electric machines and power electronics to the world of power electronics. This book emphasizes only on relevant principles of electric motors and power electronics and then integrates such facts to bring the principle power electronic control of electric motors. Salient features of motors and power converter operations are crisply mentioned at appropriate places. Different case studies and solved numerical examples are provided in large numbers including illustrations through commonly seen electric drives.

CRC Press
December 2020: 254x178: 389pp
Hb: 978-1-138-39049-2
Pb: 978-0-367-73139-7
eBook: 978-0-429-42328-4
* For **full contents** and more information, visit: **www.routledge.com/9780367731397**

Energy Storage, Grid Integration, Energy Economics, and the Environment



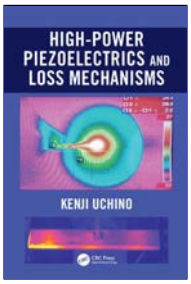
Radian Belu, University of Alaska Anchorage, Alaska, USA

Series: Nano and Energy

The book will cover energy storage systems, bioenergy and hydrogen economy, grid integration of the renewable energy systems, distributed generation, economic analysis and environmental impacts of renewable energy systems. Solutions manual and Power Point slides are included for instructors.

CRC Press
Market: Electrical Engineering
September 2019: 7 x 10: 390pp
Hb: 978-0-367-26140-5
eBook: 978-0-429-32243-3
* For **full contents** and more information, visit: **www.routledge.com/9780367261405**

High-Power Piezoelectrics and Loss Mechanisms



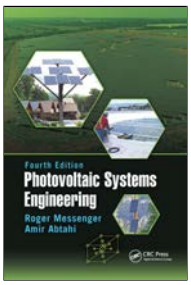
Kenji Uchino, Pennsylvania State University, USA

This textbook introduces the theoretical background of piezoelectrics, electromechanial phenomenology, loss mechanisms, practical materials, device designs, drive and characterization techniques, typical applications, and looks forward to the future perspectives in this field. This text is designed for self-learning by the reader by himself/herself aided by the availability of: Chapter Essentials – Summary for your quick memory recovery; Check Points – Answers are provided in the book Appendix; Example Problems – To enhance the reader's understanding with full detailed solutions; Chapter Problems – For the final exam, or further consideration.

CRC Press
Market: Engineering - Electrical
September 2020: 7 x 10: 380pp
Hb: 978-0-367-54069-2
eBook: 978-1-003-08751-9
* For **full contents** and more information, visit: **www.routledge.com/9780367540692**

4th Edition

Photovoltaic Systems Engineering



Roger A. Messenger and **Amir Abtahi**

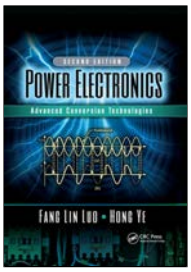
This new edition offers a comprehensive treatment of all phases of Photovoltaic System design, installation, commissioning, inspection, and operation, including why and how the basic system components work on an engineering level. The book also explains the basic physical principles upon which the technology is based and a consideration of the environmental and economic impact of the technology. Content has been completely revised and updated and now includes 10-30 homework problems per chapter. Additionally, there is a solutions manual available for adopting professors.

CRC Press
December 2020: 234x156: 536pp
Hb: 978-1-498-77277-8
Pb: 978-0-367-73633-0
eBook: 978-1-315-15143-4
* For **full contents** and more information, visit: **www.routledge.com/9780367736330**

2nd Edition

Power Electronics

Advanced Conversion Technologies, Second Edition



Fang Lin Luo and **Hong Ye**

Recently, many renewable energy systems, such as solar-panel and wind-turbine energy systems, have used DC/DC converters and DC/AC inverters. By discussing a wide range of converters, readers can find suitable topologies for their applications and even invent new topologies by using suggested methods in the text. This edition features an entirely new chapter on best switching angles to obtain lowest THD for multilevel DC/AC inverters. All other chapters have been updated and include homework problems throughout. With case studies from GE, AEG, Simplatroll Ltd, and Chinese Power Manufacturing Co., the reader will be exposed to practical applications in industry and real-world settings

CRC Press
September 2020: 254x178: 735pp
Hb: 978-1-138-73532-3
Pb: 978-0-367-65615-7
eBook: 978-1-315-18627-6
* For **full contents** and more information, visit: **www.routledge.com/9780367656157**

Quality Management in Engineering

A Scientific and Systematic Approach

Jong S. Lim, CEO of Engineering Consulting Company, Professor of Yangzhou University, China

This book introduces fundamental, advanced, and future-oriented scientific quality management methods in the engineering and manufacturing industry.

The book will be of interest to manufacturing industry leaders and managers, who do not require in-depth engineering knowledge. It will also be helpful to engineers in design and suppliers in management and manufacturing, all who have daily concerns with project and quality management. Some interest may also come from students in business and engineering programs.

CRC Press
Market: Engineering - Industrial & Manufacturing
August 2019: 235 x 156: 360pp
Hb: 978-0-367-23008-1
Pb: 978-0-367-77936-8
eBook: 978-0-429-28160-0
* For **full contents** and more information, visit: **www.routledge.com/9780367230081**

Total Quality Management (TQM)

Principles, Methods, and Applications

Sunil Luthra, Department of Mechanical Engineering, State Institute of Engineering and Technology, Nilokheri-India, **Dixit Garg**, National Institute of Technology, Kurukshetra, India, **Ashish Agarwal**, SOET and **Sachin K. Mangla**, Plymouth Business School, Plymouth University, Plymouth

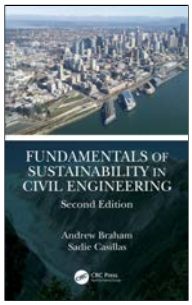
Series: Mathematical Engineering, Manufacturing, and Management Sciences

Total Quality Management (TQM) integrates all phases and ensures a defect free quality product. This book provides the understanding of all aspects of TQM and the implementation.This textbook covers all aspects of TQM, discusses quality systems in detail, highlights the importance of the needs of the customer, and presents the concept of Total Productive Maintenance (TPM). Written as a textbook for students of engineering and management, but also explains all quality systems which will be helpful to all organisations in choosing the correct quality system and helpful to managers in decisions making while analyzing any process.

CRC Press
Market: Engineering - Industrial Engineering & Manufacturing
October 2020: 6.14 x 9.21: 222pp
Hb: 978-0-367-51283-5
eBook: 978-1-003-05315-6
* For **full contents** and more information, visit: **www.routledge.com/9780367512835**

2nd Edition

Fundamentals of Sustainability in Civil Engineering

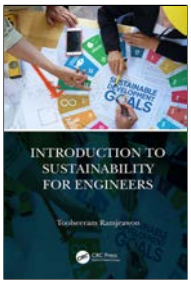


Andrew Braham and **Sadie Casillas**

This book provides a foundation to understand the development of sustainability in civil engineering, and tools to address the three pillars of sustainability: economics, environment, and society. It includes case studies in the five major areas of civil engineering: environmental, structural, geotechnical, transportation, and construction management. This second edition is updated throughout and adds new chapters on construction engineering as well as an overview of the most common certification programs that revolve around environmental sustainability.

CRC Press
Market: Engineering - Civil
December 2020: 6.14 x 9.21: 272pp
Hb: 978-0-367-42025-3
eBook: 978-0-367-81744-2
Prev. Ed Hb: 978-1-498-77512-0
* For **full contents** and more information, visit: **www.routledge.com/9780367420253**

Introduction to Sustainability for Engineers

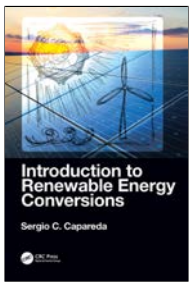


Toolseeram Ramjeawon, Faculty of Engineering, University of Mauritius, Reduit, Mauritius

This book aims to incorporate sustainability into curricula for undergraduate engineering students. The book starts with an introduction to the concept of sustainability, outlining core principles for sustainable development to guide engineering practice and decision making, including key tools aimed at enabling, measuring and communicating sustainability. It also describes concepts as life cycle analysis, environmental economics, related institutional architecture and policy framework, business context of sustainability, and sustainable architecture. Appendices at the end of the book presents a summary of key concepts, strategies and tools introduced in the main text.

CRC Press
Market: Engineering - General
February 2020: 235 x 156: 392pp
Hb: 978-0-367-25445-2
eBook: 978-0-429-28785-5
* For **full contents** and more information, visit: **www.routledge.com/9780367254452**

Introduction to Renewable Energy Conversions



Sergio C. Capareda, Texas A&M University, College Station, USA

Introduction to Renewable Energy Conversions examines all the major renewable energy conversion technologies, with the goal of enabling readers to formulate realistic resource assessments. The text provides step-by-step procedures for assessing renewable energy options, and then moves to the design of appropriate renewable energy strategies. The goal is for future engineers to learn the process of making resource estimates, through the introduction of more than 140 solved problems (and equal number of solved problems for teachers), over 165 engineering related equations, more than 120 figures and numerous tables to explain each renewable energy conversion type.

CRC Press
Market: Engineering- Mechanical
August 2019: 254 x 178: 456pp
Hb: 978-0-367-18850-4
eBook: 978-0-429-19910-3
* For **full contents** and more information, visit: **www.routledge.com/9780367188504**

Renewable Energy Systems

Fundamentals and Source Characteristics

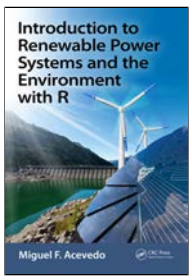
Radian Belu, University of Alaska Anchorage, Alaska, USA

Series: Nano and Energy

The Renewable Energy Systems: Fundamentals and Source Characteristics is a set book coming in two volumes. The first volume is "Fundamentals and Source Characteristics of Renewable Energy Systems and the second volume is called "Energy Storage, Grid Integration, Energy Economics and the Environment".

CRC Press
Market: Energy & Clean Technology
October 2019: 254 x 178: 810pp
Hb: 978-1-482-25744-1
* For **full contents** and more information, visit: **www.routledge.com/9781482257441**

Introduction to Renewable Power Systems and the Environment with R



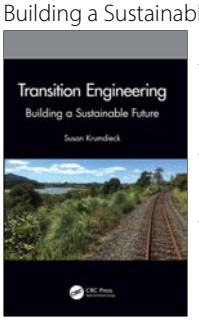
Miguel F. Acevedo

Introduction to Renewable Power Systems and the Environment with R showcases the fundamentals of electrical power systems while examining their relationships with the environment. To address the broad range of interrelated problems that come together when generating electricity, this reference guide ties together multiple engineering disciplines with applied sciences. The author merges chapters on thermodynamics, electricity, and environmental systems to make learning fluid and comfortable for students with different backgrounds. Additionally, this book provides users with the opportunity to execute computer examples and exercises that use the open source R system.

CRC Press
June 2020: 254x178: 457pp
Hb: 978-1-138-19734-3
Pb: 978-0-367-57130-6
eBook: 978-1-315-27961-9
* For **full contents** and more information, visit: **www.routledge.com/9780367571306**

Transition Engineering

Building a Sustainable Future



Susan Krumdieck, University of Canterbury, New Zealand

Transition Engineering: Building a Sustainable Future examines new strategies emerging in response to the mega-issues of global climate change, decline in world oil supply, scarcity of key industrial minerals, and local environmental constraints. These issues pose challenges for organizations, businesses, and communities. Engineers will need to begin developing ideas and projects to implement the transition of engineered systems. This work presents a methodology for shifting away from unsustainable activities. Teaching the Transition Engineering approach and methodology is the focus of the text, and the concept is presented in a way that engineers can begin applying it in their work.

CRC Press
Market: Engineering-Mechanical
September 2019: 6.14 x 9.21: 254pp
Hb: 978-0-367-36243-0
Pb: 978-0-367-34126-8
eBook: 978-0-429-34391-9
* For **full contents** and more information, visit: **www.routledge.com/9780367341268**

Techniques for Ship Handling and Bridge Team Management

Hiroaki Kobayashi, Tokyo University of Marine Science and Technology, Japan

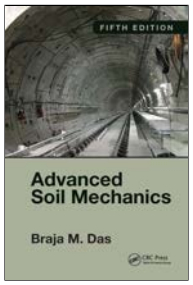
Taking a rigorous and scientific look at good practice and attitudes, good seamanship can be viewed as a series of concrete technical functions, which can be in terms of competencies.

By giving proper attention to human factors the conditions for maintaining system safety can be defined, and the interaction of human competencies and environmental conditions and their effects on system safety can be recognised. System safety in turn depends on good bridge team management, with particular emphasis on communication, cooperation and leadership.

Routledge
Market: Maritime management and practice
November 2019: 235 x 156: 268pp
Hb: 978-0-367-31325-8
eBook: 978-0-429-31627-2
* For **full contents** and more information, visit: **www.routledge.com/9780367313258**

5th Edition

Advanced Soil Mechanics



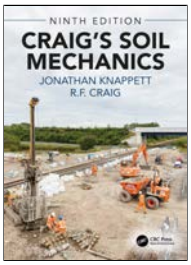
Braja M. Das

The fifth edition of this established textbook offers a well-tailored resource for graduate students in geotechnical engineering. It bridges the gap between undergraduate basics and leading-edge work at graduate level. New material is included on consolidation, shear strength of soils, and both elastic and consolidation settlements of shallow foundations to accommodate modern developments.
This text can be followed by advanced courses dedicated to mechanical and chemical stabilization of soils, geo-environmental engineering, critical state soil mechanics, geosynthetics, rock mechanics, and earthquake engineering.

CRC Press
December 2020: 234x156: 734pp
Hb: 978-0-815-37913-3
Pb: 978-0-367-73010-9
eBook: 978-1-351-21518-3
* For **full contents** and more information, visit: **www.routledge.com/9780367730109**

9th Edition

Craig's Soil Mechanics



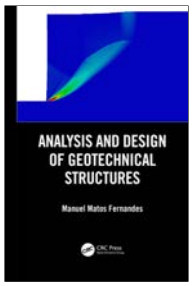
Jonathan Knappett, University of Dundee, UK and **R.F. Craig**, University of Dundee, UK

Craig's Soil Mechanics continues to evolve and remain the definitive text for civil engineering students worldwide. It covers fundamental soil mechanics and its application in applied geotechnical engineering from A to Z and at the right depth for an undergraduate civil engineer, with sufficient extension material for supporting MSc level courses, and with practical examples and digital tools to make it a useful reference work for practising engineers.

This new edition now includes restructured chapters and new material, as well as additional worked examples and end-of-chapter problems .

CRC Press
Market: Civil Engineering
October 2019: 7.44 x 9.69: 654pp
Hb: 978-1-138-07005-9
Pb: 978-1-138-07006-6
eBook: 978-1-351-05274-0
Prev. Ed Pb: 978-0-415-56126-6
* For **full contents** and more information, visit: **www.routledge.com/9781138070066**

Analysis and Design of Geotechnical Structures



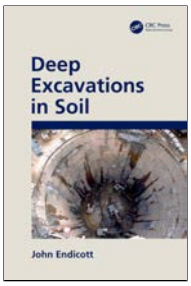
Manuel Matos Fernandes, University of Porto, Portugal

Analysis and Design of Geotechnical Structures bridges the gap between basic soil mechanics and geotechnical engineering practice to particularly suit Masters students. It presents the theory and methods underpinning geotechnical design and also serves as a manual for practitioners.

With solutions manual. Basic principles and analysis are given with design practice to Eurocode 7, with a series of topics including: overall stability of soil masses, earth pressure, spread foundations, consolidation theory and delayed settlements in clayey soils, earth-retaining walls, natural slopes, and compacted fill and earthworks. Along with geotechnical characterization, with a focus on field tests.

CRC Press
Market: Civil and Geotechnical Engineering
August 2020: 7 x 10: 754pp
Hb: 978-0-367-02662-2
Pb: 978-0-367-02663-9
eBook: 978-0-429-39845-2
* For **full contents** and more information, visit: **www.routledge.com/9780367026639**

Deep Excavations in Soil

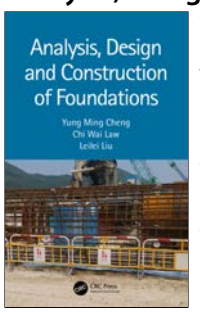


John Endicott, AECOM, Hong Kong

The book describes the theory and current practices for design of earth lateral support for deep excavations in soil. It brings together the principles of soil mechanics, design methods, numerical methods, and more sophisticated computer modelling, along with a strong emphasis on construction practice with monitoring, safety and temporary works. It is heavily illustrated with practical applications and case histories and is written for practising geotechnical, civil and structural engineers, and especially for senior and MSc students.

CRC Press
Market: Civil Engineering / Ground Engineering
August 2020: 6.14 x 9.21: 258pp
Hb: 978-0-367-31360-9
eBook: 978-0-429-31655-5
* For **full contents** and more information, visit: **www.routledge.com/9780367313609**

Analysis, Design and Construction of Foundations



Yung Ming Cheng, **Chi Wai Law**, Hong Kong and **Leilei Liu**, Central South University, China

This outlines methods for the analysis and design of shallow and deep foundations, with particularly reference to case studies in Hong Kong and China. It introduces key approaches used by engineers, with precautions for planning and designing various foundation structures. Some computational methods and programs enable realistic analysis of foundation systems. It covers new and innovation methods for constructing shallow foundations, various deep foundations, excavation and lateral support systems, ground improvement techniques and ground monitoring for proper site management; along with case studies of failures and defects from actual construction projects.

CRC Press
Market: Foundations and Civil Engineering
February 2021: 6.14 x 9.21: 610pp
Hb: 978-0-367-25557-2
eBook: 978-0-429-29345-0
* For **full contents** and more information, visit: **www.routledge.com/9780367255572**

Design of Shallow and Deep Foundations

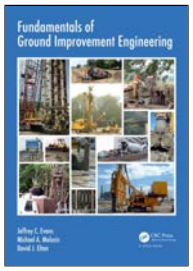
Roger Frank, École nationale des ponts et chaussées, France, **Fahd Cuira**, Terrasol and École nationale des ponts et chaussées, France and **Sébastien Burlon**, Terrasol and École nationale des ponts et chaussées, France

This practical guide to foundations design introduces the concept of limit state calculations, before focusing on shallow and deep foundations. It also presents various elements of ground-structure interaction that are common to all types of foundations, such as allowable displacements of structures, and ground-structure couplings.

It is particularly for practising engineers in design offices and contractors, as well as students. Though its focus is generally on French practice, it is more widely applicable to design based on or generally in line with Eurocode7 and with references to BS ENs.

CRC Press
Market: Civil Engineering
August 2021: 6.14 x 9.21: 200pp
Hb: 978-1-032-01687-0
Pb: 978-1-032-01688-7
eBook: 978-1-003-17959-7
* For **full contents** and more information, visit: **www.routledge.com/9781032016887**

Fundamentals of Ground Improvement Engineering

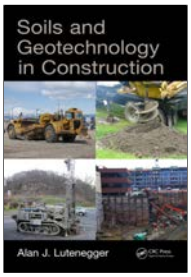


Jeffrey Evans, Bucknell University, USA, **Daniel Ruffing** and **David Elton**

Fundamentals of Ground Improvement Engineering addresses the most effective and latest cutting-edge techniques for ground improvement. Key ground improvement methods are introduced that provide readers with a thorough understanding of the theory, design principles, and construction approaches that underpin each method. Major topics are compaction, permeation grouting, vibratory methods, soil mixing, stabilization and solidification, cutoff walls, dewatering, consolidation, geosynthetics, jet grouting, ground freezing, compaction grouting, and earth retention.

CRC Press
Market: Geotechnical Engineering
August 2021: 7 x 10: 600pp
Hb: 978-0-367-41960-8
Pb: 978-0-415-69515-2
eBook: 978-0-367-81699-5
* For **full contents** and more information, visit: **www.routledge.com/9780415695152**

Soils and Geotechnology in Construction



Alan J. Lutenegger, University of Massachusetts, Amberst, USA

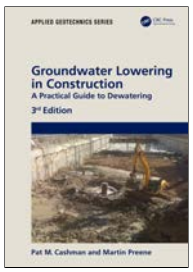
This book covers the field of applied geotechnology related to all aspects of construction in ground, including compacted fill, excavations, ground improvement, foundations, earth retaining systems and geotechnical site characterization. It suits the first year of a graduate course on ground improvement and geoconstruction and will suit practicing engineers, both consultants and contractors. It covers the identification of problematic soils and appropriate mitigation measures, and the inspection of ground construction work. It combines the technical and the practical in applied geotechnology.

CRC Press
Market: Engineering - Civil
April 2019: 6.14 x 9.21: 505pp
Hb: 978-1-138-55110-7
Pb: 978-1-498-74101-9
eBook: 978-1-498-74102-6
* For **full contents** and more information, visit: **www.routledge.com/9781498741019**

3rd Edition

Groundwater Lowering in Construction

A Practical Guide to Dewatering



Pat M. Cashman and **Martin Preene**, Golder Associates, United Kingdom

Series: Applied Geotechnics

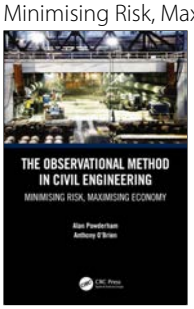
This book covers the design, construction and environmental management of groundwater control and dewatering works for construction projects. It gives broad-based dewatering advice and guidance for practising engineers, geologists and hydrogeologists, and Masters level students.

The new edition covers the principles of groundwater flow in more detail, and presents a greater range of design methods and issues. Dewatering methods and practical issues are covered in some depth, including new chapters on monitoring, maintenance and decommissioning of dewatering systems. A new chapter of case studies is also added.

CRC Press
Market: Geotechnical and Environmental Engineering
August 2020: 7 x 10: 956pp
Hb: 978-0-367-50474-8
eBook: 978-1-003-05002-5
Prev. Ed Hb: 978-0-415-66837-8
* For **full contents** and more information, visit: **www.routledge.com/9780367504748**

The Observational Method in Civil Engineering

Minimising Risk, Maximising Economy



Alan Powderham, Consulting Engineer, UK and **Anthony O'Brien**, Mott MacDonald, UK

The observational method in civil engineering construction maximises economy while assuring safety. Presenting twelve case histories from major infrastructure projects, this book demonstrates how the OM improves communication and collaboration -- and so cuts costs and time, increases safety, enhances collaboration between design and construction teams; and facilitates learning and process improvement. Although the OM is often thought to be associated with uncertainty and high levels of risk, readers should recognise how to use it confidently and effectively, and innovate.

CRC Press
Market: Civil Engineering
September 2020: 6.14 x 9.21: 376pp
Hb: 978-0-367-36165-5
Pb: 978-0-367-36164-8
eBook: 978-0-429-34424-4
* For **full contents** and more information, visit: **www.routledge.com/9780367361648**

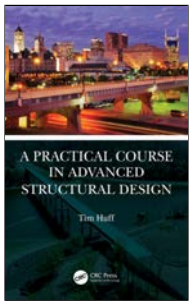
In Situ Testing Methods in Geotechnical Engineering

Alan J. Lutenegger, University of Massachusetts, USA

In situ testing methods are commonly used by geotechnical engineers to determine subsurface stratigraphy and soil characteristics for design. This book presents the latest technology on the correct methods for performing a variety of in situ tests and the correct methods of interpreting the results obtained from the tests. Uniquely, it covers both common/routine tests and also describes several tests that are not covered in other available books. It also covers application of in situ tests for design of shallow and deep foundations.

CRC Press
Market: Civil Engineering
May 2021: 7 x 10: 370pp
Hb: 978-0-367-43241-6
eBook: 978-1-003-00201-7
* For **full contents** and more information, visit: **www.routledge.com/9780367432416**

A Practical Course in Advanced Structural Design



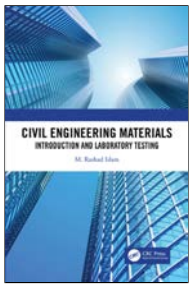
Tim Huff

This book is written from the perspective of a practicing engineer with over 35 years of experience now working in the academic world to pass on lessons learned over the course of a structural engineering career. It covers the essential topics that will enable beginning structural engineers to gain an advanced understanding prior to entering the workforce, as well as those topics which may receive little, or no, attention in a typical undergraduate curriculum.

CRC Press
Market: Civil Engineering
April 2021: 6.14 x 9.21: 338pp
Hb: 978-0-367-74666-7
eBook: 978-1-003-15899-8
* For **full contents** and more information, visit: **www.routledge.com/9780367746667**

Civil Engineering Materials

Introduction and Laboratory Testing



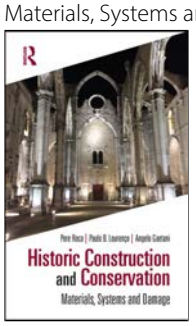
M. Rashad Islam

Civil Engineering Materials: Introduction and Laboratory Testing discusses the properties, characterization procedures, and analysis techniques of primary civil engineering materials. It presents the latest design considerations and uses of engineering materials as well as theories for fully understanding them through numerous worked mathematical examples. The book also includes important laboratory tests which are clearly described in a step-by-step manner and further illustrated by high-quality figures.

CRC Press
Market: Civil Enginering
April 2020: 254 x 178: 490pp
Hb: 978-0-367-22482-0
eBook: 978-0-429-27511-1
* For **full contents** and more information, visit: **www.routledge.com/9780367224820**

Historic Construction and Conservation

Materials, Systems and Damage

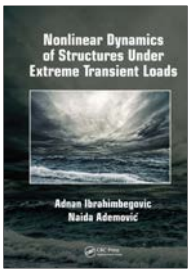


Pere Roca, Technical University of Catalonia, Spain, **Paulo B. Lourenço**, University of Minho, Portugal and **Angelo Gaetani**, Sapienza University of Rome, Italy

This book brings together the history of construction, materials and structural elements, with the history of conservation. It explains structural decisions made during the construction process which underlies the damage and collapse mechanisms in masonry for different forms of loading. Excess permanent loading and settlement is differentiated from environmental and anthropogenic actions such as earthquake or incorrect intervention. The team of authors address the history of conservation by exploring materials and structures and the history of construction and damage. It is for civil engineering and architecture, as well as for archaeology and art history.

Routledge
Market: Conservation of buildings and structures
September 2019: 6.14 x 9.21: 366pp
Hb: 978-0-367-14574-3
Pb: 978-1-032-09023-8
eBook: 978-0-429-05276-7
* For **full contents** and more information, visit: **www.routledge.com/9780367145743**

Nonlinear Dynamics of Structures Under Extreme Transient Loads

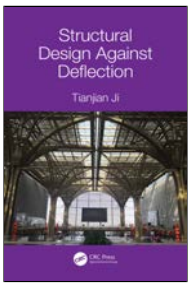


Adnan Ibrahimbegovic and **Naida Ademović**

The book covers model building for different engineering structures and provides detailed presentations of extreme loading conditions. A number of illustrations are given: quantifying a plane crash or explosion induced impact loading, quantifying the effects of strong earthquake motion, quantifying the impact and long-duration effects of strong stormy winds - along with a relevant framework for using modern computational tools. The book considers the levels of reserve in existing structures, and ways of reducing the negative impact of high-risk situations by employing sounder design procedures.

CRC Press
December 2020: 254x178: 252pp
Hb: 978-1-138-03541-6
Pb: 978-0-367-72878-6
eBook: 978-1-351-05250-4
* For **full contents** and more information, visit: **www.routledge.com/9780367728786**

Structural Design Against Deflection



Tianjian Ji, The University of Manchester, United Kingdom

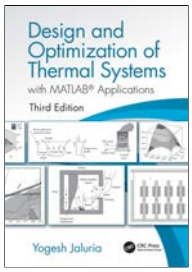
This presents qualitative relationships between internal forces and deflection and demonstrates principles and measures for designing structures against deflection in order to achieve more effective, efficient and elegant structures. Hand calculations and other practical examples are given for undergraduates and practising structural engineers and architects.

CRC Press
Market: Structural Engineering
March 2020: 235 x 156: 210pp
Hb: 978-1-138-61098-9
Pb: 978-0-367-89793-2
eBook: 978-0-429-46531-4
* For **full contents** and more information, visit: **www.routledge.com/9780367897932**

3rd Edition

Design and Optimization of Thermal Systems, Third Edition

with MATLAB Applications



Yogesh Jaluria, Rutgers University, Piscataway, New Jersey, USA.

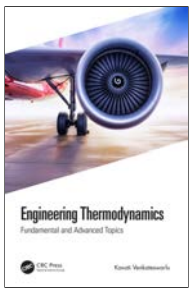
Series: Mechanical Engineering

Providing systematic approaches to thermal systems design, *Design and Optimization of Thermal Systems, Third Edition,* delivers the guidance needed to solve design problems. It presents concepts and procedures for conceptual design, formulation, modeling, simulation, feasible design, and optimization. Emphasizing modeling and simulation, the Third Edition covers the areas of manufacturability, material selection, and sensitivity, genetic and gradient search methods, and knowledge-based design methodology. This edition also features many new and revised examples and problems, and coverage of computer design analysis with MATLAB.

CRC Press
Market: Engineering - Mechanical
September 2019: 7 x 10: 614pp
Hb: 978-1-498-77823-7
* For **full contents** and more information, visit: **www.routledge.com/9781498778237**

Engineering Thermodynamics

Fundamental and Advanced Topics



Kavati Venkateswarlu, Gokaraju Rangaraju Institute of Engineering & Technology, India

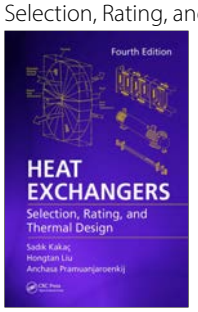
This book covers fundamental and advanced concepts of engineering thermodynamics with the help of pedagogical features including solved problems and unsolved exercises. It presents detailed discussion of vapor power cycles including reheat Rankine cycle, regenerative Rankine cycle and Carnot vapor cycle. It will be a valuable resource for senior undergraduate and graduate students in the field of mechanical engineering, civil engineering and aerospace engineering.

CRC Press
Market: Engineering - Mechanical
December 2020: 6.14 x 9.21: 487pp
Hb: 978-0-367-64628-8 eBook:
978-1-003-12836-6
* For **full contents** and more information, visit: **www.routledge.com/9780367646288**

4th Edition

Heat Exchangers

Selection, Rating, and Thermal Design



Sadik Kakaç, TOBB University of Economics and Technology, Ankara, Turkey, **Hongtan Liu**, University of Miami, Coral Gables, Florida, USA and **Anchasa Pramuanjaroenkij**, Kasetsart University, Chalermphrakiat Sakon Nakhon Province Campus, Thailand

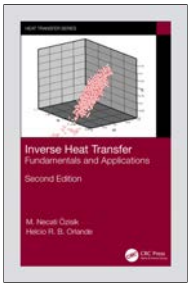
Heat exchangers are essential in a wide range of engineering applications, including power plants, automobiles, airplanes, process and chemical industries, and heating, air conditioning and refrigeration systems. Revised and updated with new problem sets, the fourth edition presents a fully updated and systematic treatment of heat exchangers, focusing on selection, thermal-hydraulic design, and rating. The fourth edition is designed for student readers taking courses/modules in process heat transfer, thermal systems design, and heat exchanger technology, this text includes full coverage of all widely-used heat exchanger types.

CRC Press
Market: Engineering - Mechanical
February 2020: 7 x 10: 546pp
Hb: 978-1-138-60186-4
eBook: 978-0-429-46986-2
Prev. Ed Hb: 978-1-439-84990-3
* For **full contents** and more information, visit: **www.routledge.com/9781138601864**

2nd Edition

Inverse Heat Transfer

Fundamentals and Applications



M. Necat Ozisik and **Helcio R.B. Orlande**, Coppe - UFRJ, Brazil

Series: Heat Transfer

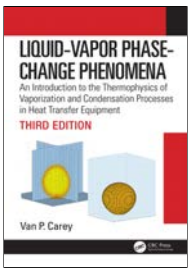
This book introduces the fundamental concepts of inverse heat transfer solutions and their application for solving problems in convective, conductive, radiative, and multi-physics problems. By modernizing the classic work of the late Dr. Ozisik, and adding new examples and problems, this new edition provides a powerful tool for instructors, researchers, and graduate students studying thermal-fluid systems and heat transfer. The textbook includes based on generalized coordinates for the solution of inverse heat conduction problems in two-dimensional regions, involving the introduction of techniques within the Bayesian framework of statistics for solution of inverse problems.

CRC Press
Market: Engineering- Mechanical
April 2021: 7 x 10: 297pp
Hb: 978-0-367-82067-1
eBook: 978-1-003-15515-7
Prev. Ed Hb: 978-1-560-32838-4
* For **full contents** and more information, visit: **www.routledge.com/9780367820671**

3rd Edition

Liquid-Vapor Phase-Change Phenomena

An Introduction to the Thermophysics of Vaporization and Condensation Processes in Heat Transfer Equipment, Third Edition



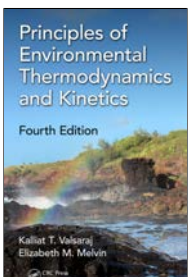
Van P. Carey, University of California, Berkeley, USA

Since the second edition of Liquid Vapor Phase Change Phenomena was written, research has substantially enhanced the understanding of the effects of nanostructured surfaces, effects of microchannel and nanonchannel geometries and the effects of extreme wetting on liquid-vapor phase change processes. This edition includes significant new coverage of microchannels and nanostructures along with many other updates. More worked examples and numerous new problems have been added along with a complete solutions manual and electronic figures for classroom projection.

CRC Press
Market: Engineering - Mechanical
February 2020: 7 x 10: 730pp
Hb: 978-1-498-71661-1
Prev. Ed Hb: 978-1-591-69035-1
* For **full contents** and more information, visit: **www.routledge.com/9781498716611**

4th Edition

Principles of Environmental Thermodynamics and Kinetics



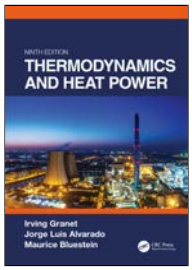
Kalliat T. Valsaraj and **Elizabeth M. Melvin**

This book is about applications of chemical thermodynamics and kinetics to various environmental problems related to air, water, soil, and biota. The new edition contains substantial updates and a new table of contents. The applications are new and extended to include current events in environmentally-based challenges. Demonstrates the theoretical foundations of chemical property estimations for environmental process modeling. Provides a thorough understanding of applications and limitations of various property correlations. It adopts a multimedia approach to fate and transport modeling and pollution control design options. Includes numerous worked-out examples and hundreds of problems.

CRC Press
June 2020: 234x156: 496pp
Hb: 978-1-498-73363-2
Pb: 978-0-367-57205-1
eBook: 978-0-429-49183-2
* For **full contents** and more information, visit: **www.routledge.com/9780367572051**

9th Edition

Thermodynamics and Heat Power



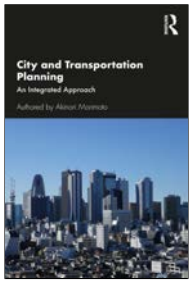
Irving Granet, Queensborough Community College, City University of New York, Bayside, USA, **Jorge Alvarado**, Texas A&M University, USA and **Maurice Bluestein**, Indiana University-Purdue University, Indianapolis, USA

The ninth edition of *Thermodynamics and Heat Power* offers a revised sequence of thermodynamics concepts, processes, and energy systems to enable learning outcomes for Engineering and Engineering Technology students taking an introductory course. Built around an easily understandable approach, this updated text focuses on thermodynamics fundamentals and explores renewable energy generation, IC engines, power plants, HVAC, and applied heat transfer. Energy, heat, and work are examined in relation to thermodynamics cycles, and the effects of fluid properties on system performance are explained. Numerous step-by-step examples and problems make this text ideal for student readers.

CRC Press
Market: Mechanical Engineering
November 2020: 7 x 10: 864pp
Hb: 978-0-367-28091-8
eBook: 978-0-429-29962-9
Prev. Ed Hb: 978-1-482-23855-6
* For **full contents** and more information, visit: **www.routledge.com/9780367280918**

City and Transportation Planning

An Integrated Approach

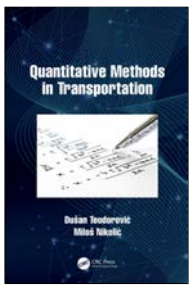


Akinori Morimoto, Waseda University, Japan

Many urban and transportation problems, such as traffic congestion, traffic accidents and environmental burdens, result from poor integration of land use and transportation. This graduate-level textbook outlines strategies for sustainably integrating land use and transportation planning, addressing the impact on land use of advanced transport like light rail transit and autonomous cars, and the emerging focus on cyber space and the role of ICT and big data in city planning.

Routledge
Market: Transport and Urban Planning
August 2021: 6.14 x 9.21: 208pp
Hb: 978-0-367-63602-9
Pb: 978-0-367-63601-2
eBook: 978-1-003-11991-3
* For **full contents** and more information, visit: **www.routledge.com/9780367636012**

Quantitative Methods in Transportation



Dušan Teodorović, University of Belgrade, Serrbia and **Miloš Nikolić**

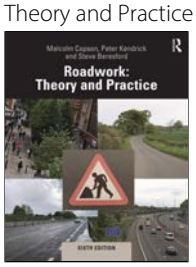
This textbook of quantitative methods in transportation engineering comes with problems and a solutions manual for adopting course instructors. Basic mathematics and calculus are prerequisites. It covers linear programming, integer programming, dynamic programming and multi-objective programming. It moves to more advanced combinatorial techniques which depend on metaheuristic algorithms. Then to probability theory and statistics, and simulation models. And progresses to computational intelligent systems, such as fuzzy logic, artificial neural networks, and genetic algorithms. These are applied to transportation problems such as demand management, network planning and traffic control.

CRC Press
Market: Transportation Engineering
August 2020: 6.14 x 9.21: 480pp
Hb: 978-0-367-25054-6
Pb: 978-0-367-25053-9
eBook: 978-0-429-28691-9
* For **full contents** and more information, visit: **www.routledge.com/9780367250539**

6th Edition

Roadwork

Theory and Practice



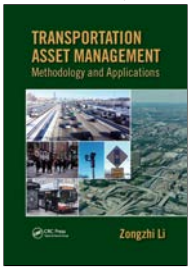
Malcolm Copson, Consulting Engineer, UK, **Peter Kendrick**, Consulting Engineer, UK and **Steve Beresford**, Consulting Engineer, UK

Roadwork Theory and Practice, now in its sixth edition, gives the essential information needed by every road worker, highway technician, incorporated, graduate or chartered engineer, not only by explaining the theory of road construction and its associated activities, but by illustrating its application with practical working methods that are in use in everyday engineering practice. As such, it successfully bridges the gap so often found between civil engineering theory and the day-to-day work of a highways engineer.

Routledge
Market: Civil Engineering / Road Construction
October 2019: 8.62 x 10.8: 364pp
Hb: 978-0-367-34235-7
Pb: 978-0-815-38318-5
eBook: 978-1-351-20511-5
Prev. Ed Pb: 978-0-750-66470-7
* For **full contents** and more information, visit: **www.routledge.com/9780815383185**

Transportation Asset Management

Methodology and Applications



Zongzhi Li

Transportation asset management delivers efficient and cost-effective investment decisions to support transportation infrastructure and system usage performance measured in economic, social, health, and environmental terms. It can be applied at national, state, and local levels. This can be applied to multimodal transportation, taking account of system component interdependency, integration, and risk and uncertainty. It applies as easily to static traffic and time-dependent or dynamic traffic.

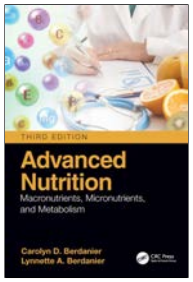
It is written for transportation planners and engineers, as well as graduate students.

CRC Press
September 2020: 7 x 10: 760pp
Hb: 978-1-482-21052-1
Pb: 978-0-367-65708-6
eBook: 978-1-482-21053-8
* For **full contents** and more information, visit: **www.routledge.com/9780367657086**

3rd Edition

Advanced Nutrition

Macronutrients, Micronutrients, and Metabolism



Carolyn D. Berdanier, Professor Emerita, University of Georgia, Athens, USA and **Lynnette A. Berdanier**, University of North Georgia, Gainesville, USA

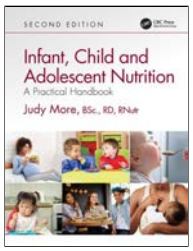
Like its predecessors, the new and updated edition of *Advanced Nutrition: Macronutrients, Micronutrients, and Metabolism* is an essential textbook for advanced undergraduate and first-year graduate students studying human nutrition. This book draws on inter-related sciences including biochemistry, genetics, and physiology to provide a full understanding of nutrition science. This third edition describes the chemistry, absorption, use and excretion of each of the essential nutrients. There is comprehensive coverage of nutrient-nutrient interactions and both macro and micronutrients.

CRC Press
Market: Nutrition
July 2021: 7 x 10: 608pp
Hb: 978-0-367-55460-6
Pb: 978-0-367-55458-3
eBook: 978-1-003-09366-4
Prev. Ed Pb: 978-1-482-20517-6
* For **full contents** and more information, visit: **www.routledge.com/9780367554583**

2nd Edition

Infant, Child and Adolescent Nutrition

A Practical Handbook



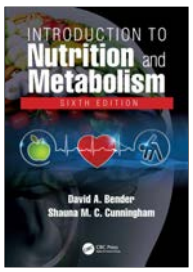
Judy More, Freelance Paediatric Dietitian and Registered Nutritionist, London, UK

Infant, Child and Adolescent Nutrition: A Practical Guide, Second Edition, is an evidence-based, practical guide introducing readers to the theory behind optimal child nutrition. Containing practical advice on how to put that theory into practice, this new edition facilitates learning through case studies, key points, and learning activities. Divided into seven sections, chapters cover prenatal nutrition and nutrition throughout childhood from preterm babies to adolescents up to the age of 18.It serves as a useful reference for individuals responsible for the nutritional health of children in primary care and community settings.

CRC Press
Market: Clinical Medicine
June 2021: 6.85 x 9.69: 302pp
Hb: 978-0-367-55456-9
Pb: 978-0-367-55455-2
eBook: 978-1-003-09365-7
Prev. Ed Pb: 978-1-444-11185-9
* For **full contents** and more information, visit: **www.routledge.com/9780367554552**

6th Edition

Introduction to Nutrition and Metabolism



David A Bender, Emeritus Professor, University College London, UK and **Shauna M C Cunningham**, Robert Gordon University, Scotland

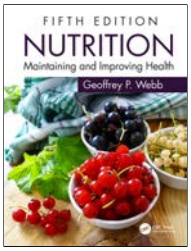
Introduction to Nutrition and Metabolism equips readers with an understanding of the scientific basis of what we call a healthy diet. Now in its sixth edition, this highly recognized textbook provides clear explanations of how nutrients are metabolized and gives explains the principles of biochemistry needed for comprehending the science of nutrition. This full-color textbook explores the uses to which food is put in the body and the interactions between health and diet. Outlining the scientific basis behind nutritional requirements and recommendations, this new edition has been extensively revised to reflect current knowledge.

CRC Press
Market: Nutrition
February 2021: 7 x 10: 452pp
Hb: 978-0-367-68815-8
Pb: 978-0-367-19081-1
eBook: 978-1-003-13915-7
Prev. Ed Pb: 978-1-466-57224-9
* For **full contents** and more information, visit: **www.routledge.com/9780367190811**

5th Edition

Nutrition

Maintaining and Improving Health



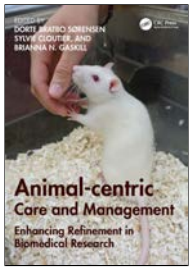
Geoffrey P. Webb, University of East London, UK

This book contains in-depth and critical reviews of the methods used to evaluate nutritional intakes/status and the observational and experimental used to investigate putative links between dietary factors and health outcome. It covers the role of food as a source of energy and nutrients while discussing the non-nutritional roles of food and the social and psychological factors that influence food choice. Presenting a critical discussion on the value of nutrition research linking specific foods or nutrients to specific diseases encourages students to question the value of some current nutrition research.

CRC Press
Market: Nutrition
November 2019: 7.44 x 9.69: 676pp
Hb: 978-0-367-36939-2
Pb: 978-0-815-36241-8
eBook: 978-1-351-05807-0
Prev. Ed Pb: 978-1-444-14246-4
* For **full contents** and more information, visit: **www.routledge.com/9780815362418**

Animal-centric Care and Management

Enhancing Refinement in Biomedical Research



Edited by **Dorte Bratbo Sørensen**, **Sylvie Cloutier**, Canadian Council on Animal Care and **Brianna N. Gaskill**

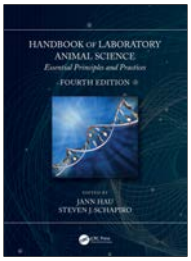
By establishing an animal-centric view on housing and management, this book takes Refinement a step beyond "elimination of inhumanities". Rather than fitting animals into experimental conditions, it aims to adjust conditions to better meet the needs and preferences of the animals. Expert authors address how to define and measure animal welfare, the importance and nature of human-animal-interactions, and how to promote a culture of care. Species-specific chapters focus on animals most commonly used as experimental models. This interdisciplinary book hopes to act as a catalyst, resulting in multiple viewpoints collaborating to optimize laboratory animal welfare.

CRC Press
Market: Life Science
October 2020: 7 x 10: 204pp
Hb: 978-0-367-18102-4
Pb: 978-0-367-18083-6
eBook: 978-0-429-05954-4
* For **full contents** and more information, visit: **www.routledge.com/9780367180836**

4th Edition

Handbook of Laboratory Animal Science

Essential Principles and Practices

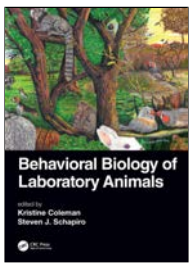


Edited by **Jann Hau**, University of Copenhagen & Rigshhospitalet, Denmark and **Steven J. Schapiro**, The University of TX MD Anderson Cancer Cntr.

Building upon the success of previous editions of the *Handbook of Laboratory Animal Science*, this revision combines all three volumes in one definitive guide. It covers the essential principles and practices of Laboratory Animal Science as well as selected animal models. Each chapter focuses on an important subdiscipline of laboratory animal science meaning the chapters can be read and used as stand-alone texts. With new contributors at the forefront of their fields, the book reflects the scientific and technological advances of the past decade, responds to advances in our understanding of animal behavior and emphasizes the importance of implementing the three Rs.

CRC Press
Market: Life Science
May 2021: 8.25 x 11: 1012pp
Hb: 978-1-138-34180-7
eBook: 978-0-429-43996-4
Prev. Ed Hb: 978-1-420-08455-9
* For **full contents** and more information, visit: **www.routledge.com/9781138341807**

Behavioral Biology of Laboratory Animals

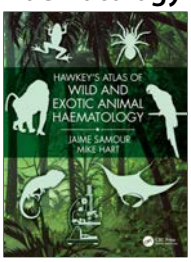


Edited by **Kristine Coleman**, OR National Primate Research Cntr. USA and **Steven J. Schapiro**, The University of TX MD Anderson Cancer Cntr.

This 30-chapter volume informs students and professionals about the behavioral biology of animals commonly housed in laboratory and other captive settings. Each species evolved under specific environmental conditions, resulting in unique behavioral patterns, many of which are maintained in captivity even after generations of breeding. Understanding natural behavior is therefore a critical part of modern animal care practices. The descriptions, data, guidance, resources, and recommendations in this book will help the reader understand their animals better, refine the care and treatment that they receive, and improve their well-being, welfare, and wellness.

CRC Press
Market: Life Science
September 2021: 8.25 x 11: 560pp
Hb: 978-0-367-02923-4
eBook: 978-0-429-01951-7
* For **full contents** and more information, visit: **www.routledge.com/9780367029234**

Hawkey's Atlas of Wild and Exotic Animal Haematology

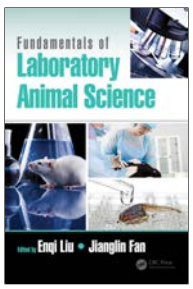


Jaime Samour and **Mike Hart**

This revised, updated and expanded edition of Christine Hawkey's *A Colour Atlas of Comparative Veterinary Haematology* is bursting with high-quality images to aid identification of blood cells and haemoparasites in the different species commonly seen in private practice and zoological collections. It will assist veterinarians in the identification of normal and abnormal blood cells and in understanding the structural differences of blood cells between the various taxa within the Animal Kingdom. With the help of this guide, readers will be able to understand haemoresponses in the presence of specific and non-specific disease processes.

CRC Press
Market: Veterinary Medicine
December 2020: 8.25 x 11: 288pp
Hb: 978-0-367-25701-9
eBook: 978-0-429-29904-9
* For **full contents** and more information, visit: **www.routledge.com/9780367257019**

Fundamentals of Laboratory Animal Science



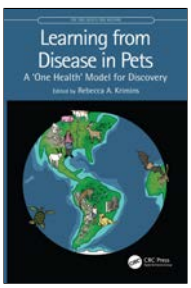
Edited by **Enqi Liu** and **Jianglin Fan**

The field of lab animal medicine is ever-growing and changing as new experimental techniques are developed and new animal models are created. Courses in beginning Laboratory Animal Science are starting to be offered in many Medical Schools and Agriculture Universities in the world. However, a practical introductory textbook that contains state-of-the-art techniques is still lacking. This book includes essential concepts required for teaching and training. It covers a broad spectrum of topics related to laboratory animal science, including the history, the anatomy and physiology of commonly used species, as well as addressing model selection and experiment design and management.

CRC Press
June 2020: 234x156: 366pp
Hb: 978-1-498-74351-8
Pb: 978-0-367-57327-0
eBook: 978-1-315-36899-3
* For **full contents** and more information, visit: **www.routledge.com/9780367573270**

Learning from Disease in Pets

A 'One Health' Model for Discovery



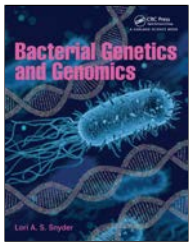
Edited by **Rebecca A. Krimins**, Johns Hopkins University

Series: CRC One Health One Welfare

This is the first encompassing guide for veterinarians, researchers and physicians on conducting studies using spontaneous models of disease in animals. Using clinical trials to learn how pets with real disease respond to therapy can lead to breakthroughs in human medicine, as well as benefiting pets suffering from otherwise debilitating illness. The book details how to design a robust clinical study, encouraging veterinarians to build on and disseminate findings. It discusses communication styles, the ethics of using pets in veterinary clinical research, diseases that occur in animals and man, and regulatory requirements.

CRC Press
Market: Life Science
November 2020: 6 x 9: 306pp
Hb: 978-0-367-17316-6
Pb: 978-0-367-17310-4
eBook: 978-0-429-05617-8
* For **full contents** and more information, visit: **www.routledge.com/9780367173104**

Bacterial Genetics and Genomics



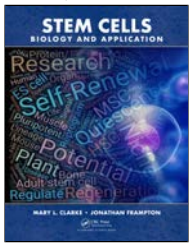
Lori A.S. Snyder

Our understanding of bacterial genetics has progressed as the genomics field has advanced. Genetics and genomics complement and influence each other; they are inseparable. Under the novel insights from genetics and genomics, once-believed borders in biology start to fade: biological knowledge of the bacterial world is being viewed under a new light and concepts are being redefined. This text assumes readers have some knowledge of genetics and microbiology but acknowledges that it can be varied. Therefore, the book includes all of the information that readers need to know in order to understand the more advanced material in the book.

Garland Science
Market: Genetics
March 2020: 279 x 216: 413pp
Hb: 978-0-367-26376-8
Pb: 978-0-815-34569-5
eBook: 978-0-429-29301-6
* For **full contents** and more information, visit: **www.routledge.com/9780815345695**

Stem Cells

Biology and Application



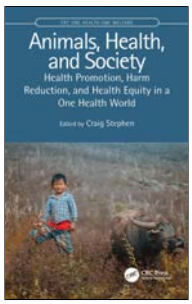
Mary Clarke and **Jonathan Frampton**

Stem cell science, encompassing basic biology to practical application, is both vast and diverse. *Stem Cells: Biology and Application* presents the basic concepts underlying the fast-moving science of stem cell biology. This textbook is written for an advanced stem cell biology course. The target audience includes senior undergraduates, first year graduate students, and practitioners in molecular biology, biology, and biomedical engineering. *Stem Cells* provides a comprehensive understanding of these unique cells, highlighting key areas of research, associated controversies, case studies, technologies, and pioneers in the field.

Garland Science
July 2020: 8.25 x 11: 462pp
Hb: 978-0-367-48172-8
Pb: 978-0-815-34511-4
eBook: 978-1-003-03840-5
* For **full contents** and more information, visit: **www.routledge.com/9780815345114**

Animals, Health, and Society

Health Promotion, Harm Reduction, and Health Equity in a One Health World



Edited by **Craig Stephen**

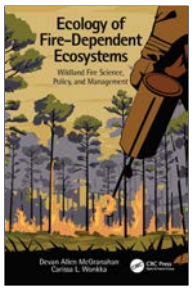
Series: CRC One Health One Welfare

This timely book promotes the positive contributions made to health across species, showing the reader situations wherein we can all, regardless of our job description, work across species, sectors and generations to motivate action. Case studies demonstrate that the principles and practices presented are feasible, empowering people to make choices that concurrently benefit the health of animals, societies and ecosystems. This is necessary reading for students and practitioners in planetary health, conservation, eco-health, health promotion, veterinary medicine and animal welfare.

CRC Press
Market: Veterinary Medicine
December 2020: 6 x 9: 352pp
Hb: 978-0-367-64260-0
Pb: 978-0-367-33622-6
eBook: 978-0-429-32087-3
* For **full contents** and more information, visit: **www.routledge.com/9780367336226**

Ecology of Fire-Dependent Ecosystems

Wildland Fire Science, Policy, and Management

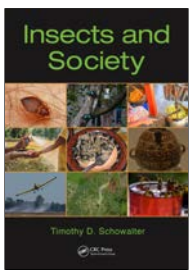


Devan Allen McGranahan, North Dakota State University, Fargo, North Dakota, USA and **Carissa L. Wonkka**, University of Nebraska, Lincoln, Nebraska, USA

This textbook for upper-level courses in fire ecology and wildland fire management will help students design and conduct robust wildland fire research projects and critically interpret and apply fire science in any management, education, or policy situation. It emphasises variability in wildland fire as an ecological regime and provides tools for students, researchers and managers to assess and connect fire environment and fire behaviour to fire effects. It reviews literature, synthesises concepts, and identifies research gaps and policy needs. The book also demonstrates how fire policy can adapt to cultural and socio-ecological objectives.

CRC Press
Market: Environmental Science
December 2020: 8.25 x 11: 266pp
Hb: 978-1-138-59717-4
Pb: 978-1-138-59715-0
eBook: 978-0-429-48709-5
* For **full contents** and more information, visit: **www.routledge.com/9781138597150**

Insects and Society



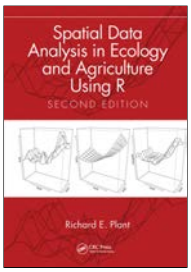
Timothy D. Schowalter

The first textbook to cater directly to those studying Insect and Society modules, this book will also be fascinating reading for anyone interested in learning how insects affect human affairs and in applying more sustainable approaches to "managing" insects. This includes K-12 teachers, undergraduate students, amateur entomologists, conservation practitioners, environmentalists, as well as natural resource managers, land use planners and environmental policy makers.

CRC Press
Market: Life Science
December 2019: 7.44 x 9.69: 320pp
Hb: 978-0-367-41978-3
Pb: 978-0-367-34780-2
eBook: 978-0-429-32792-6
* For **full contents** and more information, visit: **www.routledge.com/9780367347802**

2nd Edition

Spatial Data Analysis in Ecology and Agriculture Using R

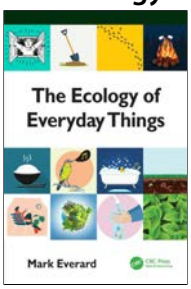


Richard E. Plant

This book provides practical instruction on the use of the R programming language to analyze spatial data arising from research in ecology, agriculture, and environmental science. Readers have praised the book's practical coverage of spatial statistics, real-world examples, and user-friendly approach in presenting and explaining R code, aspects maintained in this update. Using data sets from cultivated and uncultivated ecosystems, the book guides the reader through the analysis of each data set, including setting research objectives, designing the sampling plan, data quality control, exploratory and confirmatory data analysis, and drawing scientific conclusions.

CRC Press
December 2020: 7 x 10: 684pp
Hb: 978-0-815-39275-0
Pb: 978-0-367-73232-5
eBook: 978-1-351-18991-0
* For **full contents** and more information, visit: **www.routledge.com/9780367732325**

The Ecology of Everyday Things



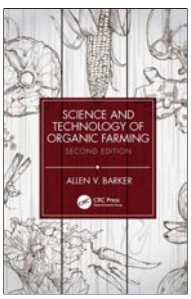
Mark Everard, University of the West of England, UK

For many people, ecosystems may be a remote concept, yet we eat, drink, breathe and interface with them in every moment of our lives. In this engaging textbook, ecosystems scientist Dr Mark Everard considers a diversity of 'everyday things', including fascinating facts about their ecological origins: from the tea we drink, to things we wear, read and enjoy, to the ecology of communities and space flight, and the important roles played by germs and 'unappealing creatures' such as slugs and wasps. Ideal for use in undergraduate and school level teaching, it will also interest, educate, engage and enthuse a wide range of less technical audiences.

CRC Press
Market: Ecology
December 2020: 6.14 x 9.21: 178pp
Hb: 978-0-367-63634-0
Pb: 978-0-367-63631-9
eBook: 978-1-003-12005-6
* For **full contents** and more information, visit: **www.routledge.com/9780367636319**

2nd Edition

Science and Technology of Organic Farming



Allen V. Barker, University of Massachusetts, Amherst, USA

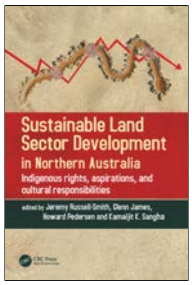
Organic farming is not only a philosophy; it is also a well-researched science. The second edition of this highly regarded book presents the scientific basis of organic farming and the methods of application needed to achieve adequate yields through plant nutrition and protection.

Organic farming is a scientifically derived method of improving soil fertility to increase agricultural yields with limited chemical inputs. As such, it can both meet public demand for reduced chemical inputs in agriculture and play a key role in feeding a growing world population. This book gives comprehensive details on how soil fertility can be maintained and how plants can be nourished in organic agriculture.

CRC Press
Market: Agriculture
April 2021: 6.14 x 9.21: 272pp
Hb: 978-0-367-54867-4
Pb: 978-0-367-56756-9
eBook: 978-1-003-09372-5
Prev. Ed Hb: 978-1-439-81612-7
* For **full contents** and more information, visit: **www.routledge.com/9780367548674**

Sustainable Land Sector Development in Northern Australia

Indigenous rights, aspirations, and cultural responsibilities



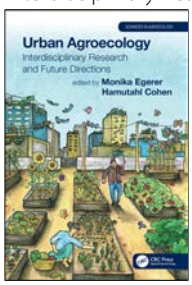
Edited by **Jeremy Russell-Smith**, **Glenn James**, **Howard Pedersen** and **Kamaljit K. Sangha**

This book sets out a vision for developing North Australia based on a culturally appropriate and ecologically sustainable land sector economy. This vision supports both Indigenous responsibilities and community aspirations, as well as enhancing enterprise opportunities for society as a whole. In the past, well-meaning if often misguided policy agendas have failed - and continue to fail - Indigenous people living in remoter regions. This book will help breach that gap by acknowledging and harnessing Indigenous cultural strengths and knowledge systems for looking after the country and its people as part of a smart, novel and diversified ecosystem services economy.

CRC Press
June 2020: 7 x 10: 244pp
Hb: 978-1-138-60020-1
Pb: 978-0-367-57119-1
eBook: 978-0-429-47105-6
* For **full contents** and more information, visit: **www.routledge.com/9780367571191**

Urban Agroecology

Interdisciplinary Research and Future Directions



Edited by **Monika Egerer**, Environmental Studies Department, University of California, Santa Cruz and **Hamutahl Cohen**, Environmental Studies Department, University of California, Santa Cruz

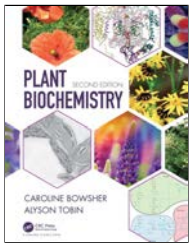
Series: Advances in Agroecology

Today, 20 percent of the global food supply relies on urban agriculture. This book shows how urban agroecologists measure flora and fauna that underpin the ecological dynamics of these socio-economic systems, and how people manage and benefit from these systems. By investigating the role of agroecology in cities, the book calls for the creation of spaces for food to be sustainably grown in urban spaces: an Urban Agriculture (UA) movement. Essential reading for graduate students, practitioners, policy makers and researchers, this book charts the course for accelerating this movement.

CRC Press
Market: Science
December 2020: 7 x 10: 384pp
Hb: 978-0-367-63664-7
Pb: 978-0-367-26001-9
eBook: 978-0-429-29099-2
* For **full contents** and more information, visit: **www.routledge.com/9780367260019**

2nd Edition

Plant Biochemistry



Caroline Bowsher, University of Manchester, UK and **Alyson Tobin**, University of St. Andrews, UK

Plant Biochemistry focuses on the molecular and cellular aspects of each major metabolic pathway and sets these within the context of the whole plant. Using examples from biomedical, environmental, industrial and agricultural applications, it shows how a fundamental understanding of plant biochemistry can be used to address real-world issues.

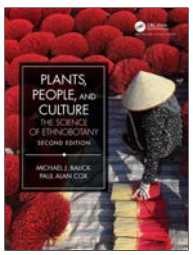
Plant Biochemistry is invaluable to undergraduate students who wish to gain insight into the relevance of plant metabolism in relation to current research questions and world challenges. It should also prove to be a suitable reference text for graduates and researchers who are new to the topic.

Garland Science
Market: Plant Biology
March 2021: 8.25 x 11: 490pp
Hb: 978-0-367-68535-5
Pb: 978-0-815-34499-5
eBook: 978-1-003-13798-6
* For **full contents** and more information, visit: **www.routledge.com/9780815344995**

2nd Edition

Plants, People, and Culture

The Science of Ethnobotany



Michael J Balick and **Paul Alan Cox**, Brain Chemistry Labs Jackson, WY

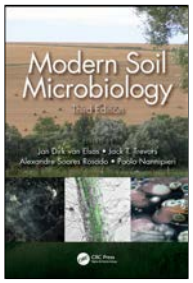
Botanical wisdom of indigenous peoples has led to discoveries of new pharmaceuticals, chemical compounds, and a myriad of other products. Using riveting stories of fieldwork in remote villages, two of the world's leading ethnobotanists argue that the very roots of human culture are deeply intertwined with plants.

Designed for the college classroom as well as for the general lay reader, *Plants, People, and Culture, Second Edition,* entices the reader with first-hand stories of fieldwork, spectacular illustrations, and a deep respect for both indigenous peoples and the earth's natural heritage.

Garland Science
Market: Biology
September 2020: 8.25 x 11: 228pp
Hb: 978-0-367-50183-9
Pb: 978-0-815-34590-9
eBook: 978-1-003-04907-4
* For **full contents** and more information, visit: **www.routledge.com/9780815345909**

3rd Edition

Modern Soil Microbiology

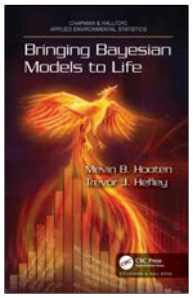


Edited by **Jan Dirk van Elsas**, Groningen University, The Netherlands, **Jack T. Trevors**, University of Guelph, Ontario, Canada, **Alexandre Soares Rosado**, Federal University of Rio de Janeiro, Brazil and **Paolo Nannipieri**

Following the tradition of its predecessors, *Modern Soil Microbiology, Third Edition*, is an indispensable source that supports graduate/undergraduate teaching for soil and environmental microbiologists in academia, as well as in government and industrial laboratories.

CRC Press
Market: Agricultural Science
April 2019: 7 x 10: 516pp
Hb: 978-1-498-76353-0
Pb: 978-1-032-09304-8
eBook: 978-0-429-05918-6
Prev. Ed Hb: 978-0-824-72749-9
* For **full contents** and more information, visit: **www.routledge.com/9781498763530**

Bringing Bayesian Models to Life



Mevin B. Hooten, U.S. Geological Survey, Colorado Cooperative Fish and Wildlife Research Unit, Department of Fish, Wildlife, and Conservation Biology, Department of Statistics, Colorado State University, USA and **Trevor J. Hefley**

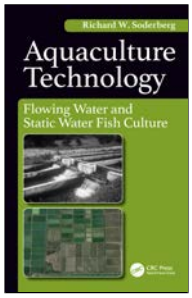
Series: Chapman & Hall/CRC Applied Environmental Statistics

Bringing Bayesian Models to Life contains a comprehensive treatment of models and associated algorithms for fitting the models to data. We provide detailed and annotated R code in each chapter and apply it to fit each model we present to either real or simulated data for instructional purposes. Our code shows how to create every result and figure in the book so that readers can use and modify it for their own analyses. We provide all code and data in an organized set of directories available at the authors' websites.

CRC Press
Market: Agricultural Science
June 2019: 6.14 x 9.21: 590pp
Hb: 978-0-367-19848-0
Pb: 978-1-032-09241-6
eBook: 978-0-429-24365-3
* For **full contents** and more information, visit: **www.routledge.com/9780367198480**

Aquaculture Technology

Flowing Water and Static Water Fish Culture

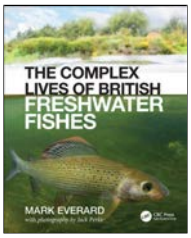


Richard Soderberg W.

This will be the first book to provide the skills to raise fish in both a static water and a flowing water aquaculture system with a pragmatic and quantitative approach. Following in the tradition of the author's highly praised book, Flowing Water Fish Culture, this work will stand out as one that makes the reader understand the theory of each type of aquaculture system, but more importantly teach "how to think" rather than "what to think" about these systems. It can be used as a valuable reference for setting up aquaculture systems and for how to grow fish to be used in experiments involving nutrition, disease, water quality, etc.

CRC Press
June 2020: 234x156: 284pp
Hb: 978-1-498-79884-6
Pb: 978-0-367-57374-4
eBook: 978-1-315-19481-3
* For **full contents** and more information, visit: **www.routledge.com/9780367573744**

The Complex Lives of British Freshwater Fishes



Mark Everard, University of the West of England, UK

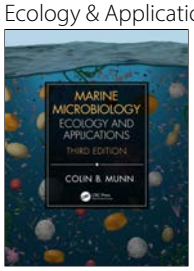
This stunningly illustrated book explores the fascinating life histories of Britain's freshwater fishes, a group of animals which, despite their importance and ubiquity in our diverse waters, has before now been rarely regarded and respected as 'wildlife'. It shows how freshwater fish provide food, ornamentation, sport and cultural identity, and highlights their huge importance for conservation. Featuring over 100 full-colour photographs by renowned photographer Jack Perks, this will appeal to conservationists, marine biology students, the conservation-minded public, the angling community, and our nation of wildlife enthusiasts.

CRC Press
Market: Wildlife
May 2020: 369pp
Hb: 978-0-367-44032-9
eBook: 978-1-003-00760-9
* For **full contents** and more information, visit: **www.routledge.com/9780367440329**

3rd Edition

Marine Microbiology

Ecology & Applications



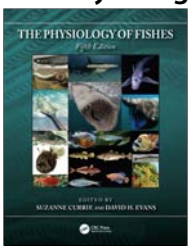
Colin B. Munn

The third edition of this bestselling text has been rigorously updated to reflect major new discoveries and concepts since 2011, especially progress due to extensive application of high-throughput sequencing, single cell genomics and analysis of large datasets. Significant advances in understanding the diversity and evolution of bacteria, archaea, fungi, protists, and viruses are discussed and their importance in marine processes is explored in detail. A Companion Website provides extra resources to aid teaching and learning.

CRC Press
Market: Life Science
January 2020: 8.25 x 11: 436pp
Hb: 978-0-367-18359-2
Pb: 978-0-367-18356-1
eBook: 978-0-429-06104-2
Prev. Ed Pb: 978-0-815-36517-4
* For **full contents** and more information, visit: **www.routledge.com/9780367183561**

5th Edition

The Physiology of Fishes



Edited by **Suzanne Currie** and **David H. Evans**

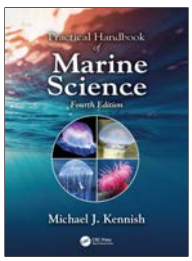
Series: CRC Marine Biology Series

The fifth edition of *The Physiology of Fishes* represents a compendium of knowledge across fish physiology, collecting up-to-date research into an easy-to-access single textbook. Written by the leaders in the field, it provides a comprehensive, accessible review of the core topics, integrating physiology with environmental science, ecology, evolution, and molecular cell biology. New chapters address Epigenetics, Biomechanics and Locomotion, and Behaviour and Learning. Each chapter contains an extensive bibliography, providing readers with the best sources from the primary literature.

CRC Press
Market: Life Science
September 2020: 8.25 x 11: 256pp
Hb: 978-0-367-54109-5
Pb: 978-0-367-47755-4
eBook: 978-1-003-03640-1
* For **full contents** and more information, visit: **www.routledge.com/9780367477554**

4th Edition

Practical Handbook of Marine Science



Michael J. Kennish, Rutgers University, Institute of Marine & Coastal Sciences, New Brunswick, New Jersey, USA

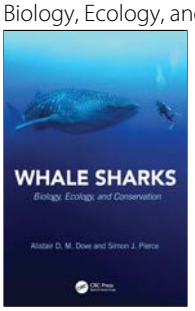
Series: CRC Marine Science

This heavily revised fourth edition continues its tradition as a state-of-the-art reference that updates the field of marine science to meet the interdisciplinary research needs of physical oceanographers, marine biologists, marine chemists, and marine geologists. Maintaining its user-friendly, multi-sectional format, this comprehensive resource will also be of value to undergraduate and graduate students, administrators, and other professionals who deal with the management of marine resources. The new edition offers extensive illustrative and tabular reference material covering all the major disciplines related to the sea.

CRC Press
Market: Life Science
July 2019: 8.25 x 11: 526pp
Hb: 978-1-138-06885-8
eBook: 978-1-315-15759-7
Prev. Ed Hb: 978-0-849-32391-1
* For **full contents** and more information, visit: **www.routledge.com/9781138068858**

Whale Sharks

Biology, Ecology, and Conservation



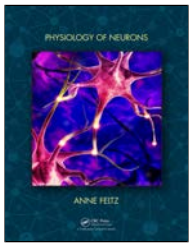
Edited by **Alistair D.M. Dove** and **Simon J. Pierce**

Series: CRC Marine Biology Series

Written by the world's leading experts in whale shark biology, ecology, and conservation, *Whale Sharks: Biology, Ecology and Conservation* is the first definitive volume about the world's biggest fish. Chapters include discussions of satellite-linked tags, used to track whale shark movements; genetic sequencing, to examine evolutionary adaptations; even the use of underwater ultrasound units to investigate the species' reproduction. The editors hope that by collating what is known, they can make it easier for future researchers, conservationists, and resource managers to fill some of the remaining knowledge gaps, and provide the information they need to join the team.

CRC Press
Market: Life Science
August 2021: 7 x 10: 352pp
Hb: 978-1-032-04940-3
Pb: 978-1-138-57129-7
eBook: 978-0-203-70291-8
* For **full contents** and more information, visit: **www.routledge.com/9781138571297**

Physiology of Neurons



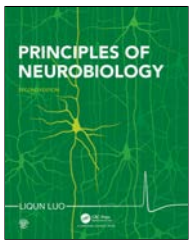
Edited by **Anne Feltz**, École Normale Supérieure, France

Thanks to tremendous technical advances in molecular biology and cellular imaging after those in electrophysiology, there is now a deep understanding of the physiology of nerve cells and their synaptic interconnections. The complexity of the brain emerges from the communication and interaction between billions of these elements. This book explores systematically and didactically the details of neuronal physiology, covering membrane biophysics, receptor physiology, sensory transduction and synaptic transmission with its selective pharmacology. Readers of the book will be fully equipped to understand the functions and possibilities of the key units of the brain's parallel computations.

Garland Science
Market: Neuroscience
March 2020: 279 x 216: 478pp
Hb: 978-0-367-26375-1
Pb: 978-0-815-34600-5
eBook: 978-0-429-29297-2
* For **full contents** and more information, visit: **www.routledge.com/9780815346005**

2nd Edition

Principles of Neurobiology

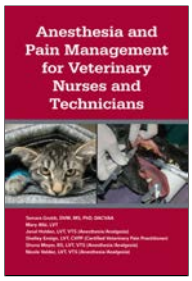


Liqun Luo, Professor of Biology and Professor of Neurobiology, Department of Biology, at Stanford University

Principles of Neurobiology, Second Edition presents the major concepts of neuroscience with an emphasis on how we know what we know. The text is organized around a series of key experiments to illustrate how scientific progress is made and helps upper-level undergraduate and graduate students discover the relevant primary literature. Written by a single author in a clear and consistent writing style, each topic builds in complexity from electrophysiology to molecular genetics to systems level in a highly integrative approach. *Principles of Neurobiology* is accompanied by online resources including animations, figures in PowerPoint, and a Question Bank for adopting instructors.

Garland Science
Market: Neuroscience
September 2020: 8.25 x 11: 760pp
Hb: 978-0-367-51471-6
Pb: 978-0-815-34605-0
eBook: 978-1-003-05397-2
* For **full contents** and more information, visit: **www.routledge.com/9780815346050**

Anesthesia and Pain Management for Veterinary Nurses and Technicians



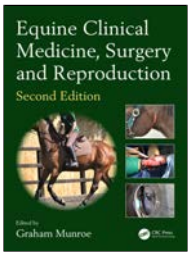
Tamara L. Grubb, Mary Albi, Shelley Ensign, Janel Holden, Shona Meyer and Nicole Valdez

This textbook and clinical guide is ideal for veterinary nurses and technicians in training. It offers a concise yet comprehensive resource for veterinary students and practitioners desiring a review of anesthesia and analgesia with step-by-step guidelines. A wealth of illustrations demonstrate the theory in practice.

Teton NewMedia
Market: Veterinary Medicine
March 2020: 498pp
Pb: 978-1-591-61050-2
eBook: 978-1-351-01291-1
* For **full contents** and more information, visit: **www.routledge.com/9781591610502**

2nd Edition

Equine Clinical Medicine, Surgery and Reproduction



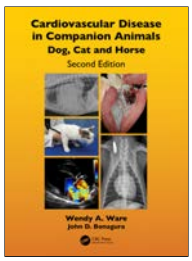
Edited by Graham Munroe

This fully-revised new edition is supported by over 1800 high quality illustrations. System-based chapters introduce each individual system with relevant basic anatomy and physiology, clinical examination techniques and useful differential diagnostic aids. This is followed by diseases and disorders pertinent to that system. Each condition is described using consistent headings and the focus remains on providing clinically relevant information required for practical case management, plus sufficient background to enable readers to understand the conditions and rationale for diagnostic and treatment options.

CRC Press
Market: Medicine
December 2019: 1432pp
Hb: 978-1-138-19638-4
eBook: 978-0-429-11368-0
Prev. Ed Hb: 978-1-840-76119-1
* For **full contents** and more information, visit: **www.routledge.com/9781138196384**

2nd Edition

Cardiovascular Disease in Companion Animals



Wendy A. Ware, Iowa State University, Ames, USA and John D. Bonagura, The Ohio State University College of Veterinary Medicine, Columbus, USA

This new edition of *Cardiovascular Disease in Companion Animals* now covers the horse as well as small animals. The book has been completely revised, expanded into five key sections, and contains a new Summary Formulary at end. Since first publication in 2007, Dr Ware's authoritative yet user-friendly guide to cardiovascular diseases and disorders in veterinary practice has been widely praised. Coverage includes evaluation techniques, investigative procedures, diagnosis, medical and surgical management options and methods. This second edition is a must-have for general practitioners, veterinary students, and residents.

CRC Press
Market: Veterinary Medicine
June 2021: 8.25 x 11: 936pp
Hb: 978-1-482-24622-3
eBook: 978-0-429-18663-9
* For **full contents** and more information, visit: **www.routledge.com/9781482246223**

Health and Welfare of Brachycephalic (Flat-faced) Companion Animals

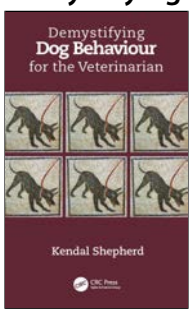
A Complete Guide for Veterinary and Animal Professionals

Edited by Rowena Packer, The Royal Veterinary College and Dan O'Neill, The Royal Veterinary College

Health and welfare issues relating to brachycephalic (flat-faced) dogs are now one of the most pressing problems facing companion animals. This book aims to equip veterinary professionals, animal welfare scientists, dog breeders and the interested owner with the full story about brachycephalic health and welfare. Cutting-edge knowledge is provided on a range of disciplines including anaesthesia, ophthalmology, dermatology, respiratory disease, neurological, dental, reproduction and weight control. The book offers substantial practical advice for veterinary teams on welfare and ethical issues around choosing, owning and caring for brachycephalic dogs to share with clients.

CRC Press
Market: Veterinary Medicine
July 2021: 7 x 10: 408pp
Hb: 978-0-367-20741-0
Pb: 978-0-367-20724-3
eBook: 978-0-429-26323-1
* For **full contents** and more information, visit: **www.routledge.com/9780367207243**

Demystifying Dog Behaviour for the Veterinarian



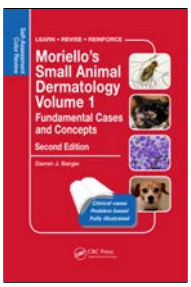
Kendal Shepherd, Royal College of Veterinary Surgeons

This practical guide for busy veterinarians demystifies canine behaviour while emphasising its importance. Authored by acclaimed veterinary behaviour consultant Kendal Shepherd, the book provides practical knowledge of dog behaviour and an understanding of how to talk about it with clients. Shepherd shows how this can enhance the relationship between owner and pet and between dog and environment as well as improve the vet's own sense of fulfilment and enjoyment of practice. Packed with anecdotes drawn from real-life cases, the principles can be effortlessly assimilated into the average consultation.

CRC Press
Market: Veterinary Medicine
April 2021: 6.14 x 9.21: 216pp
Hb: 978-0-367-71639-4
Pb: 978-0-367-54991-6
eBook: 978-1-003-15303-0
* For **full contents** and more information, visit: **www.routledge.com/9780367549916**

2nd Edition

Moriello's Small Animal Dermatology, Fundamental Cases and Concepts



Darren Berger

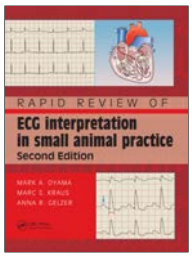
Series: Veterinary Self-Assessment Color Review Series

Karen Moriello's seminal book has been completely updated in an effort to create a true two-volume set highlighting fundamental and advanced concepts. This revised fundamental edition includes all new cases and nearly 300 new images. The guide uses a case-based format to deliver a general overview of dermatology of the dog and cat, providing a reference that mirrors the way veterinarians will encounter different scenarios at random in real-life practice. It uses self-assessment problems to review the most common skin diseases encountered every day, plus some more obscure diseases that a veterinarian will face.

CRC Press
Market: Veterinary Medicine
December 2019: 234x156: 306pp
Hb: 978-0-815-37163-2
Pb: 978-0-815-37154-0
eBook: 978-0-429-08606-9
Prev. Ed Pb: 978-1-840-76048-4
* For **full contents** and more information, visit: **www.routledge.com/9780815371540**

2nd Edition

Rapid Review of ECG Interpretation in Small Animal Practice

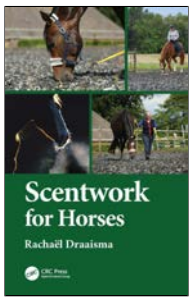


Mark A Oyama, Department of Clinical Studies, Matthew J. Ryan Veterinary Hospital, University of Pennsylvania, Philadelphia, USA, **Marc S. Kraus** and **Anna R Gelzer**

The standard electrocardiogram (ECG) is an indispensable, safe and inexpensive test to assess dogs and cats with heart disease. After discussing the principles of electrocardiography, this book systematically explores the evaluation of the ECG, including determination of heart rate, measurement of intervals, derivation of mean electrical axis, and criteria for atrial/ventricular enlargement or hypertrophy. This new edition contains instructions on how to obtain an ECG and two new chapters about treatment of the most common clinically important ECG arrhythmias, and on 24hr ECG (Holter) monitoring. It now includes advanced as well as basic cases for the reader to work through.

CRC Press
Market: Veterinary Science
December 2019: 156pp
Hb: 978-0-367-14688-7
Pb: 978-0-367-14675-7
eBook: 978-0-429-05311-5
Prev. Ed Pb: 978-1-840-76198-6
* For **full contents** and more information, visit: **www.routledge.com/9780367146757**

Scentwork for Horses



Rachaël Draaisma

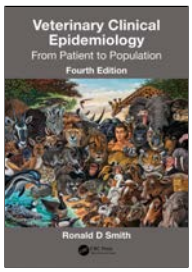
This is the first practical guide on how to implement scentwork into the lives of domesticated horses, enhancing behaviour, welfare and the human-animal bond. Draaisma demonstrates how scentwork improves the horse's learning abilities, development, socialisation and their bond with the handler, showing how to have your horse explore their environment, participate in scentwork games and follow a footstep track. Whether veterinarian, behaviourist, trainer, animal-assisted therapist, equine physiotherapist or horse owner, this book promises to bring both you and your horse enormous benefits.

CRC Press
Market: Veterinary Science
December 2020: 6.14 x 9.21: 286pp
Hb: 978-0-367-55298-5
Pb: 978-0-367-53760-9
eBook: 978-1-003-09284-1
* For **full contents** and more information, visit: **www.routledge.com/9780367537609**

4th Edition

Veterinary Clinical Epidemiology

From Patient to Population



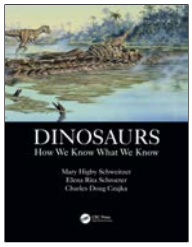
Ronald D. Smith, University of Illinois College of Veterinary Medicine, Urbana, USA

Ideal for veterinary students, residents and clinicians, the fourth edition of this bestselling textbook has been fully updated in line with developments in research and teaching. The logical chapter progression reflects the stages in a clinical case work-up and how epidemiological concepts and methods contribute. This new edition includes self-evaluation questions based on edited clinical research abstracts of online full-text reports, providing a template for student evaluation. The updated book includes guidelines for improving patient and population health outcomes, and detecting emerging diseases through systematic evaluation of patient encounters and electronic medical records.

CRC Press
Market: Life Science
October 2019: 7 x 10: 271pp
Hb: 978-1-138-39298-4
Pb: 978-1-138-39242-7
eBook: 978-0-429-40219-7
* For **full contents** and more information, visit: **www.routledge.com/9781138392427**

Dinosaurs

How We Know What We Know



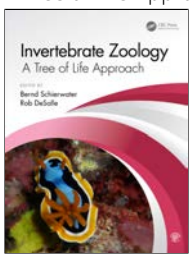
Mary Higby Schweitzer, North Carolina State University, USA, **Elena Rita Schroeter**, North Carolina State University, USA and **Charles Doug Czajka**, Marine, Earth and Atmospheric Sciences Department, North Carolina State University, Raleigh, North Carolina, USA

This textbook introduces research on dinosaurs by describing the science behind how we know what we know about dinosaurs. A wide range of topics is covered, from fossils and taphonomy to dinosaur physiology, evolution, and extinction. In addition, sedimentology, paleo-tectonics, and non-dinosaurian Mesozoic life are discussed. There is a special opportunity to capitalize on the enthusiasm for dinosaurs that students bring to classrooms to foster a deeper engagement in all sciences. Students are encouraged to synthesize information, employ critical thinking, construct hypotheses, devise methods to test these hypotheses, and come to new defensible conclusions, just as paleontologists do.

CRC Press
Market: Life Science
November 2020: 8.25 x 11: 562pp
Hb: 978-1-138-60816-0
Pb: 978-0-367-56381-3
eBook: 978-0-429-46671-7
* For **full contents** and more information, visit: **www.routledge.com/9780367563813**

Invertebrate Zoology

A Tree of Life Approach



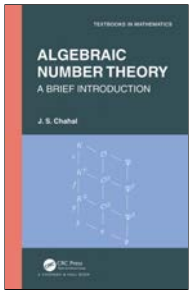
Bernd Schierwater, ITZ, TiHo University, Hannover, Germany and **Rob DeSalle**, American Museum of Natural History, New York, USA

Invertebrate Zoology: A Tree of Life Approach is a comprehensive textbook adopting an explicitly phylogenetic organization. With the explosion of Next Generation Sequencing approaches, there has been a sea-change in the recognized phylogenetic relationships among and between invertebrate lineages. In addition, the merger of evolutionary and developmental biology (evo-devo) has dramatically contributed to changes in the understanding of invertebrate biology. Synthesizing these three approaches (classical morphology, sequencing data, and evo-devo studies) offers students a unique perspective of invertebrate diversity.

CRC Press
Market: Life Science
June 2021: 8.25 x 11: 644pp
Hb: 978-1-482-23581-4
Pb: 978-0-367-68567-6
eBook: 978-0-429-15905-3
* For **full contents** and more information, visit: **www.routledge.com/9780367685676**

Algebraic Number Theory

A Brief Introduction



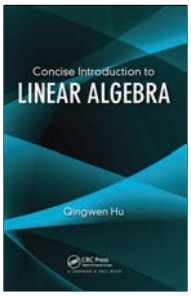
J.S. Chahal

Series: Textbooks in Mathematics

This book offers the basics of algebraic number theory for students and others who need an introduction and do not have the time to wade through the voluminous textbooks available. It is suitable for an independent study or as a textbook for a first course on the topic. The author presents the topic here by first offering a brief introduction of number theory and a review of the prerequisite material, then presents the basic theory of algebraic number theory.

Chapman and Hall/CRC
Market: Mathematics
June 2021: 6.14 x 9.21: 166pp
Pb: 978-0-367-76145-5
eBook: 978-1-003-17703-6
* For **full contents** and more information, visit: **www.routledge.com/9780367761455**

Concise Introduction to Linear Algebra

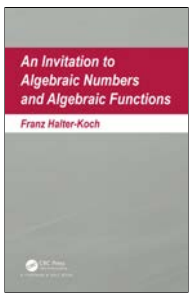


Qingwen Hu

Concise Introduction to Linear Algebra deals with the subject of linear algebra, covering vectors and linear systems, vector spaces, orthogonality, determinants, eigenvalues and eigenvectors, singular value decomposition. It adopts an efficient approach to lead students from vectors, matrices quickly into more advanced topics including, LU decomposition, orthogonal decomposition, Least squares solutions, Gram-Schmidt process, eigenvalues and eigenvectors, diagonalizability, spectral decomposition, positive definite matrix, quadratic forms, singular value decompositions and principal component analysis. This book is designed for onesemester teaching to undergraduate students.

Chapman and Hall/CRC
September 2020: 234x156: 230pp
Hb: 978-1-138-04449-4
Pb: 978-0-367-65770-3
eBook: 978-1-315-17230-9
* For **full contents** and more information, visit: **www.routledge.com/9780367657703**

An Invitation To Algebraic Numbers And Algebraic Functions



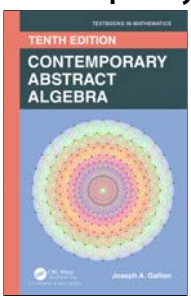
Franz Halter-Koch, University of Graz, Austria

Through a set of related yet distinct texts, the author offers a thorough presentation of the classical theory of algebraic numbers and algebraic functions: Ideal- and valuation-theoretic aspects, L functions and class field theory, together with a presentation of algebraic foundations which are usually undersized in standard algebra courses. These books contain the whole classical theory of algebraic numbers and algebraic functions together with the prerequists that too often receive short coverage in standard courses. Thus it should enable a broader audience to get acquainted with these theories.

Chapman and Hall/CRC
Market: Mathematics
May 2020: 235 x 156: 594pp
Hb: 978-1-138-58361-0
eBook: 978-0-429-50655-0
* For **full contents** and more information, visit: **www.routledge.com/9781138583610**

10th Edition

Contemporary Abstract Algebra



Joseph A. Gallian

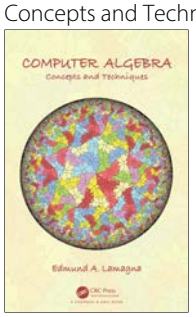
Series: Textbooks in Mathematics

CONTEMPORARY ABSTRACT ALGEBRA, TENTH EDITION is primarily intended for an abstract algebra course whose main purpose is to enable students to do computations and write proofs. Gallian's text stresses the importance of obtaining a solid introduction to the traditional topics of abstract algebra, while at the same time presenting it as a contemporary and very much an active subject which is currently being used by working physicists, chemists, and computer scientists.

Chapman and Hall/CRC
Market: Mathematics
December 2020: 6.14 x 9.21: 653pp
Hb: 978-0-367-65178-7
eBook: 978-1-003-14233-1
* For **full contents** and more information, visit: **www.routledge.com/9780367651787**

Computer Algebra

Concepts and Techniques

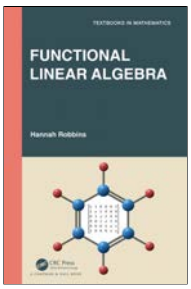


Edmund A. Lamagna

The goal of *Computer Algebra: Concepts and Techniques* is to demystify computer algebra systems for a wide audience, including students, faculty, and professionals in scientific fields such as computer science, mathematics, engineering, and physics. Unlike previous books, the only prerequisites are knowledge of first year calculus and a little programming experience — a background that can be assumed of the intended audience. The book is written in a lean and lively style, with numerous examples to illustrate the issues and techniques discussed. It presents the principal algorithms and data structures, while also discussing the inherent and practical limitations of these systems.

CRC Press
Market: Mathematics
March 2020: 234x156: 372pp
Hb: 978-1-138-09314-0
Pb: 978-0-367-51045-9
eBook: 978-1-315-10701-1
* For **full contents** and more information, visit: **www.routledge.com/9780367510459**

Functional Linear Algebra



Hannah Robbins, Roanoke College, USA

Series: Textbooks in Mathematics

This is a unique text authored to address the need for a one-term linear algebra course when students have only had calculus. It does not assume students have had a proofs course.

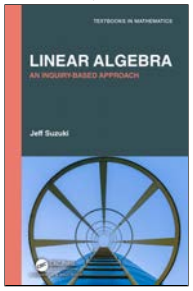
As readers work through this book, it is important to understand the basic ideas, definitions, and computational skills. The best way to do this is to work through enough examples and problems to make sure the material is thoroughly grasped.

The computational techniques used in this book can be done either by hand or using technology. This book specifically addresses how to use Mathematica, but feel free to use whichever technological tool best suits your needs.

Chapman and Hall/CRC
Market: Mathematics
April 2021: 6.14 x 9.21: 405pp
Hb: 978-0-367-48687-7
eBook: 978-1-003-04228-0
* For **full contents** and more information, visit: **www.routledge.com/9780367486877**

Linear Algebra

An Inquiry-Based Approach



Jeff Suzuki, Brooklyn College, NY, USA

Series: Textbooks in Mathematics

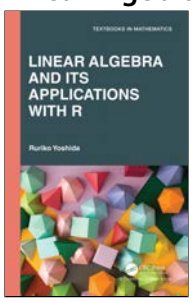
This book is written to give instructors a tool to teach students to develop a mathematical concept from first principles. The Inquiry-based Approach is central to this development. The text is organized around and offers the standard topics expected in a first undergraduate course in linear algebra.

This text is offered to foster an environment that supports the creative process. The twin goals of this textbook are:

Providing opportunities to be creative, Teaching "ways of thinking" that will make it easier to be creative.

CRC Press
Market: Mathematics
May 2021: 6.14 x 9.21: 376pp
Hb: 978-0-367-24896-3
eBook: 978-0-429-28498-4
* For **full contents** and more information, visit: **www.routledge.com/9780367248963**

Linear Algebra and Its Applications with R



Ruriko Yoshida

Series: Textbooks in Mathematics

The book developed from the need to teach a linear algebra course to students focused on data science and bioinformatics programs. The author presents the topics in a traditional course yet offers lectures as well as lab exercises on simulated and empirical data sets. This textbook provides students a theoretical basis which can then be applied to the practical R and Python problems, providing the tools needed for real-world applications.

This book is designed from first principles to demonstrate the importance of linear algebra through working computational examples with R and python including tutorials on how to install R in the Appendix.

Chapman and Hall/CRC
Market: Mathematics
June 2021: 6.14 x 9.21: 440pp
Hb: 978-0-367-48684-6
eBook: 978-1-003-04225-9
* For **full contents** and more information, visit: **www.routledge.com/9780367486846**

4th Edition

Practical Linear Algebra

A Geometry Toolbox

Gerald Farin, Arizona State University, Tempe, USA and **Dianne Hansford**, FarinHansford R&D, Paradise Valley, Arizona, USA

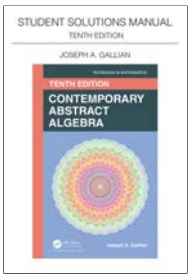
Series: Textbooks in Mathematics

Linear algebra is growing in importance. 3D entertainment, animations in movies and video games are developed using linear algebra. The Fourth Edition of this popular text introduces linear algebra in a comprehensive, geometric, and algorithmic way. The authors start with the fundamentals in 2D and 3D, then move on to higher dimensions, expanding on the fundamentals and introducing new topics, which are necessary for many real-life applications and the development of abstract thought. Applications are introduced to motivate topics.This practical approach to a linear algebra course, whether through classroom instruction or self-study, is unique to this book.

A K Peters/CRC Press
Market: Mathematics
July 2021: 592pp
Hb: 978-0-367-50784-8
eBook: 978-1-003-05121-3
Prev. Ed Hb: 978-1-466-57956-9
* For **full contents** and more information, visit: **www.routledge.com/9780367507848**

10th Edition

Student Solutions Manual for Gallian's Contemporary Abstract Algebra



Joseph A. Gallian

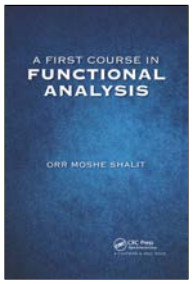
Series: Textbooks in Mathematics

Whereas many partial solutions and sketches for the odd-numbered exercises appear in the book, the *Student Solutions Manual,* written by the author, has comprehensive solutions for all odd-numbered exercises and large number of even-numbered exercises. This Manual also offers many alternative solutions to those appearing in the text. These will provide the student with a better understanding of the material.

This is the only available student solutions manual prepared by the author of *Contemporary Abstract Algebra, Tenth Edition* and is designed to supplement that text.

Chapman and Hall/CRC
Market: Mathematics
June 2021: 6.14 x 9.21: 137pp
Pb: 978-0-367-76680-1
eBook: 978-1-003-18230-6
* For **full contents** and more information, visit: **www.routledge.com/9780367766801**

A First Course in Functional Analysis

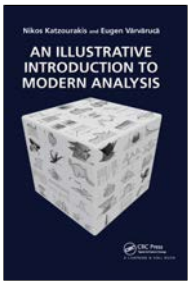


Orr Moshe Shalit

Written as a textbook, A First Course in Functional Analysis is an introduction to basic functional analysis and operator theory, with an emphasis on Hilbert space methods. The aim of this book is to introduce the basic notions of functional analysis and operator theory without requiring the student to have taken a course in measure theory as a prerequisite. It is written and structured the way a course would be designed, with an emphasis on clarity and logical development alongside real applications in analysis.

Chapman and Hall/CRC
September 2020: 234x156: 256pp
Hb: 978-1-498-77161-0
Pb: 978-0-367-65813-7
eBook: 978-1-498-77163-4
* For **full contents** and more information, visit: **www.routledge.com/9780367658137**

An Illustrative Introduction to Modern Analysis



Nikolaos Katzourakis and Eugen Varvaruca

This textbook, aimed primarily at undergraduate level university students, considers the principles of modern analysis. Particular effort has been made to give a contemporary account of the most rudimentary notions and results, in the greatest possible simplicity. Based on series of lectures notes and tutorial exercises courses on Analysis, *Fundamental Principles of Modern Analysis* does not contain just theorems and proofs, but also detailed comments on or the "know-how" and targeted motivations of "why we do and what we do".

Chapman and Hall/CRC
September 2020: 234x156: 558pp
Hb: 978-1-138-71827-2
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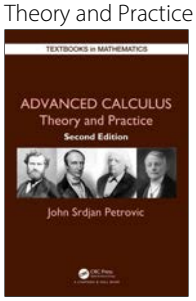
* For **full contents** and more information, visit: **www.routledge.com/9780367657413**

2nd Edition

Advanced Calculus

Theory and Practice



John Srdjan Petrovic, Western Michigan University, Kalamazoo, USA

Series: Textbooks in Mathematics

Advanced Calculus: Theory and Practice, Second Edition, expands on the material covered in elementary calculus and presents this material in a rigorous manner. The text improves students' problem-solving and proof-writing skills, familiarizes them with the historical development of calculus concepts, and helps them understand the connections among different topics. The book explains how various topics in calculus may seem unrelated but in reality have common roots. Emphasizing historical perspectives, the text gives students a glimpse into the development of calculus and its ideas from the age of Newton and Leibniz to the twentieth century. Nearly 300 examples lead to important theorems.

Chapman and Hall/CRC
Market: Mathematics
August 2020: 7 x 10: 622pp
Hb: 978-1-138-56821-1
eBook: 978-0-203-70514-8
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* For **full contents** and more information, visit: **www.routledge.com/9781138568211**

3rd Edition

An Introduction to Analysis

James R. Kirkwood, Sweet Briar College, Virginia, USA

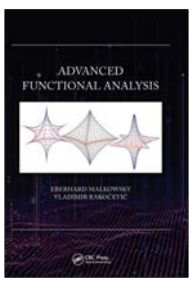
Series: Textbooks in Mathematics

The third edition of this widely popular textbook provides a mathematically rigorous introduction to analysis of realvalued functions of one variable. This intuitive, student-friendly text is written in a manner that will help to ease the transition from primarily computational to primarily theoretical mathematics.

The material is presented clearly and as intuitive as possible while maintaining mathematical integrity. The author supplies the ideas of the proof and leaves the write-up as an exercise. The text also states why a step in a proof is the reasonable thing to do and which techniques are recurrent.

Chapman and Hall/CRC
Market: Mathematics
August 2021: 6.14 x 9.21: 336pp
Hb: 978-0-367-70235-9
eBook: 978-1-003-14514-1
* For **full contents** and more information, visit: **www.routledge.com/9780367702359**

Advanced Functional Analysis



Eberhard Malkowsky and **Vladimir Rakočević**

Advanced Functional Analysis is a self-contained and comprehensive reference for advanced functional analysis and can serve as a guide for related research. The book can be used as a textbook in advanced functional analysis, which is a modern and important field in mathematics, for graduate and postgraduate courses and seminars at universities. At the same time, it enables the interested readers to do their own research.

CRC Press
September 2020: 7 x 10: 464pp
Hb: 978-1-138-33715-2
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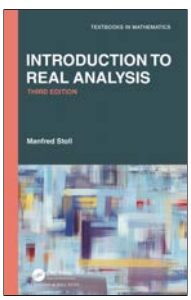
* For **full contents** and more information, visit: **www.routledge.com/9780367656560**

3rd Edition

Introduction to Real Analysis



Manfred Stoll

Series: Textbooks in Mathematics

The emphasis of this now classic text is on sequences of real numbers, compact subsets of IR, as well as real-valued functions.

Chapman and Hall/CRC
Market: Mathematics
March 2021: 6.14 x 9.21: 582pp
Hb: 978-0-367-48688-4
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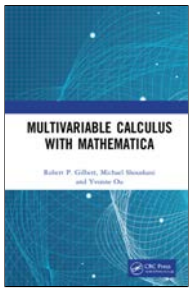
Mathematical Analysis and Optimization for Economists

Michael J. Panik, University of Hartford, USA

In *Mathematical Analysis and Optimization for Economists,* the author aims to introduce students of economics to the power and versatility of traditional as well as contemporary methodologies in mathematics and optimization theory; and, illustrates how these techniques can be applied in solving microeconomic problems. Suitable for advanced undergraduates and first-year graduate students, this text contains numerous detailed example problems. These have been classroom-tested over the years when the author was actively teaching at the University of Hartford, and solutions can be downloaded from the CRC Press website.

Chapman and Hall/CRC
Market: Mathematics
July 2021: 8.25 x 11: 296pp
Hb: 978-0-367-75901-8
eBook: 978-1-003-16449-4
* For **full contents** and more information, visit: **www.routledge.com/9780367759018**

Multivariable Calculus with Mathematica



Robert P. Gilbert, University of Delaware, Newark, USA, **Michael Shoushani** and **Yvonne Ou**

This textbook aims to address the calculus of several variables. Instead of just using Mathematica to directly solve problems, the students are encouraged to learn the syntax and to write their own code to solve problems. This not only encourages scientific computing skills but at the same time stresses the complete understanding of the mathematics. Questions are provided at the end of the chapters to test the student's theoretical understanding of the mathematics, and there are also computer algebra questions which test the student's ability to apply their knowledge in non-trivial ways.

Chapman and Hall/CRC
Market: Mathematics
November 2020: 6.14 x 9.21: 428pp
Hb: 978-1-138-06268-9
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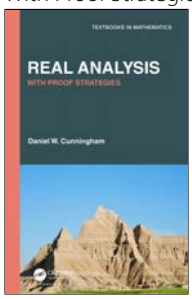
Real Analysis

With Proof Strategies



Daniel W. Cunningham

Series: Textbooks in Mathematics

Typically, undergraduates see real analysis as one of the most difficult courses that a mathematics major is required to take. The main reason for this perception is twofold: Students must comprehend new abstract concepts and learn to deal with these concepts on a level of rigor and proof not previously encountered. A key challenge for an instructor of real analysis is to find a way to bridge the gap between a student's preparation and the mathematical skills that are required to be successful in such a course. The book not only presents the fundamental theorems of real analysis, but also shows the reader how to compose and produce the proofs of these theorems.

Chapman and Hall/CRC
Market: Mathematics
December 2020: 7 x 10: 281pp
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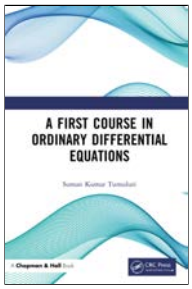
A First Course in Ordinary Differential Equations



Suman Kumar Tumuluri

A First course in Ordinary Differential Equations provides a detailed introduction to the subject focusing on analytical methods to solve ODEs and theoretical aspects of analyzing them when it is difficult/not possible to find their solutions explicitly. This two-fold treatment of the subject is quite handy not only for undergraduate students in mathematics but also for physicists, engineers who are interested in understanding how various methods to solve ODEs work. More than 300 end-of-chapter problems with varying difficulty are provided so that the reader can self examine their understanding of the topics covered in the text.

Chapman and Hall/CRC
Market: Mathematics
March 2021: 6.14 x 9.21: 338pp
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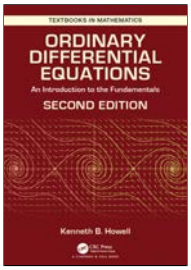
2nd Edition

Ordinary Differential Equations

An Introduction to the Fundamentals



Kenneth B. Howell, The University of Alabama in Huntsville, USA

Series: Textbooks in Mathematics

The Second Edition of this successful text builds upon over ten years of in-class use. The text is unique in its approach to motivation, precision, explanations and methods. A layered approach offers an opportunity for flexible coverage and depth. Topics are introduced in a more accessible way before subsequent sections develop these further. Motivating and giving reasons for the concepts and computations is an important part of the text. The author offers an emphasis on modeling and technology use. Guides for carrying out some of the lengthier computational procedures are given with illustrative examples integrated into the discussion. An engaging writing style appeals to students.

CRC Press
Market: Mathematics
December 2019: 7 x 10: 906pp
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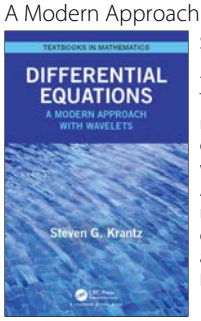
Differential Equations

A Modern Approach with Wavelets



Steven Krantz

Series: Textbooks in Mathematics

This new book from one of the most published authors in all of mathematics is an attempt to offer a new, more modern take on the Differential Equations course. Because of the theory of wavelets, Fourier analysis is ever more important and central. And applications are a driving force behind much of mathematics.This text presents a more balanced picture. It covers differential equations (both ordinary and partial), Fourier analysis and applications in equal measure and with equal weight. The Riemann integral is used throughout.

Chapman and Hall/CRC
Market: Mathematics
January 2020: 6.14 x 9.21: 481pp
Hb: 978-0-367-44409-9
eBook: 978-1-003-00950-4
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Variational Techniques for Elliptic Partial Differential Equations

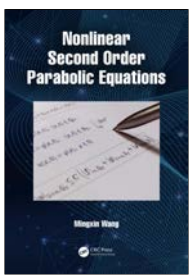
Theoretical Tools and Advanced Applications

Francisco J. Sayas, **Thomas S. Brown** and **Matthew E. Hassell**

Variational Techniques for Elliptic Partial Differential Equations, intended for graduate students studying applied math, analysis, and/or numerical analysis, provides the necessary tools to understand the structure and solvability of elliptic partial differential equations. Beginning with the necessary definitions and theorems from distribution theory, the book gradually builds the functional analytic framework for studying elliptic PDE using variational formulations. Rather than introducing all of the prerequisites in the first chapters, it is the introduction of new problems which motivates the development of the associated analytical tools.

CRC Press
September 2020: 234x156: 514pp
Hb: 978-1-138-58088-6
Pb: 978-0-367-65664-5
eBook: 978-0-429-50706-9
* For **full contents** and more information, visit: **www.routledge.com/9780367656645**

Nonlinear Second Order Parabolic Equations



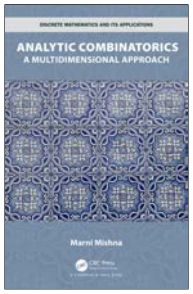
Mingxin Wang

The book covers theories and methods in the field of parabolic equations, including topics that are useful but hard to find elsewhere. These include Lp theory, Schauder theory, the maximum principle and the comparison principle. Numerous examples are provided, especially from the field of ecology, while exercises after every chapter, are included. This book is based on tried and tested teaching materials used at the Harbin Institute of Technology over the past 10 years. Special care is taken to make the book suitable for classroom teaching as well as for self-study among graduate students.

CRC Press
Market: Mathematics, Differential Equations, Nonlinear equations
May 2021: 7 x 10: 298pp
Hb: 978-0-367-71198-6
Pb: 978-0-367-71284-6
eBook: 978-1-003-15016-9
* For **full contents** and more information, visit: **www.routledge.com/9780367711986**

Analytic Combinatorics

A Multidimensional Approach



Marni Mishna

Series: Discrete Mathematics and Its Applications

Analytic Combinatorics: A Multidimensional Approach is written in a reader-friendly fashion to better facilitate the understanding of the subject. Naturally, it is a firm introduction to the concept of analytic combinatorics and is a valuable tool to help readers better understand discrete objects. Primarily, the textbook is a gateway to more detailed and involved study and the topics covered such as the interactions between complex analysis and combinatorics will lead readers through number theory, algebraic geometry, probability, and formal language theory.

Chapman and Hall/CRC
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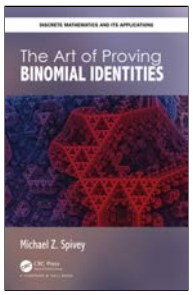
The Art of Proving Binomial Identities



Michael Z. Spivey, University of Puget Sound, Tacoma, WA

Series: Discrete Mathematics and Its Applications

The book has two goals: (1) Provide a unified treatment of the binomial coefficients, and (2) Bring together much of the undergraduate mathematics curriculum via one theme (the binomial coefficients). The binomial coefficients arise in a variety of areas of mathematics: combinatorics, of course, but also basic algebra (binomial theorem), infinite series (Newton's binomial series), differentiation (Leibniz's generalized product rule), special functions (the beta and gamma functions), probability, statistics, number theory, finite difference calculus, algorithm analysis, and even statistical mechanics.

Chapman and Hall/CRC
Market: Mathematics
May 2019: 235 x 156: 380pp
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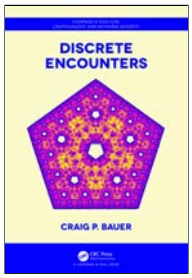
* For **full contents** and more information, visit: **www.routledge.com/9780815379423**

Discrete Encounters



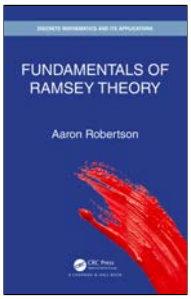
Craig Bauer, York College of Pennsylvania, Physical Sciences Department, USA

Series: Chapman & Hall/CRC Cryptography and Network Security Series

This book offers a new, fresh approach to the Discrete Mathematics course. Combining traditional course topics with popular culture, applications from a varity of historical examples and a focus on the historical development of the material. The author's intent is to enterain as well as teach. His very unique approach offers a quite different look at these topics. The book will cover many of the same topics found in other texts but with a notable twist in presentation. Defining discrete mathematics, the author moves quickly into combinatorics, permutations, differnce euqations, graph theory, financial mathematics, fractals and chaos, trees, etc.

Chapman and Hall/CRC
Market: Mathematics
May 2020: 254 x 178: 732pp
Hb: 978-1-498-73586-5
eBook: 978-0-429-40050-6
* For **full contents** and more information, visit: **www.routledge.com/9781498735865**

Fundamentals of Ramsey Theory



Aaron Robertson, Colgate University

Series: Discrete Mathematics and Its Applications

This up-to-date book introduces the field of Ramsey theory from several different viewpoints so that the reader can decide which flavor of Ramsey theory best suits them. The book covers integer, graph, and Euclidean Ramsey theory with many proofs being combinatorial in nature. The author motivates topics and discussion, rather than just a list of theorems and proofs. In order to engage the reader, each chapter has a section of exercises. The presentation is comprehensive and reader friendly.

Chapman and Hall/CRC
Market: Mathematics
June 2021: 6.14 x 9.21: 255pp
Hb: 978-1-138-36433-2
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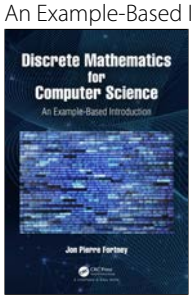
Discrete Mathematics for Computer Science

An Example-Based Introduction



Jon Pierre Fortney

Discrete Mathematics for Computer Science: An Example-Based Introduction is intended for a first or second-year discrete mathematics course for computer science majors. It covers many important mathematical topics essential for future computer science majors, such as algorithms, number representations, logic, set theory, Boolean algebra, functions, combinatorics, algorithmic complexity, graphs, and trees.

Chapman and Hall/CRC
Market: Mathematics
December 2020: 7 x 10: 272pp
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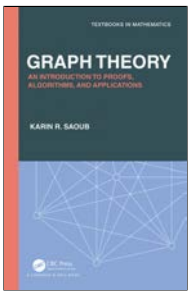
Graph Theory

An Introduction to Proofs, Algorithms, and Applications



Karin R Saoub, Roanoke College

Series: Textbooks in Mathematics

This text, for the first undergraduate course, will explore major topics in graph theory from both a theoretical and applied viewpoint. Topics will progress from understanding basic terminology, to addressing computational questions, and finally ending with broad theoretical results.

Examples and exercises will guide the reader through this progression, with particular care in strengthening proof techniques and written mathematical explanations.

Current applications and exploratory exercises are provided to further the reader's mathematical reasoning and understanding of the relevance of graph theory to the modern world.

Chapman and Hall/CRC
Market: Mathematics
March 2021: 6.14 x 9.21: 437pp
Hb: 978-1-138-36140-9
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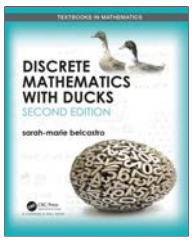
eBook: 978-1-138-36141-6
* For **full contents** and more information, visit: **www.routledge.com/9780367743758**

2nd Edition

Discrete Mathematics with Ducks



Sarah-Marie Belcastro

Discrete Mathematics with Ducks is a gentle introduction for students who find the proofs and abstractions of mathematics challenging. At the same time, it provides stimulating material, which instructors can use for more advanced students. The first edition was widely well received with its amusing writing style, and numerous exercises and materials that engaged students at all levels.

The new, expanded edition continues to facilitate effective and active learning. It is designed to help students learn about discrete mathematics through problem-based activities.

Chapman and Hall/CRC
June 2020: 700pp
Hb: 978-1-138-05259-8
Pb: 978-0-367-57070-5
eBook: 978-1-315-16767-1
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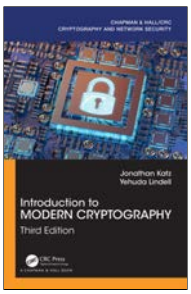
3rd Edition

Introduction to Modern Cryptography



Jonathan Katz, University of Maryland, College Park, USA and **Yehuda Lindell**, Bar-Ilan University, Ramat Gan, Israel

Series: Chapman & Hall/CRC Cryptography and Network Security Series

Now the most used texbook for introductory cryptography courses in both mathematics and computer science, the Third Edition builds upon previous editions by offering several new sections, topics, and exercises. The authors introduce the core principles of modern cryptography, with an emphasis on formal definitions, clear assumptions, and rigorous proofs of security. The book begins by focusing on private-key cryptography. The second half covers public-key cryptography, beginning with a self-contained introduction to the number theory needed to understand the RSA, Diffie-Hellman, and El Gamal cryptosystems (and others), and adds coverage of post-quantum cryptograpy to this edition.

Chapman and Hall/CRC
Market: Mathematics
December 2020: 6.14 x 9.21: 648pp
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eBook: 978-1-351-13303-6
Prev. Ed Hb: 978-1-466-57026-9
* For **full contents** and more information, visit: **www.routledge.com/9780815354369**

Techniques for Designing and Analyzing Algorithms

Douglas R. Stinson, University of Waterloo, Ontario, Canada

This text presents the main techniques of algorithm design, namely, divide-and-conquer algorithms, greedy algorithms, dynamic programming algorithms, and backtracking. Graph algorithms are studied in detail, and a careful treatment of the theory of NP-completeness is presented.

In addition, the text includes useful introductory material on mathematical background including order notation, algorithm analysis and reductions, and basic data structures. This will serve as a useful review and reference for students who have covered this material in a previous course.

Chapman and Hall/CRC
Market: Mathematics
July 2021: 7 x 10: 440pp
Hb: 978-0-367-22889-7
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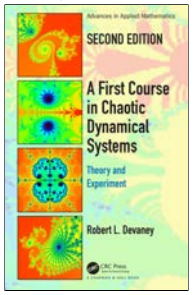
* For **full contents** and more information, visit: **www.routledge.com/9780367228897**

2nd Edition

A First Course In Chaotic Dynamical Systems

Theory And Experiment



Robert L. Devaney

The first text to introduce modern topics in dynamical systems at the undergraduate level, the book integrates both theory and computer experiments into its coverage of contemporary ideas. A classic, it offers a gradual introduction to the basic mathematical ideas behind such topics as chaos, fractals, Newton's method, symbolic dynamics, the Julia set, and the Mandelbrot set. It includes biographies of some of the leading researchers in the field. The new edition offers a heavily revised chapter on chaos and an emphasis on encouraging student research and experiment. The book is accessible to readers with only a background in calculus. Many new examples and exercises and updated references.

Chapman and Hall/CRC
Market: Mathematics
May 2020: 235 x 156: 328pp
Hb: 978-0-367-23599-4
eBook: 978-0-429-28066-5
Prev. Ed Hb: 978-0-201-55406-9
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Discovering Dynamical Systems Through Experiment and Inquiry

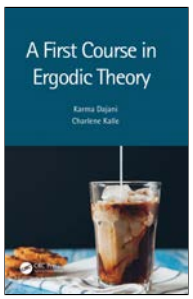
Thomas LoFaro and Jeff Ford

Series: Textbooks in Mathematics

The book differs from most texts on the topic by blending the use of computer simulations with inquiry-based learning (IBL). Students can discover examples and counterexamples through manipulations built into the software though a link to the website. While symbolic dynamics is a fairly standard topic in an undergraduate dynamics text, the authors emphasize it in a way that is more detailed and inclusive than is typically the case.

Chapman and Hall/CRC
Market: Mathematics
March 2021: 6.14 x 9.21: 215pp
Hb: 978-0-367-90394-7
eBook: 978-1-003-02413-2
* For **full contents** and more information, visit: **www.routledge.com/9780367903947**

A First Course in Ergodic Theory

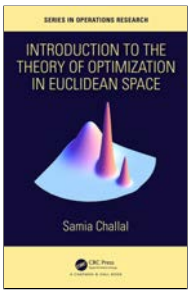


Karma Dajani, Utrecht University, The Netherlands and **Charlene Kalle**, Leiden University, The Netherlands

This book provides readers with an intro course in Ergodic Theory. This textbook has been developed from the authors' own notes on the subject, which they have been teaching since the 1990s. Over the years they have added topics, theorems, examples and explanations from various sources. The result is a book that is easy to teach from and easy to learn from — designed to require only minimal prerequisites.

Chapman and Hall/CRC
Market: Mathematics
July 2021: 6.14 x 9.21: 272pp
Hb: 978-0-367-22620-6
eBook: 978-0-429-27601-9
* For **full contents** and more information, visit: **www.routledge.com/9780367226206**

Introduction to the Theory of Optimization in Euclidean Space



Samia Challal

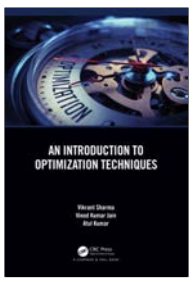
Series: Chapman & Hall/CRC Series in Operations Research

Introduction to the Theory of Optimization in Euclidean Space is intended to provide students with a robust introduction to optimization in Euclidean space, demonstrating the theoretical aspects of the subject whilst also providing clear proofs and applications.

Students are taken progressively through the development of the proofs, where they have the occasion to practice tools of differentiation (Chain rule, Taylor formula) for functions of several variables in abstract situations.

Chapman and Hall/CRC
Market: Mathematics
November 2019: 235 x 156: 334pp
Hb: 978-0-367-19557-1
eBook: 978-0-429-20315-2
* For **full contents** and more information, visit: **www.routledge.com/9780367195571**

An Introduction to Optimization Techniques



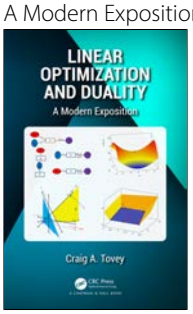
Vikrant Sharma, **Vinod Kumar Jain** and **Atul Kumar**

Various pioneers in technology education have demonstrated the importance of analysis and optimization. Optimization is a precise procedure using design constraints and criteria to enable the planner to find the optimal solution. Wide and emerging uses of optimization techniques make it essential for students and professionals. This book will provide an in-depth coverage and understanding of the basic and advanced optimization techniques essential for managerial decision making. This book is aimed primarily at undergraduates and postgraduates of science, engineering and management studying optimization techniques.

Chapman and Hall/CRC
Market: Mathematics
April 2021: 7 x 10: 432pp
Hb: 978-0-367-49324-0
eBook: 978-1-003-04576-2
* For **full contents** and more information, visit: **www.routledge.com/9780367493240**

Linear Optimization and Duality

A Modern Exposition



Craig A. Tovey, Georgia Institute of Technology, Atlanta, USA

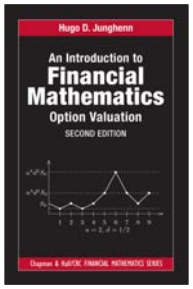
This textbook presents a theoretical treatment of linear programming, network flows and applications, integer programming, and computational complexity. The author includes a rigorous discussion of theory, numerous examples and exercises, and geometric intuitive explanations. He also offers computational tips and interpretation of software input. Unlike other books, this text incorporates duality throughout its chapters, rather than treating it as an add-on topic. It also discusses computational complexity theory, which can be used to classify problems according to the appropriate solution method.

Chapman and Hall/CRC
Market: Mathematics
November 2020: 7 x 10: 585pp
Hb: 978-1-439-88746-2
eBook: 978-1-439-88747-9
* For **full contents** and more information, visit: **www.routledge.com/9781439887462**

2nd Edition

An Introduction to Financial Mathematics

Option Valuation



Hugo D. Junghenn, The George Washington University, Washington, D.C., USA

Series: Chapman and Hall/CRC Financial Mathematics Series

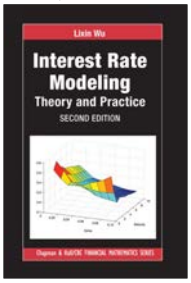
Designed for readers having a background in standard multivariable calculus, *Introduction to Financial Mathematics: Option Valuation, Second Edition* is a well-rounded primer to the mathematics and models used in the valuation of financial derivatives. New examples and exercises have been added in this second edition as well as tables and graphs generated by Microsoft Excel VBA modules available on the author's website.

Chapman and Hall/CRC
Market: Finance/Mathematics
March 2019: 235 x 156: 316pp
Hb: 978-0-367-20882-0
eBook: 978-0-429-26393-4
Prev. Ed Hb: 978-1-439-88911-4
* For **full contents** and more information, visit: **www.routledge.com/9780367208820**

2nd Edition

Interest Rate Modeling

Theory and Practice



Lixin Wu

Containing many results that are new, or which exist only in recent research articles, *Interest Rate Modeling: Theory and Practice, 2nd Edition* portrays the theory of interest rate modeling as a three-dimensional object of finance, mathematics, and computation. It introduces all models with financial-economical justifications, develops options along the martingale approach, and handles option evaluations with precise numerical methods.

CRC Press
September 2020: 234x156: 518pp
Hb: 978-0-815-37891-4
Pb: 978-0-367-65655-3
eBook: 978-1-351-22742-1
* For **full contents** and more information, visit: **www.routledge.com/9780367656553**

2nd Edition

Financial Mathematics

A Comprehensive Treatment in Discrete Time

Giuseppe Campolieti, Wilfrid Laurier University, Waterloo, Ontario, Canada and **Roman N. Makarov**, Wilfrid Laurier University, Waterloo, Ontario, Canada

Series: Textbooks in Mathematics

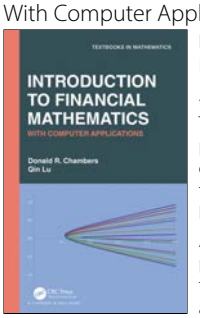
The book has been tested and refined through years of classroom teaching experience. With an abundance of examples, problems, and fully worked out solutions, the text introduces the financial theory and relevant mathematical methods in a mathematically rigorous yet engaging way.

This textbook provides complete coverage of discrete-time financial models that form the cornerstones of financial derivative pricing theory. Unlike similar texts in the field, this one presents multiple problem-solving approaches, linking related comprehensive techniques for pricing different types of financial derivatives.

Chapman and Hall/CRC
Market: Financial Mathematics
July 2021: 7 x 10: 585pp
Hb: 978-1-138-58787-8
eBook: 978-0-429-50366-5
Prev. Ed Hb: 978-1-439-89242-8
* For **full contents** and more information, visit: **www.routledge.com/9781138587878**

Introduction to Financial Mathematics

With Computer Applications



Donald R. Chambers, Lafayette College, USA and **Qin Lu**, Lafayette College, USA

Series: Textbooks in Mathematics

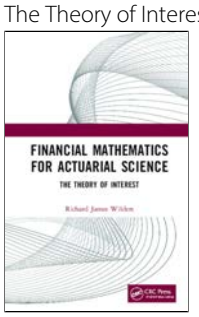
This book's primary objective is to educate aspiring finance professionals about mathematics and computation in the context of financial derivatives.The authors offer a balance of traditional coverage and technology to fill the void between highly mathematical books and broad finance books.

A key feature of this book is its focus on applying models in three programming languages –R, Mathematica and EXCEL. Each of the three approaches offers unique advantages. The computer applications are carefully introduced and require little prior programming background.

Chapman and Hall/CRC
Market: Science/Mathematics
June 2021: 6.14 x 9.21: 580pp
Hb: 978-0-367-41039-1
eBook: 978-0-367-81442-7
* For **full contents** and more information, visit: **www.routledge.com/9780367410391**

Financial Mathematics For Actuarial Science

The Theory of Interest

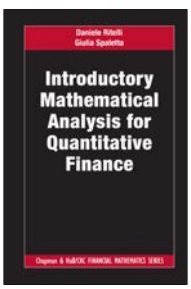


Richard James Wilders, North Central College, Naperville, USA

Financial Mathematics for Actuarial Science: The Theory of Interest is concerned with the measurement of interest and the various ways interest affects what is often called the time value of money (TVM). Interest is most simply defined as the compensation that a borrower pays to a lender for the use of capital. The goal of this book is to provide the mathematical understandings of interest and the time value of money needed to succeed on the actuarial examination covering interest theory.

CRC Press
Market: Mathematics
February 2020: 6.14 x 9.21: 394pp
Hb: 978-0-367-25308-0
eBook: 978-0-429-28710-7
* For **full contents** and more information, visit: **www.routledge.com/9780367253080**

Introductory Mathematical Analysis for Quantitative Finance



Daniele Ritelli, University of Bologna, Italy and **Giulia Spaletta**

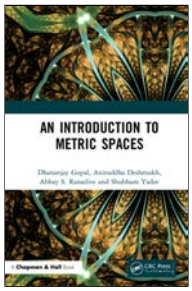
Series: Chapman and Hall/CRC Financial Mathematics Series

Introductory Mathematical Analysis for Quantitative Finance is a textbook designed to enable students with little knowledge of mathematical analysis to fully engage with modern quantitative finance. A basic understanding of dimensional Calculus and Linear Algebra is assumed.

The exposition of the topics is as concise as possible, since the chapters are intended to represent a preliminary contact with the mathematical concepts used in Quantitative Finance. The aim is that this book can be used as a basis for an intensive one-semester course.

Chapman and Hall/CRC
Market: Mathematics
April 2020: 235 x 156: 322pp
Hb: 978-0-815-37254-7
eBook: 978-1-351-24511-1
* For **full contents** and more information, visit: **www.routledge.com/9780815372547**

An Introduction to Metric Spaces

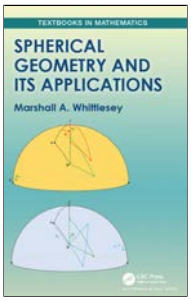


Dhananjay Gopal, Aniruddha Deshmukh, Abhay S Ranadive and Shubham Yadav

This book is designed to provide an extensive understanding of Metric spaces. It presents the basics of metric spaces in a natural way which encourages geometric thinking. It is decomposed in to seven chapters covering introductory concepts, completeness, compactness, connectedness, continuous functions and metric fixed-point theorems with applications. The book is aimed to serve as a text book for an introductory course in metric spaces for undergraduates or postgraduates. It is written in such depth and simplicity that it appeals equally to those who are entering in to the field as well as those who are deeply involved.

Chapman and Hall/CRC
Market: Mathematics
July 2020: 6.14 x 9.21: 302pp
Hb: 978-0-367-49348-6
eBook: 978-1-003-04587-8
* For **full contents** and more information, visit: **www.routledge.com/9780367493486**

Spherical Geometry and Its Applications



Marshall A. Whittlesey

Series: Textbooks in Mathematics

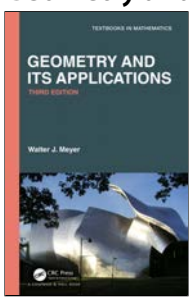
Spherical Geometry and Its Applications introduces spherical geometry and its practical applications in a mathematically rigorous form. The text can serve as a course in spherical geometry for mathematics majors. Readers from various academic backgrounds can comprehend various approaches to the subject.

The book introduces an axiomatic system for spherical geometry and uses it to prove the main theorems of the subject. It also provides an alternate approach using quaternions. The author illustrates how a traditional axiomatic system for plane geometry can be modified to produce a different geometric world.

Chapman and Hall/CRC
Market: Mathematics
August 2019: 235 x 156: 347pp
Hb: 978-0-367-19690-5
eBook: 978-0-429-32880-0
* For **full contents** and more information, visit: **www.routledge.com/9780367196905**

3rd Edition

Geometry and Its Applications



Walter J. Meyer

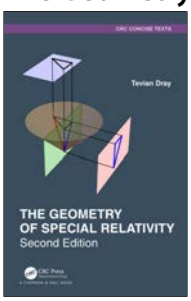
Series: Textbooks in Mathematics

This unique textbook combines traditional geometry presents a contemporary approach that is grounded in real-world applications. It balances the deductive approach with discovery learning, introduces axiomatic, Euclidean and non-Euclidean, and transformational geometry. The text integrates applications and examples throughout. The Third Edition offers many updates, including expaning on historical notes, Geometry and Its Applications is a significant text for any college or university that focuses on geometry's usefulness in other disciplines. It is especially appropriate for engineering and science majors, as well as future mathematics teachers.

Chapman and Hall/CRC
Market: Mathematics
June 2021: 6.14 x 9.21: 512pp
Hb: 978-0-367-18798-9
eBook: 978-0-429-19832-8
* For **full contents** and more information, visit: **www.routledge.com/9780367187989**

2nd Edition

The Geometry of Special Relativity



Tevian Dray, Oregon State University, Corvallis, USA

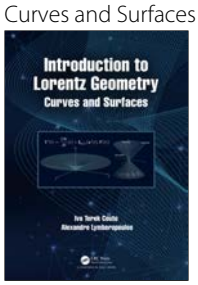
Series: Textbooks in Mathematics

This unique book presents a particularly beautiful way of looking at special relativity. The book treats the geometry of hyperbolas as the key to understanding special relativity. The author simplifies the formulas and emphasizes their geometric content. Many important relations, including the famous relativistic addition formula for velocities, then follow directly from the appropriate (hyperbolic) trigonometric addition formulas. Prior mastery of (ordinary) trigonometry is sufficient for most of the material presented, although occasional use is made of elementary differential calculus.

Chapman and Hall/CRC
Market: Mathematics
June 2021: 6.14 x 9.21: 196pp
Hb: 978-1-032-00820-2
Pb: 978-1-138-06392-1
eBook: 978-1-351-66321-2
* For **full contents** and more information, visit: **www.routledge.com/9781032008202**

Introduction to Lorentz Geometry

Curves and Surfaces



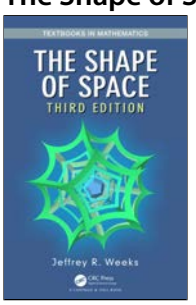
Ivo Terek Couto and Alexandre Lymberopoulos

Introduction to Lorentz Geometry: Curves and Surfaces intends to provide the reader with the minimum mathematical background needed to pursue interesting questions such as: What is the shape of the universe? What is a spacetime? What is the relation between gravity and curvature? Why exactly is time treated in a different manner than other spatial dimensions? by presenting the classical theory of curves and surfaces in both Euclidean and Lorentzian ambient spaces simultaneously.

Chapman and Hall/CRC
Market: Mathematics
December 2020: 8.25 x 11: 350pp
Hb: 978-0-367-46864-4
eBook: 978-1-003-03157-4
* For **full contents** and more information, visit: **www.routledge.com/9780367468644**

3rd Edition

The Shape of Space



Jeffrey R. Weeks and Jeffrey R. Weeks

Series: Textbooks in Mathematics

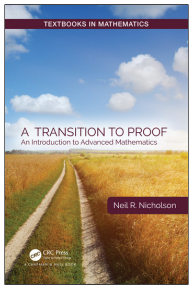
The Shape of Space, Third Edition maintains the standard of excellence set by the previous editions. This lighthearted textbook covers the basic geometry and topology of two- and three-dimensional spaces—stretching students' minds as they learn to visualize new possibilities for the shape of our universe.

Its informal exposition and engaging exercises appeal to an exceptionally broad audience, from liberal arts students to math undergraduate and graduate students looking for a clear intuitive understanding to supplement more formal texts, and even laypeople seeking an entertaining self-study book.

Chapman and Hall/CRC
Market: Mathematics
January 2020: 235 x 156: 362pp
Hb: 978-1-138-06227-6
Pb: 978-1-138-06121-7
eBook: 978-1-315-16255-3
* For **full contents** and more information, visit: **www.routledge.com/9781138061217**

A Transition to Proof

An Introduction to Advanced Mathematics



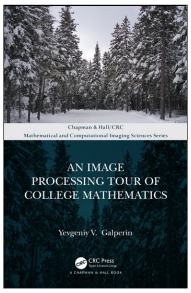
Neil R. Nicholson

Series: Textbooks in Mathematics

A Transition to Proof: An Introduction to Advanced Mathematics describes writing proofs as a creative process. There is a lot that goes into creating a mathematical proof before writing it. Ample discussion of how to figure out the "nuts and bolts'" of the proof takes place: thought processes, scratch work and ways to attack problems. Readers will learn not just how to write mathematics but also how to do mathematics. They will then learn to communicate mathematics effectively.

Chapman and Hall/CRC
Market: Mathematics
April 2019: 6.14 x 9.21: 462pp
Hb: 978-0-367-20157-9
eBook: 978-0-429-25983-8
* For **full contents** and more information, visit: **www.routledge.com/9780367201579**

An Image Processing Tour of College Mathematics



Yevgeniy V. Galperin

Series: Chapman & Hall/CRC Mathematical and Computational Imaging Sciences Series

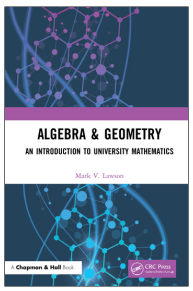
This book aims to provide meaningful context for reviewing key topics of college mathematics curriculum. The topics covered include a library of elementary functions, basic concepts of descriptive statistics, probability distributions of functions of random variables, definitions and concepts behind first- and second-order derivatives, most concepts and techniques of traditional linear algebra courses, an introduction to Fourier analysis, and a variety of discrete wavelet transforms – all of that in the context of digital image processing.

Chapman and Hall/CRC
Market: Mathematics
December 2020: 6.14 x 9.21: 348pp
Hb: 978-0-367-00202-2
eBook: 978-0-429-40061-2
* For **full contents** and more information, visit: **www.routledge.com/9780367002022**

2nd Edition

Algebra & Geometry

An Introduction to University Mathematics



Mark V. Lawson

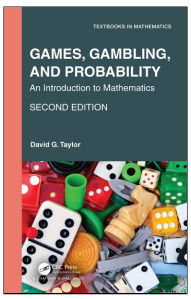
This book provides a bridge between high school and undergraduate mathematics courses on algebra and geometry. The text focuses on linear equations, polynomial equations, and quadratic forms. The first few chapters cover foundational topics, including the importance of proofs and a discussion of the properties commonly encountered when studying algebra. The remaining chapters form the mathematical core of the book. These chapters explain the solution of different kinds of algebraic equations, the nature of the solutions, and the interplay between geometry and algebra.

Chapman and Hall/CRC
Market: Mathematics
June 2021: 6.14 x 9.21: 424pp
Hb: 978-0-367-56508-4
Pb: 978-0-367-56303-5
eBook: 978-1-003-09807-2
Prev. Ed Pb: 978-1-482-24647-6
* For **full contents** and more information, visit: **www.routledge.com/9780367563035**

2nd Edition

Games, Gambling, and Probability

An Introduction to Mathematics



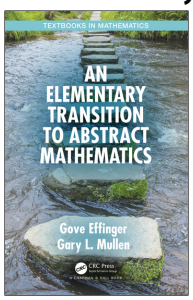
David G. Taylor, Roanoke College, Salem, Virginia, USA

Series: Textbooks in Mathematics

The goal for this textbook is to complement the inquiry-based learning movement. According to the author, concepts and ideas will stick with the reader more when they are motivated in an interesting way. Here, we use questions about various games (not just casino games) to motivate the mathematics, and the writing aims to emphasize a "just-in-time" mathematics approach. Topics are presented mathematically as questions about the games themselves are posed.

Chapman and Hall/CRC
Market: Mathematics
June 2021: 6.14 x 9.21: 516pp
Hb: 978-0-367-82043-5
eBook: 978-1-003-01158-3
Prev. Ed Hb: 978-1-482-23543-2
* For **full contents** and more information, visit: **www.routledge.com/9780367820435**

An Elementary Transition to Abstract Mathematics



Gove Effinger, Skidmore College, New York, USA and **Gary L. Mullen**

Series: Textbooks in Mathematics

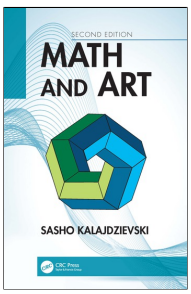
An Elementary Transition to Abstract Mathematics will help students move from introductory courses to those where rigor and proof play a much greater role. The text is organized into five basic parts: the first looks back on selected topics from pre-calculus and calculus, treating them more rigorously, and it covers various proof techniques; the second part covers induction, sets, functions, cardinality, complex numbers, permutations, and matrices; the third part introduces basic number theory including applications to cryptography; the fourth part introduces key objects from abstract algebra; and the final part focuses on polynomials.

CRC Press
Market: Statistics
October 2019: 235 x 156: 292pp
Hb: 978-0-367-33693-6
eBook: 978-0-429-32481-9
* For **full contents** and more information, visit: **www.routledge.com/9780367336936**

2nd Edition

Math and Art

An Introduction to Visual Mathematics



Sasho Kalajdzievski, University of Manitoba, Winnipeg, Canada

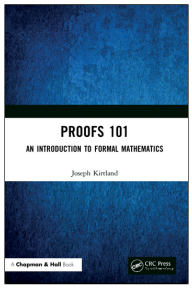
This book explores the potential of mathematics to generate visually appealing objects and reveals some of the beauty of mathematics. It includes numerous illustrations, photographs, and art reproductions to demonstrate how mathematics can inspire or generate art.

Sequentially organized according to mathematical maturity level, each chapter covers a cross section of mathematics. For art students, the book stresses an understanding of the mathematical background of relatively complicated yet intriguing visual objects. For science students, it presents various elegant mathematical theories and notions.

Chapman and Hall/CRC
Market: Mathematics
August 2021: 7 x 10: 520pp
Hb: 978-0-367-07613-9
Pb: 978-0-367-07611-5
eBook: 978-0-429-02160-2
Prev. Ed Pb: 978-1-584-88913-7
* For **full contents** and more information, visit: **www.routledge.com/9780367076115**

Proofs 101

An Introduction to Formal Mathematics



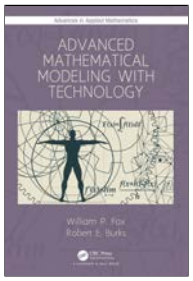
Joseph Kirtland

Proofs 101: An Introduction to Formal Mathematics serves as an introduction to proofs for mathematics majors who have completed the calculus sequence (at least Calculus I and II) and Linear Algebra.

It prepares students for the proofs they will need to analyse and write, the axiomatic nature of mathematics, and the rigors of upper-level mathematics courses. Basic number theory, relations, functions, cardinality, and set theory will provide the material for the proofs and lay the foundation for a deeper understanding of mathematics, which students will need to carry with them throughout their future studies.

Chapman and Hall/CRC
Market: Mathematics
November 2020: 6.14 x 9.21: 196pp
Hb: 978-0-367-53693-0
Pb: 978-0-367-53681-7
eBook: 978-1-003-08292-7
* For **full contents** and more information, visit: **www.routledge.com/9780367536817**

Advanced Mathematical Modeling with Technology



William P. Fox, U.S. Naval Post Graduate School and **Robert E. Burks**

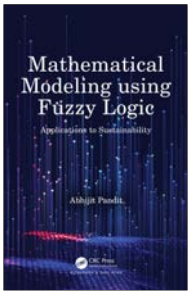
Series: Advances in Applied Mathematics

Mathematical modeling is both a skill and an art and must be practiced in order to maintain and enhance the ability to use those skills. Though the topics covered in this book are the typical topics of most mathematical modeling courses, this book is best used for individuals or groups who have already taken an introductory mathematical modeling course. This book will beof interest to instructors and students offering courses focused on discrete modeling or modeling for decision making.

Chapman and Hall/CRC
Market: Mathematics
May 2021: 6.14 x 9.21: 572pp
Hb: 978-0-367-49442-1
eBook: 978-1-003-04619-6
* For **full contents** and more information, visit: **www.routledge.com/9780367494421**

Mathematical Modeling using Fuzzy Logic

Applications to Sustainability



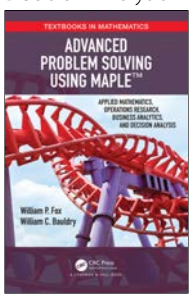
Abhijit Pandit, Amity University, Kolkata, India

There are relatively fewer textbooks available at present on fuzzy logic applications. This book presents new areas of applications like application of fuzzy logic in modelling of sustainability. The text is broadly divided into two parts. The first part treats processes, material and system applications related to fuzzy logic. The second part delves into the modelling of sustainability with the help of fuzzy logic.

Chapman and Hall/CRC
Market: Mathematics
May 2021: 6.14 x 9.21: 218pp
Hb: 978-1-138-39048-5
eBook: 978-0-429-42334-5
* For **full contents** and more information, visit: **www.routledge.com/9781138390485**

Advanced Problem Solving Using Maple

Applied Mathematics, Operations Research, Business Analytics, and Decision Analysis



William P Fox, U.S. Naval Post Graduate School and **William Bauldry**

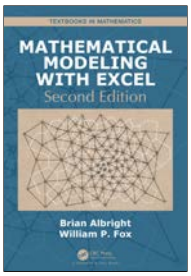
Series: Textbooks in Mathematics

The text applies the mathematical modeling process by formulating, building, solving, analyzing, and criticizing mathematical models. Scenarios are developed within the scope of the problem solving process. The text focuses on discrete dynamical systems, optimization techniques, single-variable unconstrained optimization and applied problems, and numerical search methods. Additional coverage includes multivariable unconstrained and constrained techniques. Linear algebra techniques to model and solve problems such as the Leontief model, advanced regression technique include nonlinear, logistics and Poisson are covered. Game Theory, the Nash equilibrium, Nash arbitration are also included.

Chapman and Hall/CRC
Market: Mathematics
November 2020: 6.14 x 9.21: 404pp
Hb: 978-1-138-60187-1
eBook: 978-0-429-46962-6
* For **full contents** and more information, visit: **www.routledge.com/9781138601871**

2nd Edition

Mathematical Modeling with Excel



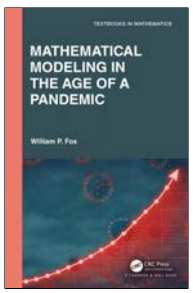
Brian Albright, Concordia University and **William P Fox**, U.S. Naval Post Graduate School

Series: Textbooks in Mathematics

This text presents a wide variety of common types of models found in other mathematical modeling texts, as well as some new types. However, the models are presented in a very unique format. A typical section begins with a general description of the scenario being modeled. The model is then built using the appropriate mathematical tools. Then it is implemented and analyzed in Excel via step-by-step instructions. In the exercises, we ask students to modify or refine the existing model, analyze it further, or adapt it to similar scenarios.

Chapman and Hall/CRC
Market: Mathematics
November 2019: 7 x 10: 370pp
Hb: 978-1-138-59707-5
eBook: 978-0-429-48713-2
* For **full contents** and more information, visit: **www.routledge.com/9781138597075**

Mathematical Modeling in the Age of the Pandemic



William P. Fox

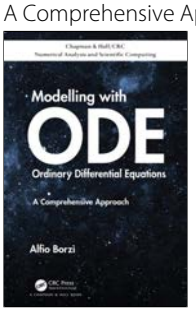
Series: Textbooks in Mathematics

This book's purpose is to shed some light on the meaning and interpretations of many of the types of models that are or might be used in the presentation of analysis. Understanding the concepts presented is essential in the entire modeling process of a pandemic. From the virus itself and its infectious rates and deaths rates to explain the process for testing a vaccine or eventually a cure, the author builds, presents, and shows model testing.

Chapman and Hall/CRC
Market: Mathematics
June 2021: 6.14 x 9.21: 136pp
Hb: 978-0-367-70312-7
eBook: 978-1-003-14563-9
* For **full contents** and more information, visit: **www.routledge.com/9780367703127**

Modelling with Ordinary Differential Equations

A Comprehensive Approach



Alfio Borzì, University of Wurzburg, Germany

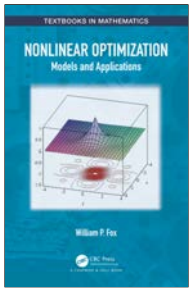
Series: Chapman & Hall/CRC Numerical Analysis and Scientific Computing Series

Modelling with Ordinary Differential Equations: A Comprehensive Approach aims to provide a broad and self-contained introduction to the mathematical tools necessary to investigate and apply ODE models. The book starts by establishing the existence of solutions in various settings and analysing their stability properties. The next step is to illustrate modelling issues arising in the calculus of variation and optimal control theory that are of interest in many applications. This discussion is continued with an introduction to inverse problems governed by ODE models and to differential games.

Chapman and Hall/CRC
Market: Mathematics
April 2020: 6.14 x 9.21: 404pp
Hb: 978-0-815-39261-3
eBook: 978-1-351-19039-8
* For **full contents** and more information, visit: **www.routledge.com/9780815392613**

Nonlinear Optimization

Models and Applications



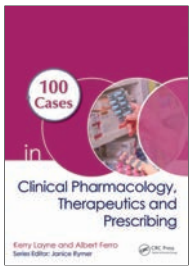
William P. Fox

Series: Textbooks in Mathematics

The study of nonlinear optimization is both fundamental and a key course for applied mathematics, operations research, management science, industrial engineering, and economics at most colleges and universities. The use of linear programming software for microcomputers has become widely available. Like most tools, however, it is useless unless the user understands its applications and purpose. The user must ensure that the mathematical input accurately reflects the real-world problem to be solved and that the numerical results are correctly used. Therefore, the mathematical modeling framework is critical to setting up and solving mathematical programming problems.

Chapman and Hall/CRC
Market: Mathematics
December 2020: 6.14 x 9.21: 416pp
Hb: 978-0-367-44415-0
eBook: 978-1-003-00957-3
* For **full contents** and more information, visit: **www.routledge.com/9780367444150**

100 Cases in Clinical Pharmacology, Therapeutics and Prescribing



Kerry Layne, Guy's & St Thomas' NHS Foundation Trust, London, UK and **Albert Ferro**, King's College, London, UK

Series: 100 Cases

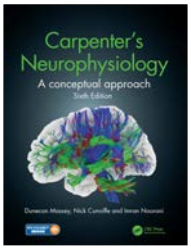
100 Cases in Clinical Pharmacology, Therapeutics and Prescribing explores scenarios commonly seen by medical students and junior doctors in the ward, emergency department, outpatient clinic or in general practice in which an understanding of pharmacology and sound prescribing practice is central to successful clinical management and safe patient care. A succinct summary of the patient's history, examination and any initial investigations is followed by questions on the diagnosis and management of the case.

CRC Press
Market: Medicine
February 2020: 6.85 x 9.69: 248pp
Hb: 978-1-138-48967-7
Pb: 978-1-138-48959-2
eBook: 978-0-429-03009-3
* For **full contents** and more information, visit: **www.routledge.com/9781138489592**

6th Edition

Carpenter's Neurophysiology

A Conceptual Approach



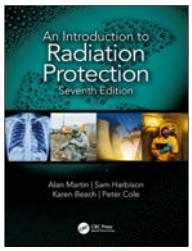
Dunecan Massey, **Nick Cunniffe** and **Imran Noorani**

Neurophysiology: A Conceptual Approach offers a refreshing alternative to 'learning by rote'. Under new authorship, the sixth edition preserves the legacy of the original author, the late Roger Carpenter, retaining the concise approach and readable style so central to its predecessors. Integrating the disciplines of neurology and neuroscience with an emphasis on principles and functional concepts, this comprehensive textbook covers the entire subject of neurophysiology, from the conduction of nerve impulses to the higher functions of the brain, within a single accessible volume.

CRC Press
Market: Biomedical Science
August 2021: 8.25 x 11: 338pp
Hb: 978-0-367-34067-4
Pb: 978-0-367-34060-5
eBook: 978-0-429-32372-0
Prev. Ed Pb: 978-1-444-13517-6
* For **full contents** and more information, visit: **www.routledge.com/9780367340605**

7th Edition

An Introduction to Radiation Protection



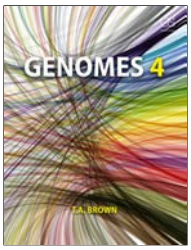
Alan Martin, **Sam Harbison**, Health & Safety Consultant, Kent, UK, **Karen Beach** and **Peter Cole**

This highly-readable account of the nature of the hazards presented by ionizing radiation and the methods of protection is an ideal introductory text for those new to the field, and for the non-specialist. The seventh edition continues to cover the technical principles underlying the control of radiation hazards, radiation detection and measurement and the biological effects of radiation, followed by a consideration of industry-specific radiation protection issues. Further specialised topics include risk assessment, waste management and decommissioning, radiological emergencies, relevant legislation and organizational issues and, new to this edition, environmental radiation protection.

CRC Press
Market: Medicine
November 2018: 7.44 x 9.69: 246pp
Hb: 978-1-138-33493-9
Pb: 978-1-138-33307-9
eBook: 978-0-429-44410-4
Prev. Ed Pb: 978-1-444-14607-3
* For **full contents** and more information, visit: **www.routledge.com/9781138333079**

4th Edition

Genomes 4

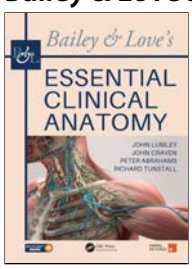


T. A. Brown, University of Manchester, UK

The 4th edition of Genomes has been completely revised and updated to make it a thoroughly modern textbook about genomes and how they are investigated. As with the 3rd edition, techniques come first, then genome anatomies, followed by genome function, and finally genome evolution. The genomes of all types of organism are covered making Genomes 4 is the ideal text for upper level courses focused on genomes and genomics.

Garland Science
Market: Genetics
May 2017: 8.62 x 10.8: 544pp
Pb: 978-0-815-34508-4
eBook: 978-1-315-22682-8
* For **full contents** and more information, visit: **www.routledge.com/9780815345084**

Bailey & Love's Essential Clinical Anatomy



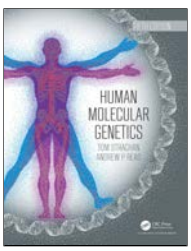
John S. P. Lumley, Emeritus Professor of Vascular Surgery, University of London; Past Council Member and Chairman of Primary Fellowship Examinations, Royal College of Surgeons of England, UK, **John L. Craven**, MD FRCS Formerly Consultant Surgeon, York District Hospital and Past Chairman of the Primary Examiners of the Royal College of Surgeons of England, UK, **Peter H. Abrahams**, Warwick Medical School, Coventry, UK and **Richard G. Tunstall**, Medical Teaching Centre, University of Warwick, Coventry, UK

This essential companion to Bailey & Love's Short Practice of Surgery covers the clinical conditions most commonly encountered by medical students, junior clinicians,and surgeons in training.

CRC Press
Market: Medicine
December 2018: 472pp
Hb: 978-1-138-29523-0
Pb: 978-1-138-29518-6
eBook: 978-1-315-10072-2
* For **full contents** and more information, visit: **www.routledge.com/9781138295186**

5th Edition

Human Molecular Genetics



Tom Strachan, Newcastle University, UK and **Andrew Read**, University of Manchester, UK

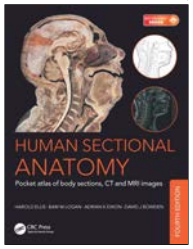
Human Molecular Genetics has been carefully crafted over successive editions to provide an authoritative introduction to the molecular aspects of human genetics, genomics and cell biology. Maintaining the features that have made previous editions so popular, this fifth edition has been completely updated in line with the latest developments and remains the 'go-to' book for those studying human molecular genetics or genomics courses around the world.. Older technologies such as cloning and hybridization have been merged and summarized, coverage of newer DNA sequencing technologies has been expanded, and powerful new gene editing and single-cell genomics technologies have been added.

Garland Science
Market: Genetics
December 2018: 8.25 x 11: 784pp
Hb: 978-0-367-00250-3
Pb: 978-0-815-34589-3
eBook: 978-0-429-44836-2
Prev. Ed Pb: 978-0-815-34149-9
* For **full contents** and more information, visit: **www.routledge.com/9780815345893**

4th Edition

Human Sectional Anatomy

Pocket atlas of body sections, CT and MRI images, Fourth edition



Adrian Kendal Dixon, Emeritus Professor, Department of Radiology, University of Cambridge and Honorary Consultant Radiologist, Addenbrooke's Hospital, Cambridge, UK and Master, Peterhouse, University of Cambridge, UK, **David J. Bowden**, Abdominal Imaging Fellow, Department of Medical Imaging Sunnybrook Health Sciences Centre, Toronto, Canada and Formerly Teaching Bye-Fellow Christ's College University of Cambridge, UK, **Bari M. Logan**, Formerly University Prosector, Department of Anatomy, University of Cambridge, Cambridge, UK and Formerly Prosector Department of Anatomy, The Royal College of Surgeons of England, London UK and **Harold Ellis**, Harold Ellis CBE FRCS is Emeritus Professor of Surgery, University of London, UK.

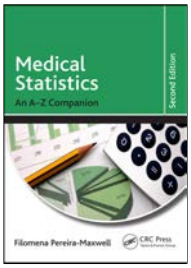
Now in its fourth edition, this portable guide and essential learning aid now contains new material. As with the previous editions, the superb full-color cadaver sections are compared with CT and MRI images. The radiological images have all been replaced with new examples for this latest edition.

CRC Press
Market: Medicine
August 2017: 288pp
Pb: 978-1-498-70854-8
eBook: 978-1-498-70855-5
* For **full contents** and more information, visit: **www.routledge.com/9781498708548**

2nd Edition

Medical Statistics

An A-Z Companion, Second Edition



Filomena Pereira-Maxwell, Formerly Lecturer in Medical Statistics, St Bartholomew's and the Royal London School of Medicine and Dentistry, now based in Washington, USA

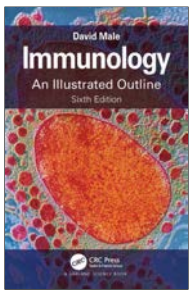
This invaluable, jargon-free guide to essential medical terminology in an accessible A-Z format is ideal for medical, allied health and biomedical science students and researchers, clinicians and health care practitioners. Avoiding the complex language that is so often a feature of statistics and research methodology,the text provides clear and succinct explanations, clarifying meaning and showing the interdependencies between important concepts. This edition includes enhanced explanations of statistical concepts and methods for greater accessibility, more illustrations, and makes frequent use of examples from the medical literature, including landmark studies, ensuring clinical relevance.

CRC Press
Market: Medicine
May 2018: 6.85 x 9.69: 416pp
Hb: 978-1-138-09959-3
Pb: 978-1-444-16734-4
eBook: 978-1-315-11731-7
* For **full contents** and more information, visit: **www.routledge.com/9781444167344**

6th Edition

Immunology

An Illustrated Outline



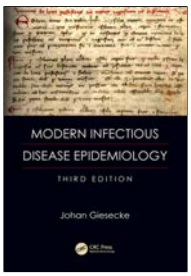
David Male, Department of Life, Health & Chemical Sciences, The Open University, Milton Keynes, UK

Immunology: An Illustrated Outline is both a guide to the essential principles of immunology and a concise dictionary of immunological terms. The book can be used to consolidate understanding in preparation for course exams and medical licensing exams, or as a refresher when immunology is encountered in related life sciences, such as microbiology, virology and zoology.

CRC Press
Market: Immunology
May 2021: 5.06 x 7.81: 172pp
Hb: 978-0-367-68464-8
Pb: 978-0-367-68139-5
eBook: 978-1-003-13765-8
Prev. Ed Pb: 978-0-815-34501-5
* For **full contents** and more information, visit: **www.routledge.com/9780367681395**

3rd Edition

Modern Infectious Disease Epidemiology



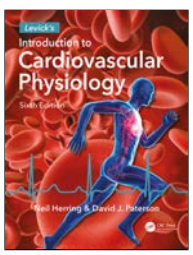
Johan Giesecke, Professor of Infectious Disease Epidemiology, Karolinska Institute, Stockholm, Sweden

Authoritative yet highly practical, this new edition of a bestseller has been thoroughly updated and revised in line with changing health concerns. It outlines the tools available to the infectious disease student or clinician who wishes to gain a thorough background in epidemiology of infectious and communicable diseases. Using many case studies and practical scenarios, the book then uses the tools learnt to illustrate the fundamental concepts of the study of infectious diseases, such as infection spread, surveillance and control, infectivity, incubation periods, seroepidemiology and immunity in populations.

CRC Press
Market: Infectious Diseases
April 2017: 7 x 10: 481pp
Hb: 978-1-138-70463-3
Pb: 978-1-444-18002-2
eBook: 978-1-315-22271-4
Prev. Ed Pb: 978-0-340-76423-7
* For **full contents** and more information, visit: **www.routledge.com/9781444180022**

6th Edition

Levick's Introduction to Cardiovascular Physiology



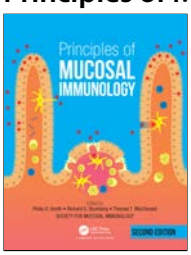
Neil Herring, Associate Professor & BHF Intermediate Fellow, University Oxford, Tutor & Fellow, Keble College and Lecturer Merton College, Consultant Cardiologist, Oxford University Hospital NHS Foundation Trust. and **David J. Paterson**, Professor of Cardiovascular Physiology and Head of the Department of Physiology, Anatomy & Genetics, University of Oxford, Oxford, UK

A sound knowledge of cardiovascular physiology is fundamental to understanding cardiovascular disease, exercise performance and may other aspects of human physiology. Cardiovascular physiology is a major component of all undergraduate courses in physiology, biomedical science and medicine, and this popular introduction to the subject is intended primarily for these students. A key feature of this sixth edition is how state-of-the-art technology is applied to understanding cardiovascular function in health and disease.

CRC Press
Market: Medicine
April 2018: 8.25 x 11: 448pp
Hb: 978-0-815-36361-3
eBook: 978-1-351-10775-4
* For **full contents** and more information, visit: **www.routledge.com/9780815363613**

2nd Edition

Principles of Mucosal Immunology



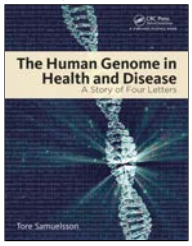
Edited by **Phillip D. Smith**, University of Alabama at Birmingham, USA, **Richard S. Blumberg**, Brigham & Women's Hospital, Harvard Medical School, USA, **Thomas T. MacDonald**, Barts and the London School of Medicine & Dentistry, UK and **Society for Mucosal Immunology**

This respected graduate-level textbook provides comprehensive and accessible coverage of the basic and clinical aspects of the mucosal immune system, addressing the major components of the mucosal barrier **g**astrointestinal, upper and lower respiratory, ocular, and genitourinary mucosal immune systems in a highly user-friendly style.

Garland Science
Market: Immunology
May 2020: 8.25 x 11: 614pp
Hb: 978-0-367-34894-6
Pb: 978-0-815-34555-8
eBook: 978-1-317-21294-2
Prev. Ed Pb: 978-0-815-34443-8
* For **full contents** and more information, visit: **www.routledge.com/9780815345558**

The Human Genome in Health and Disease

A Story of Four Letters



Tore Samuelsson, University of Gothenburg, Sweden

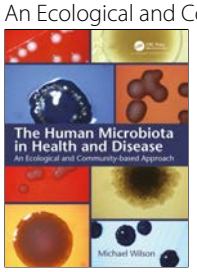
The Human Genome in Health and Disease examines the human genome, a linear sequence of roughly 3 billion bases. The intimate link between this information and biological function is systematically explored and is illustrated with inherited disorders and cancer. A range of sequence-based functional units of the human genome are thereby covered.

The book is motivated by the wealth of human sequence data currently accumulating and aids in understanding this information. It also discusses significant medical applications of human genome sequencing and genetic variation, such as the identification of causative variants in rare genetic disorders and a variety of current methods in gene therapy.

Garland Science
Market: Molecular Biology
February 2019: 8.62 x 10.8: 297pp
Hb: 978-0-367-07633-7
Pb: 978-0-815-34591-6
eBook: 978-0-429-02173-2
* For **full contents** and more information, visit: **www.routledge.com/9780815345916**

The Human Microbiota in Health and Disease

An Ecological and Community-based Approach



Michael Wilson, UCL Eastman Dental Institute, UK

This book describes the various microbial communities (microbiota) inhabiting humans as well as their important roles in human health and disease. It is aimed at senior undergraduates and graduates whose courses include a module on the indigenous microbiota of humans. It will also be useful to professional scientists, clinicians, and others who are keen to know more about the human microbiota and its role in health and disease.

Garland Science
Market: Microbiology
September 2018: 8.62 x 10.8: 504pp
Hb: 978-1-138-34278-1
Pb: 978-0-815-34585-5
eBook: 978-1-351-06836-9
* For **full contents** and more information, visit: **www.routledge.com/9780815345855**

Beneath the White Coat

Doctors, Their Minds and Mental Health

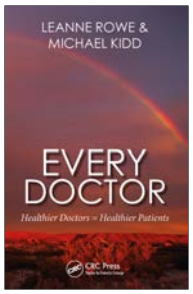
Edited by **Clare Gerada**, Medical Director of the Practitioner Health Programme, London and a former chair of the Royal College of General Practitioners, UK

This timely book offers a balanced and thoughtful review of the current mental health emergency and its impact upon and among medical professionals, supported by the best available evidence and illustrated through real-life cases. Recognising the increasing stressors in the role including the impact of the environment in which doctors work, the book examines some of the key emotional drivers for this unhappiness among doctors at work – shame, stigma, suffering and sacrifice – and offers practical steps to emotional and physical recovery.

Routledge
Market: Medcine
October 2020: 6.14 x 9.21: 305pp
Hb: 978-1-138-49981-2
Pb: 978-1-138-49973-7
eBook: 978-1-351-01415-1
* For **full contents** and more information, visit: **www.routledge.com/9781138499737**

Every Doctor

Healthier Doctors = Healthier Patients



Leanne Rowe and **Michael Kidd**

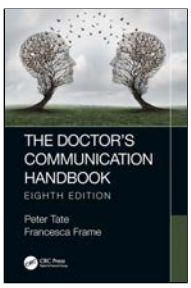
Series: WONCA Family Medicine

Every Doctor is about thriving in medicine at a time of massive advances and changes in global health systems and medical services. The book is a must-read for doctors of all specialties at all stages of their careers wherever they practise in the world, because exemplary care of patients, peers, profession and self is a lifelong journey.

CRC Press
September 2018: 5.06 x 7.81: 196pp
Hb: 978-1-138-49793-1
Pb: 978-1-138-49785-6
eBook: 978-1-351-01747-3
* For **full contents** and more information, visit: **www.routledge.com/9781138497856**

8th Edition

The Doctor's Communication Handbook, 8th Edition



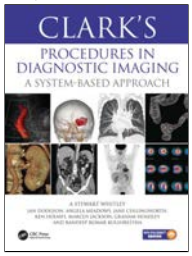
Peter Tate and **Francesca Frame**

As patients become participants, doctors are increasingly adjusting to new roles and forms of communication - from orators and governors to confidants and interpreters. This Eighth Edition continues to provide an invaluable 'one stop shop' to help students, practising doctors and nurses value and improve their skills in this area. Highly respected by many and acclaimed for its light, conversational tone, this completely updated and expanded reference remains a key text for doctors at all levels and in all settings. It has proven invaluable to all medical students, particularly candidates sitting the Membership of the Royal College of General Practitioners.

CRC Press
Market: Medicine
July 2019: 6.14 x 9.21: 142pp
Hb: 978-0-367-19821-3
Pb: 978-0-367-19822-0
eBook: 978-0-429-24347-9
* For **full contents** and more information, visit: **www.routledge.com/9780367198220**

Clark's Procedures in Diagnostic Imaging

A System-Based Approach

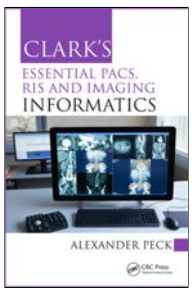


Stewart A Whitley, Radiology Advisor, UK Radiology Advisory Services and the Director of Professional Practice for the International Society of Radiographers & Radiological Technologists (ISRRT)., **Jan Dodgeon**, University of Salford, UK, **Angela Meadows**, **Jane Cullingworth**, **Ken Holmes**, University of Cumbria, UK, **Marcus Jackson**, **Graham Hoadley** and **Randeep Kulshrestha**

Bringing together conventional contrast media studies, computed tomography, ultrasound, magnetic resonance imaging, radionuclide imaging including hybrid imaging using SPECT-CT and PET-CT, DXA studies and digital interventional procedures into one volume, this definitive book is the essential source of information on the use and application of these imaging modalities in radiography.

CRC Press
Market: Radiotherapy
March 2020: 279 x 216: 768pp
Hb: 978-1-444-13722-4
eBook: 978-1-498-71552-2
* For **full contents** and more information, visit: **www.routledge.com/9781444137224**

Clark's Essential PACS, RIS and Imaging Informatics



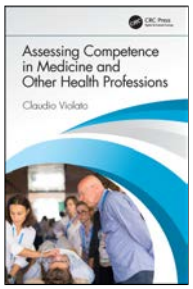
Alexander Peck, External Lecturer, City University; Radiographer, London NW Healthcare NHS Trust, UK

Series: Clark's Companion Essential Guides

Imaging informatics is a complex and historically rapidly changing field, knowledge of which is central to the practice of all imaging specialists. This convenient pocket guide provides the foundations of knowledge in informatics, allowing radiographers in training and in practice, assistant practitioners and other allied health professionals to understand, use and develop more efficient ways of imaging that will in turn deliver improved patient care.

CRC Press
Market: Healthcare
January 2018: 5.06 x 7.81: 248pp
Hb: 978-1-138-29570-4
Pb: 978-1-498-76323-3
* For **full contents** and more information, visit: **www.routledge.com/9781498763233**

Assessing Competence in Medicine and Other Health Professions



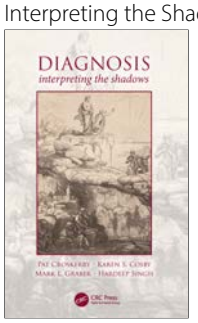
Claudio Violato, Wake Forest School of Medicine, Winston-Salem, North Carolina, USA

This comprehensive, yet accessible, text demystifies the challenging area of competence assessement in medicine and the health sciences, providing a clear framework and the tools for anyone working or studying in this area. Written by a single, highly experienced, author, the content benefits from uniformity of style and is supported and enhanced by a range of pedagogic features including cases, questions and summaries. Essential reading for all students and practitioners of medical education, it will also be an invaluable guide for allied health professionals and psychologists with a general interest in assessment, evaluation and measurement and a useful library reference.

CRC Press
Market: Medicine
January 2019: 6.14 x 9.21: 430pp
Hb: 978-1-138-59634-4
Pb: 978-1-498-78508-2
eBook: 978-1-498-78509-9
* For **full contents** and more information, visit: **www.routledge.com/9781498785082**

Diagnosis

Interpreting the Shadows



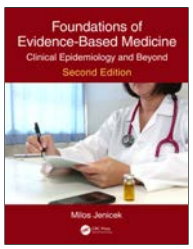
Pat Croskerry, Professor, Department of Emergency Medicine; Director, Critical Thinking Program, Division of Medical Education, Dalhousie University, Halifax, Nova Scotia, Canada, **Karen Cosby**, Associate Professor, Rush Medical School; Chair, Division of Observation and Quality and Department of Emergency Medicine, Cook County Health and Hospital System, Chicago, IL, **Mark L. Graber**, President, Society to Improve Diagnosis in Medicine; Senior Fellow, RTI International; Professor Emeritus Stony Brook University and **Hardeep Singh**, Michael E. DeBakey Veterans Affairs Medical Center and Baylor College of Medicine, Houston, Texas

Despite diagnosis being the key feature of a physician's clinical performance, this is the first book that deals specifically with the topic. In recent years, however, considerable interest has been shown in this area and significant developments have occurred in an awareness and increasing understanding of the critical role of clinical decision making and a similar appreciation of the role of the healthcare system in supporting clinicians.

CRC Press
Market: Ergonomics & Human Factors
May 2017: 6.14 x 9.21: 386pp
Hb: 978-1-138-74339-7
Pb: 978-1-409-43233-3
eBook: 978-1-315-11633-4
* For **full contents** and more information, visit: **www.routledge.com/9781409432333**

2nd Edition

Foundations of Evidence-Based Medicine



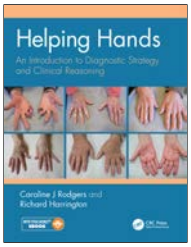
Milos Jenicek, Professor Emeritus at the Université de Montréal and former Adjunct Professor at McGill University, Ontario, Canada

Presenting a range of topics seldom seen in a single resource, this fully revised edition continues to explore the principles of formal logic as applied to clinical problems with an increased emphasis on the fundamental relationship between EBM and clinical epidemiology. The book contains accounts and references to aid the reader gain a fuller understanding of the principles that underlie EBM and the evolving roles of public health and clinical epidemiology in modern medicine.

CRC Press
Market: Medicine
November 2019: 8.25 x 11: 420pp
Hb: 978-0-367-18763-7
Pb: 978-1-032-08889-1
eBook: 978-0-429-19813-7
Prev. Ed Hb: 978-1-842-14193-9
* For **full contents** and more information, visit: **www.routledge.com/9780367187637**

Helping Hands

An Introduction to Diagnostic Strategy and Clinical Reasoning

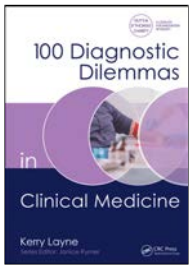


Caroline J Rodgers, ST3 GP Trainee, Cambridge VTS, Health Education East of England, Cambridgeshire, UK and **Richard Harrington**, Honorary Senior Clinical Lecturer, Nuffield Dept Primary Care Health Sciences and Associate Director, Graduate-entry Medicine, University of Oxford and a GP Partner, The Rycote Practice, Thame, Oxfordshire, UK

This brand-new textbook introduces medical students, junior doctors, medical educators and allied health professionals to the vital skills of diagnostic strategy and clinical reasoning, both essential components of becoming an effective clinician.

CRC Press
Market: Medicine
October 2019: 7.44 x 9.69: 168pp
Hb: 978-1-138-33086-3
Pb: 978-1-138-33082-5
eBook: 978-0-429-44755-6
* For **full contents** and more information, visit: **www.routledge.com/9781138330825**

100 Diagnostic Dilemmas in Clinical Medicine

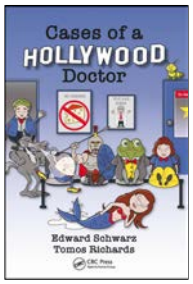


Kerry Layne, Guy's & St Thomas' NHS Foundation Trust, London, UK

100 Diagnostic Dilemmas in Clinical Medicine presents real-life scenarios seen in the hospital and community setting. A succinct summary of the patient's history, examination and any initial investigations is followed by a detailed discussion of the diagnosis and management of each case, in the short, medium and, where appropriate, long-term.

CRC Press
Market: Medicine
June 2017: 6.85 x 9.69: 367pp
Hb: 978-1-138-72094-7
Pb: 978-1-482-23817-4
eBook: 978-1-482-23818-1
* For **full contents** and more information, visit: **www.routledge.com/9781482238174**

Cases of a Hollywood Doctor



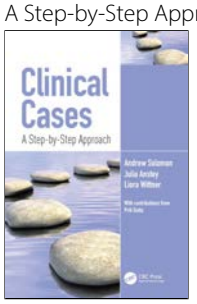
Edward Schwarz, GP trainee, Cornwall, UK and **Tomos Richards**, Orthopaedic, Wales, UK

Would you know how to manage the Easter Bunny's blood sugars after too much chocolate?; Could you deal with the trauma call when Humpty Dumpty falls off a wall?; After reading this book you'll be able to be a doctor to some Hollywood stars, as well as passing your exams! Packed full of humorous vignettes incorporating the illnesses of characters from literature, stage and screen exhibiting real-life pathologies, this book is a breath of fresh air to any medical student or junior doctor suffering from revision fatigue. You'll find clinical photographs and easy-to-follow diagrams covering common topics often examined across the breadth of medical studies.

CRC Press
Market: Medicine
May 2019: 6.14 x 9.21: 136pp
Hb: 978-1-138-33291-1
Pb: 978-1-138-33290-4
eBook: 978-0-429-02590-7
* For **full contents** and more information, visit: **www.routledge.com/9781138332904**

Clinical Cases

A Step-by-Step Approach



Andrew Solomon, Consultant Physician and Endocrinologist, East and North Hertfordshire NHS Trust, Stevenage, UK, **Julia Anstey**, Foundation Doctor, Somerset NHS Foundation Trust, Taunton, UK and **Liora Wittner**, Internal Medicine Trainee Doctor, East and North Hertfordshire NHS Trust, Stevenage, UK

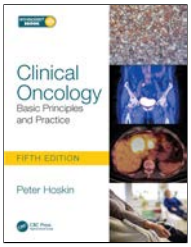
It is vitally important for medical students and junior doctors to grasp an understanding of 'real-life medicine'. This innovative book of cases shows how a particular presentation may progress, and the different complications that may arise and emerge over time, which may be missed by the 'snapshot in time' approach taken by many problem-based volumes.

CRC Press
Market: Medicine
April 2021: 6.85 x 9.69: 240pp
Hb: 978-0-815-36728-4
Pb: 978-0-815-36714-7
eBook: 978-1-351-25772-5
* For **full contents** and more information, visit: **www.routledge.com/9780815367147**

5th Edition

Clinical Oncology

Basic Principles and Practice



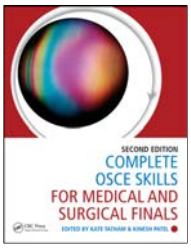
Peter Hoskin, Cancer Centre, Mount Vernon Hospital, Rickmansworth Road, Northwood, Middx, HA6 2RN, UK

This popular textbook provides a clear and comprehensive introduction to the principles and practice of clinical oncology. Ideal for medical undergraduates, clinicians and other health professionals who want to increase their understanding of the challenges of managing patients with cancer, the book enables readers to learn and then test themselves on all aspects of cancer medicine, from epidemiology, aetiology, pathogenesis and presentation, through to diagnosis, staging, management and prognosis.

CRC Press
Market: Medicine
May 2020: 246x189: 397pp
Hb: 978-0-367-89696-6
Pb: 978-1-138-03555-3
eBook: 978-1-315-26708-1
* For **full contents** and more information, visit: **www.routledge.com/9780367896966**

2nd Edition

Complete OSCE Skills for Medical and Surgical Finals

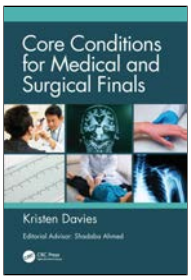


Edited by **Kate Tatham**, Specialty Registrar, Anaesthetics and Intensive Care Medicine, Imperial School of Anaesthesia, London, UK and **Kinesh Patel**, Chelsea and Westminster Hospital, London, UK

The Objective Structured Clinical Examination or OSCE for short is a familiar and often daunting experience for medical students. This book provides the essential information needed to tackle OSCE stations competently and with confidence. Over 150 topics are covered at the perfect level of detail for candidates preparing for final exams. Using bulleted checklists and a succinct writing style, the authors cover the most important points to remember about the key conditions that students are likely to encounter during OSCEs, all in a brief 2 to 4 pages per condition.

CRC Press
Market: Medicine
July 2018: 7.44 x 9.69: 348pp
Hb: 978-1-138-09982-1
Pb: 978-1-498-75020-2
eBook: 978-1-315-15237-0
* For **full contents** and more information, visit: **www.routledge.com/9781498750202**

Core Conditions for Medical and Surgical Finals



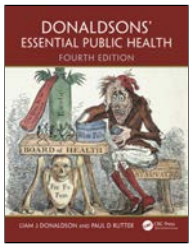
Kristen Davies, Academic Foundation Doctor Northumbria Healthcare NHS Foundation Trust Training Fellow, Newcastle University, Newcastle, UK

This concise revision guide delivers the must-know facts and associations for the common conditions that are most likely to be tested during medical school finals across medicine, surgery and the specialties. Presented in a convenient double-page spread format and systematically structured throughout it is ideal for rapid reference.

CRC Press
Market: Medicine
November 2020: 7 x 10: 212pp
Hb: 978-1-138-33118-1
Pb: 978-1-138-33103-7
eBook: 978-0-429-44743-3
* For **full contents** and more information, visit: **www.routledge.com/9781138331037**

4th Edition

Donaldsons' Essential Public Health



Liam J. Donaldson and **Paul Rutter**

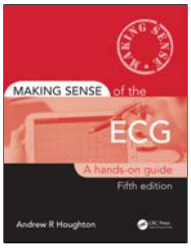
This comprehensive fourth edition of Donaldsons' Essential Public Health continues to present, in a single text, the main challenges encountered in managing population health, the tools used to explore these and the strategies to tackle them. Focusing on public health in the United Kingdom within a global health context, readers will learn the principles and applications of epidemiology, the main health problems experienced by populations and the subgroups within them, intervention strategies for promoting health and preventing disease, key themes underlying health policy formulation and a description of the provision of health services.

CRC Press
Market: Medicine
September 2017: 8.25 x 11: 374pp
Hb: 978-1-138-72201-9
Pb: 978-1-909-36895-8
eBook: 978-1-498-79722-1
* For **full contents** and more information, visit: **www.routledge.com/9781909368958**

5th Edition

Making Sense of the ECG

A Hands-On Guide



Andrew Houghton, Consultant Cardiologist, United Lincolnshire Hospitals NHS Trust and Visiting Fellow, University of Lincoln, Lincolnshire, UK

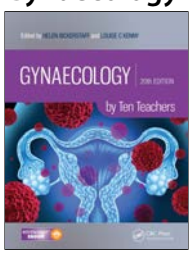
Series: Making Sense of

Interpreting an ECG correctly and working out what to do next can seem like a daunting task to the non-specialist, yet it is a skill that will be invaluable to any doctor, nurse or paramedic when evaluating the condition of a patient. *Making Sense of the ECG* has been written specifically with this in mind, and will help the student and more experienced healthcare practitioner to identify and answer crucial questions. This popular, easy-to-read and easy-to-remember guide to the ECG as a tool for diagnosis and management has been fully updated in its fifth edition to reflect the latest guidelines.

CRC Press
Market: Medicine
November 2019: 7.44 x 9.69: 256pp
Hb: 978-0-367-18901-3
Pb: 978-0-367-18895-5
eBook: 978-0-429-19908-0
Prev. Ed Pb: 978-1-444-18182-1
* For **full contents** and more information, visit: **www.routledge.com/9780367188955**

20th Edition

Gynaecology by Ten Teachers



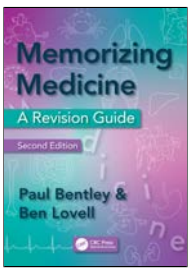
Edited by **Louise Kenny**, Professor of Obstetrics and Gynaecology, University of Cork and Director, The Irish Centre for Fetal and Neonatal Translational Research (INFANT), Cork, Ireland and **Helen Bickerstaff**, Senior Lecturer in Medical Education, King's College London; Honorary Consultant Obstetrician and Gynaecologist, Guy's and St Thomas' NHS Foundation Trust, London UK

First published in 1919 as 'Diseases of Women', Gynaecology by Ten Teachers is well established as a concise, yet comprehensive, guide. The twentieth edition has been thoroughly updated by a new team of 'teachers', integrating clinical material with the latest scientific developments that underpin patient care. Each chapter is highly structured, with learning objectives, definitions, aetiology, clinical features, investigations, treatments, case histories and key point summaries and additional reading where appropriate.

CRC Press
Market: Medicine
August 2017: 7.44 x 9.69: 272pp
eBook: 978-1-315-38241-8
Pack - Book and Ebook: 978-1-498-74428-7
* For **full contents** and more information, visit: **www.routledge.com/9781498744287**

2nd Edition

Memorizing Medicine



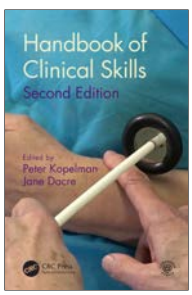
Paul Bentley, Clinical Senior Lecturer and Honorary Consultant Neurologist, Department of Brain Sciences, Imperial College London, UK and **Ben Lovell**, Consultant in Acute Medicine, University College London Hospital and Associate Professor of Medical Education, University of Plymouth, UK

This book takes a unique approach to 'learning medicine' in a manner that places primary emphasis on recall. Drawing upon well-established psychological principles, it uses a broad range of strategies to maximize the ability of the reader to recollect large swathes of information at a later date. The result is an original and refreshing book in which no two pages are quite alike, and where facts are presented in a hierarchical fashion so that essential features of each condition or symptom can be grasped immediately, while finer points are given in more detailed reading.

CRC Press
Market: Medicine
December 2019: 6.85 x 9.69: 528pp
Hb: 978-1-138-33271-3
Pb: 978-1-138-33269-0
eBook: 978-0-429-44640-5
Prev. Ed Pb: 978-1-853-15420-1
* For **full contents** and more information, visit: **www.routledge.com/9781138332690**

2nd Edition

Handbook of Clinical Skills



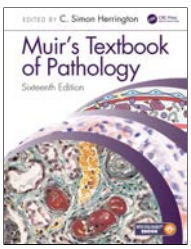
Edited by **Peter Kopelman**, MD DSc(Hon) FRCP FFPH FFacMEd(Hon) Emeritus Professor of Medicine and Vice-Chancellor, University of London, UK and **Jane Dacre**, BSc MD FRCP Professor of Medical Education, University College London; Consultant Physician and Rheumatologist, Whittington Health NHS Trust, London, UK

First published in 2002, this was one of the first handbooks to focus on the practical application of skills including consultation aimed specifically at medical students and newly-qualified juniors and is extremely well thought of, both in the UK and internationally. This long-awaited revision remains readable, concise and pocket-sized, while being thoroughly updated.

CRC Press
Market: Medicine
July 2019: 5.06 x 7.81: 440pp
Hb: 978-0-815-36696-6
Pb: 978-0-815-36691-1
eBook: 978-1-351-25840-1
Prev. Ed Pb: 978-1-874-54557-6
* For **full contents** and more information, visit: **www.routledge.com/9780815366911**

16th Edition

Muir's Textbook of Pathology



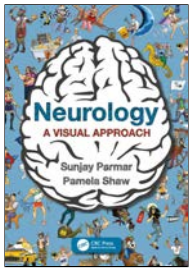
Edited by **C Simon Herrington**

This classic text sets a standard in this subject by outlining the scientific aspects that underlie pathological processes, relating these to specific organ systems and placing all in a context that the student of medicine or pathology can appreciate, understand and enjoy. The clearly defined and easy-to-follow structure, enhanced by numerous photographs and explanatory line diagrams, focuses on core material without neglecting novel concepts and up-to-the minute detail. A one-stop-shop in pathology, it reflects fully the integration of pathology into clinical teaching whether system or problem-based, and will take the student right through medical school and beyond to postgraduate training.

CRC Press
Market: Pathology
April 2020: 8.25 x 11: 608pp
Hb: 978-0-367-14672-6
eBook: 978-0-429-05301-6
Pack - Book and Ebook: 978-0-367-14671-9
Prev. Ed Pack - Book and Ebook: 978-1-444-18499-0
* For **full contents** and more information, visit: **www.routledge.com/9780367146719**

Neurology

A Visual Approach



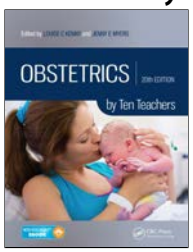
Sunjay Parmar, Academic Foundation Doctor & Honorary Teaching Fellow, Sheffield Teaching Hospitals NHS Foundation Trust, United Kingdom

This brand-new revision aid has been designed specifically to help medical students and early post-graduate doctors learn and remember pertinent information about various neurological conditions through pictorial representation, and will be invaluable throughout medical studies and particularly useful in the pressured run-up to final and post-graduate examinations. Neurology is often viewed as a challenging subject to learn. By utilising visual imagery to aid memory and recall of important information, the author brings a refreshing new approach to knowledge consolidation.

CRC Press
Market: Medicine
January 2018: 7 x 10: 104pp
Hb: 978-1-138-04376-3
Pb: 978-1-498-78206-7
eBook: 978-1-315-15537-1
* For **full contents** and more information, visit: **www.routledge.com/9781498782067**

20th Edition

Obstetrics by Ten Teachers



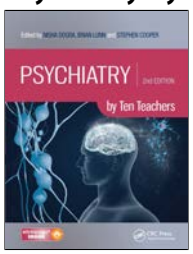
Edited by **Louise C. Kenny**, Professor of Obstetrics and Gynaecology, University of Cork and Director, The Irish Centre for Fetal and Neonatal Translational Research (INFANT), Cork, Ireland and **Jenny E. Myers**, NIHR Clinician Scientist & Honorary Consultant in Obstetrics, Maternal & Fetal Health Research Centre, University of Manchester, UK

First published in 1917 as 'Midwifery', Obstetrics by Ten Teachers is well established as a concise, yet comprehensive, guide within its field. The twentieth edition has been thoroughly updated by a new team of 'teachers', integrating clinical material with the latest scientific developments that underpin patient care.

CRC Press
Market: Medicine
August 2017: 7.44 x 9.69: 360pp
Pb: 978-1-498-74439-3
eBook: 978-1-315-38240-1
* For **full contents** and more information, visit: **www.routledge.com/9781498744393**

2nd Edition

Psychiatry by Ten Teachers



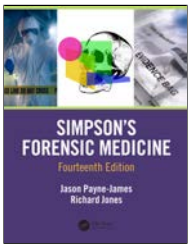
Edited by **Nisha Dogra**, University of Leicester, Greenwood Institute of Child Health, United Kingdom, **Brian Lunn**, Newcastle University, School of Medical Education, United Kingdom and **Stephen Cooper**, Queen's University Belfast, Department of Psychiatry, Northern Ireland, United Kingdom

Psychiatry by Ten Teachers, Second Edition follows the highly-praised tradition of providing the key information in a chosen specialty as required by the medical undergraduate, written by ten respected experts in the field. Completely up to date, this textbook encourages students to get the most out of their psychiatry attachment and achieve exam success, without overwhelming them with unnecessary detail, and will be of value to their future career whatever field they ultimately decide to specialize in.

CRC Press
Market: Medicine
February 2017: 7.44 x 9.69: 296pp
Pb: 978-1-498-75022-6
eBook: 978-1-315-38061-2
* For **full contents** and more information, visit: **www.routledge.com/9781498750226**

14th Edition

Simpson's Forensic Medicine



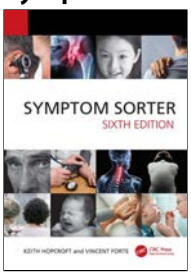
Edited by **Jason Payne-James**, William Harvey Research Institute, Queen Mary University of London, London and **Richard Martin Jones**, Wales Institute of Forensic Medicine, Cardiff

Prestigious and authoritative, this fully updated fourteenth edition of Simpson's Forensic Medicine remains a classic; one of the world's leading introductory texts in the field of forensic medicine. It presents all that the generalist or student needs to know about the interface between medicine and the law, including forensic toxicology, forensic science, forensic odontology, forensic anthropology and both the legal obligations and ethical responsibilities of those working in forensic settings. Read by many of today's leading forensic practitioners at the start of their careers, it continues to be the most indispensible guide to the practice of forensic medicine worldwide.

CRC Press
Market: Forensics & Criminal Justice
December 2019: 7.44 x 9.69: 353pp
Hb: 978-0-367-33319-5
Pb: 978-1-498-70429-8
eBook: 978-1-498-70432-8
* For **full contents** and more information, visit: **www.routledge.com/9781498704298**

6th Edition

Symptom Sorter



Keith Hopcroft and **Vincent Forte**

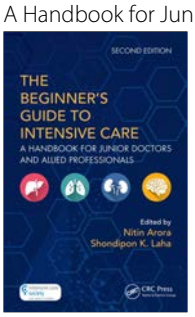
Across its six editions, Symptom Sorter has excelled in redressing the balance between symptoms and diagnoses to become the essential handbook to accompany the consultation in primary care. Presenting a multitude of symptoms commonly encountered in primary care, these are meticulously explored using the red flags, top tips and ready reckoner format for sorting symptoms that have made previous editions so popular and respected. This fully revised and updated sixth edition includes several new chapters and features expanded coverage of paediatric symptoms separated from adult considerations for the first time.

CRC Press
May 2020: 6.85 x 9.69: 502pp
Hb: 978-0-367-46810-1
Pb: 978-0-367-46809-5
eBook: 978-1-003-03210-6
Prev. Ed Pb: 978-1-910-22718-3
* For **full contents** and more information, visit: **www.routledge.com/9780367468095**

2nd Edition

The Beginner's Guide to Intensive Care

A Handbook for Junior Doctors and Allied Professionals



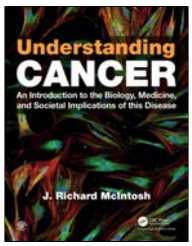
Edited by **Nitin Arora** and **Shondipon K. Laha**, Lancashire Teaching Hospitals NHS Foundation Trust, Sharoe Green Lane North, Preston, PR2 9HT, UK

Ideal for any medic or health professional embarking upon an intensive care rotation or specialism, this simple bedside handbook provides handy, pragmatic guidance to the day-to-day fundamentals of working in an intensive care unit, often a daunting prospect for the junior doctor, nurse and allied health professional encountering this challenging environment for the first time. Thoroughly updated, new topics added include sepsis, ARDS, refractory hypoxia, the role of allied health professionals, post ICU syndrome and follow up, and consent and capacity including new DOLS guidance. The book is authored by world-renowned contributors and edited by established consultants in the field.

CRC Press
Market: Medicine
August 2018: 5.06 x 7.81: 484pp
Hb: 978-0-815-38321-5
Pb: 978-1-138-03578-2
eBook: 978-1-315-26497-4
Prev. Ed Pb: 978-1-846-19451-1
* For **full contents** and more information, visit: **www.routledge.com/9781138035782**

Understanding Cancer

An Introduction to the Biology, Medicine, and Societal Implications of this Disease



J. Richard McIntosh

Understanding Cancer is a brand-new undergraduate textbook that uses simple language and well-chosen examples to explain the biological processes that underlie cancer and inform our methods for the diagnosis and treatment of this disease. The book has been carefully designed to provide key information relevant for students seeking a broad and accessible introduction to the cancer problem, even if they have no prior training in biology or chemistry.

Garland Science
Market: Biology
May 2019: 8.25 x 11: 464pp
Hb: 978-0-367-19012-5
Pb: 978-0-815-34535-0
eBook: 978-0-429-19984-4
* For **full contents** and more information, visit: **www.routledge.com/9780815345350**

5th Edition

Apley and Solomon's Concise System of Orthopaedics and Trauma

Edited by **David Warwick**, **Ashley Blom**, University of Bristol, United Kingdom and **Michael Whitehouse**, University of Bristol, United Kingdom

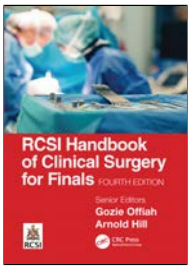
Been firmly established as the leading introductory textbook of orthopaedic practice and the principles of fracture and trauma management and praised in previous editions for the systematic approach, balanced content and readable style, this fifth edition has been brought fully up to date under the direction of the new and distinguished authorial team, while remaining true to the teaching principles of Alan Apley and his successor Louis Solomon.

It remains the first choice for medical students, trainee surgeons and other health professionals seeking a convenient introduction to this large and complex subject.

CRC Press
Market: Medicine
August 2021: 7.44 x 9.69: 536pp
Hb: 978-0-367-19895-4
Pack - Book and Ebook: 978-0-367-19877-0
Prev. Ed Pack - Book and Ebook: 978-1-482-26039-7
* For **full contents** and more information, visit: **www.routledge.com/9780367198770**

4th Edition

RCSI Handbook of Clinical Surgery for Finals



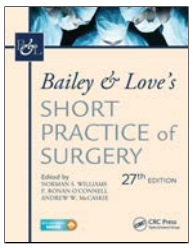
Edited by **Gozie Offiah** and **Arnold Hill**, Head of School of Medicine and Professor of Surgery, Royal College of Surgeons in Ireland

Developed over three editions by the Royal College of Surgeons of Ireland to support students attending the three RCSI universities, this convenient handbook provides pragmatic guidance to the principles and practice of surgery that students can expect to encounter during undergraduate and early postgraduate studies. The text, written as easy-to-read and easy-to-remember bullet lists, is supplemented throughout by tables, management algorithms and colour illustrations. Covering the core surgical knowledge needed to become a safe and competent doctor, the book will be an invaluable companion for clinical placements and during the critical run-up to final examinations.

CRC Press
Market: Medicine
December 2019: 5.83 x 8.27: 376pp
Hb: 978-0-367-82093-0
Pb: 978-0-367-82085-5
eBook: 978-1-003-01352-5
* For **full contents** and more information, visit: **www.routledge.com/9780367820855**

27th Edition

Bailey & Love's Short Practice of Surgery



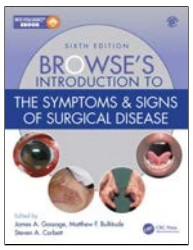
Edited by **Norman S. Williams**, Barts and The London School of Medicine and Dentistry, Queen Mary University of London, UK, **P. Ronan O'Connell**, St Vincent's University Hospital, Dublin, Ireland and **Andrew McCaskie**, University of Cambridge, Cambridge, UK

Bailey & Love is the world famous textbook of surgery. Its comprehensive coverage includes the scientific basis of surgical practice, investigation,diagnosis, and pre-operative care. Trauma and Orthopaedics are included, as are the subspecialties of plastic and reconstructive, head and neck, cardiothoracic and vascular, abdominal and genitourinary surgery. The user-friendly format includes photographs, line diagrams, learning objectives, summary boxes, biographical footnotes, memorable anecdotes and full-colour page design. This book's reputation for unambiguous advice make it the first point of reference for student and practising surgeons worldwide.

CRC Press
Market: Surgery
March 2018: 8.25 x 11: 1632pp
Hb: 978-1-138-03166-1
Pb: 978-1-498-79650-7
eBook: 978-1-315-11108-7
Prev. Ed Pb: 978-1-444-12127-8
* For **full contents** and more information, visit: **www.routledge.com/9781498796507**

6th Edition

Browse's Introduction to the Symptoms & Signs of Surgical Disease

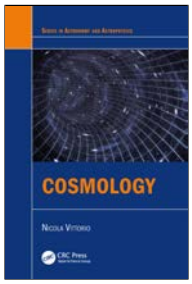


Edited by **James A. Gossage**, Consultant Oesophagogastric and General Surgeon, Guy's and St Thomas' NHS Foundation Trust and Senior Lecturer, King's College London, UK, **Matthew F. Bultitude**, Consultant Urologist, Guy's and St Thomas' Hospitals NHS Foundation Trust, London, UK and **Steven A. Corbett**, Guy's and St Thomas' NHS Foundation Trust, UK

Browse's Introduction to the Symptoms & Signs of Surgical Disease is essential reading for all medical students learning the fundamentals of history taking and patient examination, when undertaking a surgical rotation, when preparing for their surgical exams and as they transition to postgraduate studies.

CRC Press
Market: Surgery
May 2021: 7.44 x 9.69: 658pp
Hb: 978-1-138-33040-5
Pb: 978-1-138-33008-5
eBook: 978-0-429-44789-1
Prev. Ed Pb: 978-1-444-14603-5
* For **full contents** and more information, visit: **www.routledge.com/9781138330085**

Cosmology

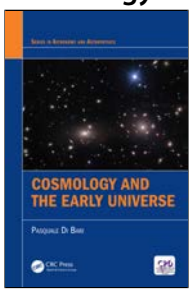


Nicola Vittorio

Modern cosmology has changed significantly over the years, from the discovery to the precision measurement era. The time is right for a fresh new textbook which captures the state-of-the art in cosmology. Written by one of the world's leading cosmologists, this brand new, thoroughly class-tested textbook provides graduate and undergraduate students with coverage of the very latest developments and experimental results in the field. Prof. Nicola Vittorio shows what is meant by precision cosmology, from both theoretical and observational perspectives.

CRC Press
June 2020: 234x156: 454pp
Hb: 978-1-498-73132-4
Pb: 978-0-367-57269-3
eBook: 978-1-498-73133-1
* For **full contents** and more information, visit: **www.routledge.com/9780367572693**

Cosmology and the Early Universe

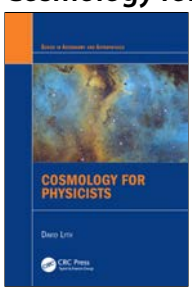


Pasquale Di Bari

This book discusses cosmology from both an observational and a strong theoretical perspective. The first part focuses on gravitation, notably the expansion of the universe and determination of cosmological parameters, before moving onto the main emphasis of the book, the physics of the early universe, and the connections between cosmological models and particle physics. Readers will gain a comprehensive account of cosmology and the latest observational results, without requiring prior knowledge of relativistic theories, making the text ideal for students.

CRC Press
June 2020: 254x178: 259pp
Hb: 978-1-498-76170-3
Pb: 978-0-367-57170-2
eBook: 978-1-498-76171-0
* For **full contents** and more information, visit: **www.routledge.com/9780367571702**

Cosmology for Physicists



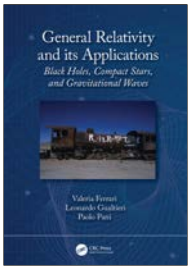
David Lyth

Written by an award-winnning cosmologist, this brand new textbook provides advanced undergraduate and graduate students with coverage of the very latest developments in the field. Full treatment of the origin of structure, scalar fields, the cosmic microwave background and the early universe are provided. Problems are included, with solutions in a separate solutions manual. More advanced extension material is offered in the Appendix, ensuring the book is fully accessible to students with a wide variety of background experience.

CRC Press
June 2020: 254x178: 180pp
Hb: 978-1-498-75531-3
Pb: 978-0-367-57438-3
eBook: 978-1-315-36801-6
* For **full contents** and more information, visit: **www.routledge.com/9780367574383**

General Relativity and its Applications

Black Holes, Compact Stars and Gravitational Waves



Valeria Ferrari, **Leonardo Gualtieri** and **Paolo Pani**

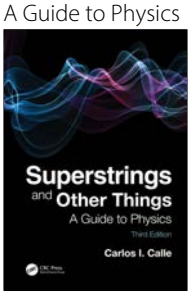
Containing the latest, groundbreaking discoveries in the field, this text outlines the basics of Einstein's theory of gravity with a focus on its most important astrophysical consequences, including stellar structures, black holes, and the physics of gravitational waves. Pedalogical feature boxes including examples, mathematical tools, and practical applications of theory to maximise learning make this text ideal for graduate students.

CRC Press
Market: Physics
December 2020: 7 x 10: 494pp
Hb: 978-1-138-58977-3
Pb: 978-0-367-62532-0
eBook: 978-0-429-49140-5
* For **full contents** and more information, visit: **www.routledge.com/9780367625320**

3rd Edition

Superstrings and Other Things

A Guide to Physics



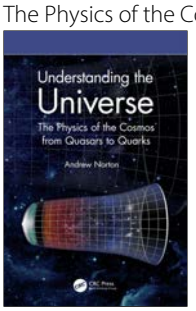
Carlos I. Calle

Continuing to take readers on a uniquely accessible journey through physics, Superstrings and Other Things, Third Edition, explains the basic concepts of motion, energy, and gravity, right up to the latest theories about the structure of matter, the origin and structure of the universe, and the beginning of time.

CRC Press
Market: Physics
May 2020: 7 x 10: 474pp
Hb: 978-1-138-36492-9
Pb: 978-1-138-36488-2
eBook: 978-0-429-43102-9
Prev. Ed Pb: 978-1-439-81073-6
* For **full contents** and more information, visit: **www.routledge.com/9781138364882**

Understanding the Universe

The Physics of the Cosmos from Quasars to Quarks



Andrew Norton

Understanding the Universe: The Physics of the Cosmos from Quasars to Quarks explores how all areas of physics, from the very smallest scales to the very largest, come together to form our current understanding of the Universe. It takes readers on a fascinating journey, from the Big Bang and how the Universe has evolved, to how it appears now, and the possibilities for how it will continue to evolve in the future. It also explores the latest exciting developments in the area and how they impact our understanding of the Universe, such as quantum chromodynamics, black holes, dark energy, and gravitational waves.

CRC Press
Market: Physics
May 2021: 6.14 x 9.21: 252pp
Hb: 978-0-367-74805-0
eBook: 978-1-003-16466-1
* For **full contents** and more information, visit: **www.routledge.com/9780367748050**

5th Edition

Measurement and Detection of Radiation

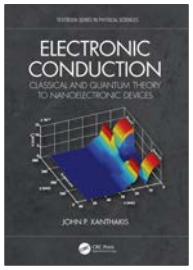
Nicholas Tsoulfanidis, University of Nevada, Reno, USA and **Sheldon Landsberger**, The University of Texas at Austin, USA

Measurement and Detection of Radiation, Fifth Edition provides the most up-to-date and accessible introduction to radiation detector materials, systems, and applications. It also includes more problems and updated references and bibliographies, and step-by-step derivations and numerous examples illustrate key concepts.

CRC Press
Market: Physics
August 2021: 8 x 10: 660pp
Hb: 978-0-367-43401-4
eBook: 978-1-003-00984-9
* For **full contents** and more information, visit: **www.routledge.com/9780367434014**

Electronic Conduction

Classical and Quantum Theory to Nanoelectronic Devices



John P. Xanthakis, National Technical University of Athens, Greece

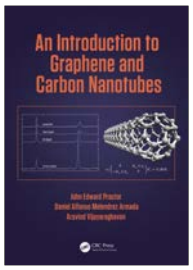
Series: Textbook Series in Physical Sciences

This book provides a concise, complete introduction to the fundamental principles of electronic conduction in microelectronic and nanoelectronic devices, with an emphasis on integrating the quantum aspects of conduction.

The chapter coverage begins by presenting the classical theory of conduction, including introductory chapters on quantum mechanics and the solid state, then moving to a complete presentation of essential theory for understanding modern electronic devices. The author's unique approach is applicable to microscale and nanoscale device simulation, is particularly timely given the explosion in the nanoelectronics field.

CRC Press
Market: Physics
December 2020: 7 x 10: 310pp
Hb: 978-1-138-58386-3
eBook: 978-0-429-50644-4
* For **full contents** and more information, visit: **www.routledge.com/9781138583863**

An Introduction to Graphene and Carbon Nanotubes



John E. Proctor, **Daniel Melendrez Armada** and **Aravind Vijayaraghavan**

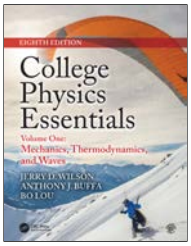
Carbon nanotubes and graphene have been the subject of intense scientific research since their relatively recent discoveries. This book introduces the reader to the science behind these rapidly developing fields, and covers both the fundamentals and latest advances.

Suitable for undergraduate students with a working knowledge of basic quantum mechanics, and for postgraduate researchers commencing their studies into the field, this book will equip the reader to critically evaluate the physical properties and potential for applications of graphene and carbon nanotubes.

CRC Press
June 2020: 7 x 10: 302pp
Hb: 978-1-498-75179-7
Pb: 978-0-367-57390-4
eBook: 978-1-315-36819-1
* For **full contents** and more information, visit: **www.routledge.com/9780367573904**

College Physics Essentials

Mechanics, Thermodynamics, Waves (Volume One)

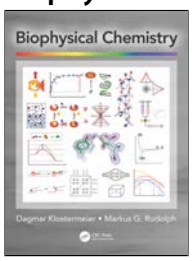


Jerry D. Wilson, Lander University, SC, USA, **Anthony J. Buffa**, California Polytechnic State University, CA, USA and **Bo Lou**, Ferris State University, MI, USA

This edition provides a streamlined update of a major textbook for algebra-based physics, reflecting the demand by instructors for more substance. The authors enhance emphasis on worked examples to enhance reader engagement, together with expanded problem sets that build from conceptual understanding to numerical solutions and real-world applications. It is the textbook of choice for those seeking a basic understanding of key physics concepts and how to apply them to real problems. The first volume covers mechanics, solids and fluids, heat, thermodynamics, vibrations and waves, and sound. The second volume covers electricity and magnetism, optics, atomic, nuclear, and quantum physics.

CRC Press
Market: Physics
December 2019: 8.25 x 11: 406pp
Hb: 978-1-138-47632-5
eBook: 978-0-429-32336-2
* For **full contents** and more information, visit: **www.routledge.com/9781138476325**

Biophysical Chemistry



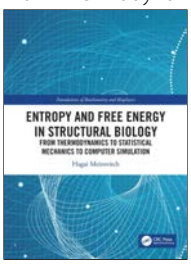
Dagmar Klostermeier and **Markus G. Rudolph**

This book is a comprehensive text for undergraduate physical chemistry courses for biophysics, biochemistry, and the life sciences. It is rich in pedagogical features, containing boxes which provide additional background information on a specific topic, as well as those that provide numerous application examples. It describes a well-balanced spectrum of topics in a concise form, and bridges between theoretical concepts/methods and their applications to enable readers to directly transfer the treated topics to their laboratory projects.

CRC Press
June 2020: 279 x 216: 792pp
Hb: 978-1-482-25223-1
Pb: 978-0-367-57238-9
eBook: 978-1-315-15691-0
* For **full contents** and more information, visit: **www.routledge.com/9780367572389**

Entropy and Free Energy in Structural Biology

From Thermodynamics to Statistical Mechanics to Computer Simulation



Hagai Meirovitch

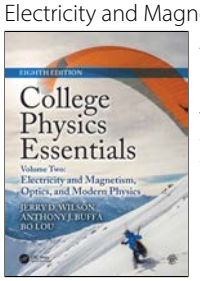
Series: Foundations of Biochemistry and Biophysics

Computer simulation has become the main engine of development in statistical mechanics. In structural biology, computer simulation constitutes the main theoretical tool for structure determination of proteins and for calculation of the free energy of binding, which are important in drug design. Entropy and Free Energy in Structural Biology leads the reader to the simulation technology in a systematic way.Enhanced by a number of solved problems and examples, this volume will be a valuable resource to advanced undergraduate and graduate students in chemistry, chemical engineering, biochemistry biophysics, pharmacology, and computational biology.

CRC Press
Market: Biophysics
September 2020: 7 x 10: 396pp
Hb: 978-0-367-40692-9
eBook: 978-0-367-85478-2
* For **full contents** and more information, visit: **www.routledge.com/9780367406929**

College Physics Essentials

Electricity and Magnetism, Optics, Modern Physics (Volume Two)



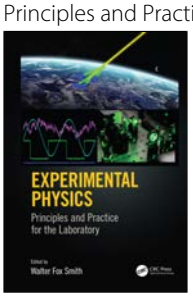
Jerry D. Wilson, Lander University, SC, USA, **Anthony J. Buffa**, California Polytechnic State University, CA, USA and **Bo Lou**, Ferris State University, MI, USA

This edition provides a streamlined update of a major textbook for algebra-based physics, reflecting the demand by instructors for more substance. The authors enhance emphasis on worked examples to enhance reader engagement, together with expanded problem sets that build from conceptual understanding to numerical solutions and real-world applications. It is the textbook of choice for those seeking a basic understanding of key physics concepts and how to apply them to real problems. The first volume covers mechanics, solids and fluids, heat, thermodynamics, vibrations and waves, and sound. The second volume covers electricity and magnetism, optics, atomic, nuclear, and quantum physics.

CRC Press
Market: Physics
December 2019: 8.25 x 11: 404pp
Hb: 978-1-138-47608-0
eBook: 978-0-429-32337-9
* For **full contents** and more information, visit: **www.routledge.com/9781138476080**

Experimental Physics

Principles and Practice for the Laboratory



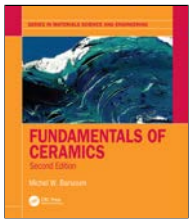
Edited by **Walter Fox Smith**

This textbook provides the underlying knowledge and skills needed to understand and utilize the most common and important experimental and data analysis techniques in physics. The reader is presented with the tools to design, assemble, and debug experimental apparatus, and to use it to take meaningful data. The contents start with an introduction to key topics such as troubleshooting, statistical methods, and the scientific method, then progressing through a sequence of experiments that encompass each major subfield of physics. Experiments lay out background theory, procedures and equipment, conceptual questions, safety instructions, examples, and troubleshooting exercises.

CRC Press
Market: Physics
April 2020: 7 x 10: 450pp
Hb: 978-1-498-77847-3
eBook: 978-0-429-19489-4
* For **full contents** and more information, visit: **www.routledge.com/9781498778473**

2nd Edition

Fundamentals of Ceramics



Michel Barsoum

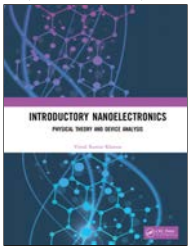
Series: Series in Materials Science and Engineering

This second edition of Fundamentals of Ceramics adds a section on density functional theory calculations for shedding light on properties. It also adds more on applications, including solid oxide fuel cells as a case study and a major overhaul of the last chapter on optical properties. There's also new and extended discussion of such topics as non-parabolic oxidation, dislocation creep, thermal conductivity, ferroelectric ceramics, ferromagnetic ceramics, scattering mechanisms, surface tension, and processing of ceramics from aqueous environments.

CRC Press
Market: Materials Science
December 2019: 648pp
Hb: 978-1-498-70813-5
eBook: 978-1-498-70816-6
Prev. Ed Hb: 978-0-750-30902-8
* For **full contents** and more information, visit: **www.routledge.com/9781498708135**

Introductory Nanoelectronics

Physical Theory and Device Analysis



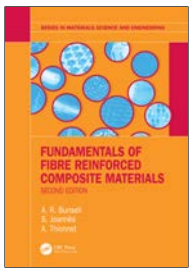
Vinod Kumar Khanna, CSIR-Central Electronics Engineering Research Institute, India

This introductory text develops the reader's fundamental understanding of core principles and experimental aspects underlying the operation of nanoelectronic devices. The author makes a thorough and systematic presentation of electron transport in quantum-confined systems such as quantum dots, quantum wires and quantum wells together with *Landauer-B ttiker formalism and* non-equilibrium Green's function approach.The writing throughout is straightforward and accessible, with clearly drawn illustrations and extensive self-study exercises for each chapter.

CRC Press
Market: Physics
July 2020: 8.25 x 11: 446pp
Hb: 978-0-815-38426-7
eBook: 978-1-351-20467-5
* For **full contents** and more information, visit: **www.routledge.com/9780815384267**

2nd Edition

Fundamentals of Fibre Reinforced Composite Materials



A.R. Bunsell, Centre des Materiaux, Pierre-Marie Fourt, France, **S. Joannès**, Mines ParisTech, France and **A. Thionnet**, MINES, ParisTech, France

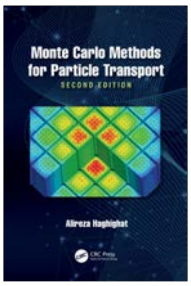
Series: Series in Materials Science and Engineering

This second edition of *Fundamentals of Fibre Reinforced Composite Materials* has been fully updated throughout, providing an authoritative and modern introduction to the topic with a brief history of composite development, a review of composite applications, manufacture and markets, types of fibres and matrices used, and their properties with a detailed introduction into the computer simulation of composite behaviour.

CRC Press
Market: Physics
March 2021: 7 x 10: 360pp
Hb: 978-0-367-02373-7
eBook: 978-0-429-39990-9
Prev. Ed Hb: 978-0-750-30689-8
* For **full contents** and more information, visit: **www.routledge.com/9780367023737**

2nd Edition

Monte Carlo Methods for Particle Transport



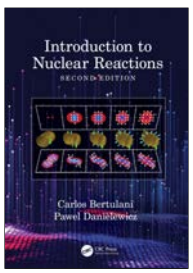
Alireza Haghighat

Fully updated with the latest developments in the eigenvalue Monte Carlo calculations and automatic variance reduction techniques and containing an entirely new chapter on fission matrix and alternative hybrid techniques. This second edition explores the uses of the Monte Carlo method for real-world applications, explaining its concepts and limitations.

CRC Press
Market: Physics
August 2020: 6.14 x 9.21: 310pp
Hb: 978-0-367-18805-4
eBook: 978-0-429-19839-7
Prev. Ed Hb: 978-1-466-59253-7
* For **full contents** and more information, visit: **www.routledge.com/9780367188054**

2nd Edition

Introduction to Nuclear Reactions



Carlos Bertulani and **Pawel Danielewicz**

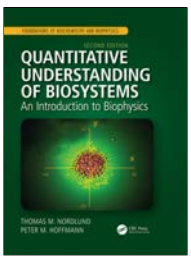
Until the publication of the first edition of Introduction to Nuclear Reactions in 2004, an introductory reference on nuclear reactions had been unavailable. Now, fully updated throughout, this second edition continues to provide an authoritative overview of nuclear reactions. It discusses the main formalisms, ranging from basic laws to the final formulae used in academic research to calculate measurable quantities.

CRC Press
Market: Physics
March 2021: 7 x 10: 420pp
Hb: 978-0-367-35362-9
eBook: 978-0-429-33106-0
* For **full contents** and more information, visit: **www.routledge.com/9780367353629**

2nd Edition

Quantitative Understanding of Biosystems

An Introduction to Biophysics



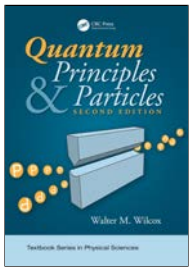
Thomas M. Nordlund and **Peter M. Hoffmann**

This new edition provides a complete update to the most accessible yet thorough introduction to the physical and quantitative aspects of biological systems and processes involving macromolecules, subcellular structures, and whole cells. It includes two brand new chapters covering experimental techniques, especially atomic force microscopy, complementing the updated coverage of mathematical and computational tools. The authors have also incorporated additions to the multimedia component of video clips and animations, as well as interactive diagrams and graphs.

CRC Press
March 2021: 8.25 x 11: 632pp
Hb: 978-1-138-63341-4
Pb: 978-0-367-77991-7
eBook: 978-1-315-20760-5
* For **full contents** and more information, visit: **www.routledge.com/9780367779917**

2nd Edition

Quantum Principles and Particles



Walter Wilcox, Baylor University, Waco, Texas, USA

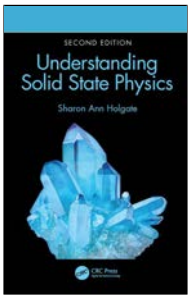
Series: Textbook Series in Physical Sciences

This textbook offers a unique introduction to quantum mechanics progressing gradually from elementary quantum mechanics to aspects of particle physics. It presents the microscopic world by analysis of the simplest possible quantum mechanical system (spin 1/2). A special feature is the author's use of visual aids known as process diagrams, which show how amplitudes for quantum mechanical processes are computed. The second edition include a new chapter on time-dependent processes, in addition to many new problems and improved illustrations.

CRC Press
Market: Physics
August 2019: 254 x 178: 600pp
Hb: 978-1-138-09041-5
Pb: 978-1-138-09037-8
eBook: 978-1-138-09043-9
Prev. Ed Pb: 978-1-439-83525-8
* For **full contents** and more information, visit: **www.routledge.com/9781138090378**

2nd Edition

Understanding Solid State Physics



Sharon Ann Holgate

Keeping the mathematics to a minimum yet losing none of the required rigor, Understanding Solid State Physics, Second Edition clearly explains basic physics principles to provide a firm grounding in the subject. This new edition has been fully updated throughout, with recent developments and literature in the field, including graphene and the use of quasicrystalline materials, in addition to featuring new journalistic boxes and the reciprocal lattice.

CRC Press
Market: Physics
April 2021: 6.14 x 9.21: 392pp
Hb: 978-0-367-25528-2
Pb: 978-0-367-24985-4
eBook: 978-0-429-28823-4
Prev. Ed Pb: 978-0-750-30972-1
* For **full contents** and more information, visit: **www.routledge.com/9780367249854**

2nd Edition

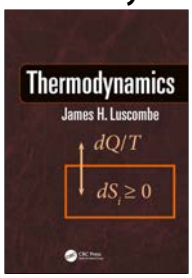
The Standard Model and Beyond

Paul Langacker

This new edition of The Standard Model and Beyond presents an advanced introduction to the physics and formalism of the standard model and other non-abelian gauge theories. It provides a solid background for understanding supersymmetry, string theory, extra dimensions, dynamical symmetry breaking, and cosmology. In addition to updating all of the experimental and phenomenological results from the first edition, it contains a new chapter on collider physics; expanded discussions of Higgs, neutrino, and dark matter physics; and many new problems.

CRC Press
June 2020: 254x178: 650pp
Hb: 978-1-498-76321-9
Pb: 978-0-367-57344-7
eBook: 978-1-315-17062-6
* For **full contents** and more information, visit: **www.routledge.com/9780367573447**

Thermodynamics



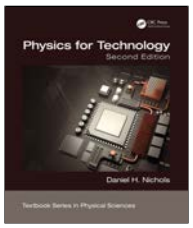
James Luscombe

This book provides an accessible yet thorough introduction to thermodynamics, crafted and class-tested over many years of teaching. Suitable for advanced undergraduate and graduate students, this book delivers clear descriptions of how to think about the mathematics and physics involved. The content has been carefully developed in consultation with a large number of instructors teaching courses worldwide, to ensure wide applicability to modules on thermodynamics. Modern applications of thermodynamics (in physics and related areas) are included throughout—something not offered to the same degree by existing texts in the field.

CRC Press
June 2020: 254x178: 240pp
Hb: 978-1-138-54298-3
Pb: 978-0-367-57199-3
eBook: 978-0-429-50762-5
* For **full contents** and more information, visit: **www.routledge.com/9780367571993**

2nd Edition

Physics for Technology



Daniel H. Nichols

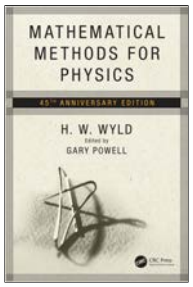
This text provides an introduction to the important physics underpinning current technologies, highlighting key concepts in areas that include linear and rotational motion, energy, work, power, heat, temperature, fluids, waves, and magnetism. This revision reflects the latest technology advances, from smart phones to the Internet of Things, and all kinds of sensors. The author also provides more modern worked examples with useful appendices and laboratories for hands-on practice. There are also two brand new chapters covering sensors as well as electric fields and electromagnetic radiation as applied to current technologies.

CRC Press
March 2021: 436pp
Hb: 978-0-815-38292-8
Pb: 978-0-367-78059-3
eBook: 978-1-351-20727-0
* For **full contents** and more information, visit: **www.routledge.com/9780367780593**

2nd Edition

Mathematical Methods for Physics

45th anniversary edition

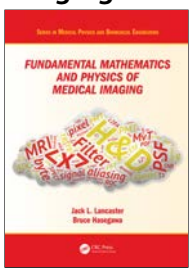


H.W. Wyld and Gary Powell

From classical mechanics and classical electrodynamics to modern quantum mechanics many physical phenomena are formulated in terms of similar partial differential equations while boundary conditions determine the specifics of the problem. Mathematical Methods for Physics demonstrates how many physics problems resolve into similar inhomogeneous partial differential equations and the mathematical techniques for solving them.

CRC Press
Market: Mathematical Physics
November 2020: 7 x 10: 476pp
Hb: 978-0-367-47708-0
eBook: 978-1-003-03746-0
* For **full contents** and more information, visit: **www.routledge.com/9780367477080**

Fundamental Mathematics and Physics of Medical Imaging



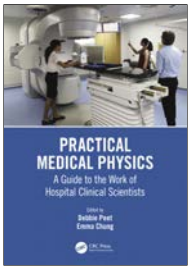
Jack Lancaster and **Bruce Hasegawa**

Authored by a leading educator, this book is ideal for graduate medical imaging courses. Rather than focus on imaging modalities, the book delves into the mechanisms of image formation and image quality common to all imaging systems: contrast mechanisms, noise, and spatial and temporal resolution. This is an extensively revised new edition of *The Physics of Medical X-Ray Imaging* by Bruce Hasegawa (Medical Physics Publishing, 1991). A wide range of modalities are covered including X-ray CT, MRI and SPECT.

CRC Press
June 2020: 254 x 178: 346pp
Hb: 978-1-498-75161-2
Pb: 978-0-367-57452-9
eBook: 978-1-498-75163-6
* For **full contents** and more information, visit: **www.routledge.com/9780367574529**

Practical Medical Physics

A Guide to the Work of Hospital Clinical Scientists

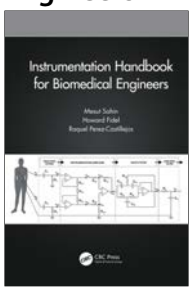


Edited by **Debbie Peet**, University Hospital of Leicester NHS Trust and **Emma Chung**

This is the first all-encompassing textbook designed to support trainee clinical scientists in medical physics as they start work in a hospital setting whilst undertaking an academic master's course.

CRC Press
Market: Physics
July 2021: 7 x 10: 216pp
Hb: 978-1-138-30982-1
Pb: 978-1-138-30753-7
eBook: 978-1-315-14242-5
* For **full contents** and more information, visit: **www.routledge.com/9781138307537**

Instrumentation Handbook for Biomedical Engineers



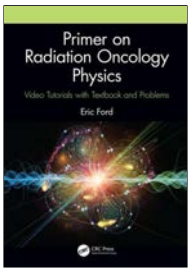
Mesut Sahin, New Jersey Institute of Technology, Newark, New Jersey, USA, **Howard Fidel** and **Raquel Perez-Castillejos**

The book fills a void as a textbook with hands-on laboratory exercises designed for biomedical engineering undergraduates in their senior year or the first year of graduate studies specializing in electrical aspects of bioinstrumentation. Each laboratory exercise concentrates on measuring a biophysical or biomedical entity, such as force, blood pressure, temperature, heart rate, respiratory rate, etc., and guides students though all the way from sensor level to data acquisition and analysis on the computer. The book distinguishes itself from others by providing electrical circuits and other measurement setups that have been tested by the authors.

CRC Press
Market: Physics
October 2020: 6.14 x 9.21: 216pp
Hb: 978-1-466-50466-0
eBook: 978-0-429-19398-9
* For **full contents** and more information, visit: **www.routledge.com/9781466504660**

Primer on Radiation Oncology Physics

Video Tutorials with Textbook and Problems



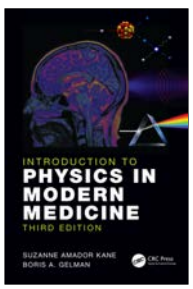
Eric Ford, University of Washington Department of Radiation Oncology Box 356043 1959 NE Pacific Street Seattle, WA 98195

Gain mastery over the fundamentals of radiation oncology physics! This package gives you over 60 tutorial videos (each 15-20 minutes in length) with a companion text, providing the most complete and effective introduction available. Dr. Ford has tested this approach in formal instruction for years with outstanding results. The text includes extensive problem sets for each chapter with detailed solutions provided for instructors. The videos include embedded quizzes and 'whiteboard' screen technology to facilitate comprehension. Together, this provides a valuable learning tool both for training purposes and as a refresher for those in practice.

CRC Press
Market: Medical Physics
May 2020: 254 x 178: 374pp
Hb: 978-1-138-59438-8
Pb: 978-1-138-59170-7
eBook: 978-0-429-48888-7
* For **full contents** and more information, visit: **www.routledge.com/9781138591707**

3rd Edition

Introduction to Physics in Modern Medicine



Suzanne Amador Kane, Haverford College, Pennsylvania, USA and **Boris A. Gelman**

Covering a wide range of applications, this third edition builds on the bestselling second edition, providing medical personnel and students with an exploration of the physics-related applications found in state-of-the-art medical centers. Requiring no previous knowledge of physics, biology, or chemistry and keeping maths to a minimum, the application-dedicated chapters adhere to simple and self-contained qualitative explanations that make use of examples and illustrations. With an enhanced emphasis on digital imaging and computers in medicine, the text gives readers a fundamental understanding of the practical application of each concept and the basic science behind it.

CRC Press
Market: Physics
March 2020: 6.14 x 9.21: 450pp
Hb: 978-1-138-74263-5
Pb: 978-1-138-03603-1
eBook: 978-1-315-23208-9
Prev. Ed Pb: 978-1-584-88943-4
* For **full contents** and more information, visit: **www.routledge.com/9781138036031**

Quantitative Bioimaging

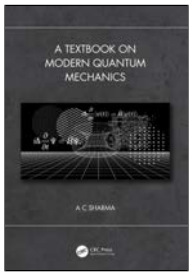
An Introduction to Biology, Instrumentation, Experiments, and Data Analysis for Scientists and Engineers

Raimund J. Ober, Texas A & M University, Texas, USA, **E. Sally Ward**, Texas A & M Health Science Center, Texas, USA and **Jerry Chao**, Texas A & M University, Texas, USA

Cellular microscopy for live cell imaging has become an indispensable tool for solving biological problems. This textbook provides a truly unique introduction that integrates the concepts and methods of optics, molecular and cellular biology, image analysis, and bioengineering. The coverage spans from essential aspects of molecular and cellular biology to a detailed treatment of practical aspects, addressing such topics as colocalization, intracellular trafficking, 3D reconstruction, and membrane receptor dynamics. The authors take a two-tiered approach in later chapters, providing a survey level overview followed by in-depth discussion that gives more detailed explanations.

CRC Press
Market: Biomedical Science
December 2020: 7 x 10: 552pp
Hb: 978-1-138-59898-0
eBook: 978-0-429-46989-3
* For **full contents** and more information, visit: **www.routledge.com/9781138598980**

A Textbook on Modern Quantum Mechanics



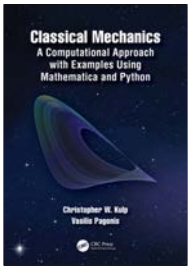
A C Sharma, MS Univ. of Baroda

This book presents the selected topics with rejuvenated approach to the subject matter. Fundamental discoveries that are the foundation of modern quantum mechanics, solution of Schrödinger's wave equation for 1D problems, matrix and vector formulation of quantum mechanics, transformations, symmetries and conservation laws, angular and spin momenta, solution and application of Schrödinger equation to central potentials, time-independent perturbation theory, variational method, WKB approximation, quantum theory of scattering, many-particle systems, time-dependent perturbations, relativistic quantum mechanics, quantization of fields and the second quantization are covered in the book.

CRC Press
Market: Physics
August 2021: 7 x 10: 400pp
Hb: 978-0-367-72344-6
eBook: 978-1-003-15445-7
* For **full contents** and more information, visit: **www.routledge.com/9780367723446**

Classical Mechanics

A Computational Approach with Examples Using Mathematica and Python



Christopher W. Kulp, Lycoming College, Williamsport, PA, USA and **Vasilis Pagonis**, McDaniel College, Westminster, MD, USA

Classical Mechanics: A computational Approach with Examples using Python and Mathematica providesa unique contemporary introduction to classical mechanics, with a focus on computational methods. As well as providing clear and thorough coverage of key topics, this textbook includes integrated instruction and treatment of computation.

CRC Press
Market: Physics
November 2020: 7 x 10: 456pp
Hb: 978-1-138-49517-3
Pb: 978-1-138-49528-9
eBook: 978-1-351-02438-9
* For **full contents** and more information, visit: **www.routledge.com/9781138495289**

An Introduction to Quantum Mechanics

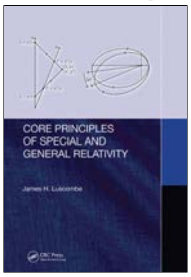
From Facts to Formalism

Tilak Sinha, Narsinha Dutt College, Howrah, India

An Introduction to Quantum Mechanics: From Facts to Formalism offers a constructive approach to the inner product space formulation of Quantum Mechanics as opposed to inductive approaches based on intuitive associations or blatant axiomatic approaches aimed only at the mathematically oriented. It is essentially a description of the ontological content of what is known as the Copenhagen Interpretation of Quantum Mechanics. It is suitable for undergraduates, advanced undergraduates and researchers. It will also interest outsiders who have nurtured a curiosity about Quantum Mechanics but never really had the opportunity to walk through it.

Chapman and Hall/CRC
Market: Physics
August 2021: 6.14 x 9.21: 264pp
Hb: 978-0-367-54707-3
eBook: 978-1-003-09033-5
* For **full contents** and more information, visit: **www.routledge.com/9780367547073**

Core Principles of Special and General Relativity



James Luscombe

This book provides an accessible, yet thorough, introduction to special and general relativity, crafted and class-tested over many years of teaching. Suitable for advanced undergraduate and graduate students, this book provides clear descriptions of how to approach the mathematics and physics involved. It is also contains the latest exciting developments in the field, including dark energy, gravitational waves, and frame dragging.

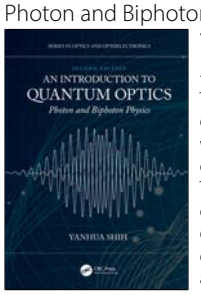
The table of contents has been carefully developed in consultation with a large number of instructors teaching courses worldwide, to ensure its wide applicability to modules on relativity and gravitation.

CRC Press
March 2021: 7 x 10: 400pp
Hb: 978-1-138-54294-5
Pb: 978-0-367-78067-8
eBook: 978-0-429-02383-5
* For **full contents** and more information, visit: **www.routledge.com/9780367780678**

2nd Edition

An Introduction to Quantum Optics

Photon and Biphoton Physics



Yanhua Shih, University of Maryland

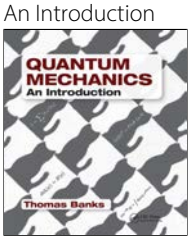
Series: Series in Optics and Optoelectronics

This text offers a complete revision for its introduction to the quantum theory of light, including notable developments as well as improvements in presentation of basic theory and concepts, with continued emphasis on experimental aspects. The author provides a thorough overview on basic methods of classical and quantum mechanical measurements in quantum optics, enabling readers to analyze, summarize, and resolve quantum optical problems. The broad coverage of concepts and tools and its practical, experimental emphasis set it apart from other available resources. New discussions of timely topics such as the concept of the photon and distinguishability bring the entire contents up to date.

CRC Press
Market: Physics
January 2021: 7 x 10: 448pp
Hb: 978-1-138-60125-3
eBook: 978-1-003-13060-4
Prev. Ed Hb: 978-0-750-30887-8
* For **full contents** and more information, visit: **www.routledge.com/9781138601253**

Quantum Mechanics

An Introduction



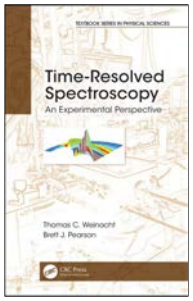
Thomas Banks

This new introductory textbook gives a complete, modern perspective on quantum mechanics as the basis of so much of physical sciences and today's electronic technologies. It clarifies for the first time many common misconceptions regarding wave/particle duality and the correct interpretation of mea¬surements. The author, a recognized authority in the field and dedicated educator, presents information at an elementary level, avoiding the detailed, complex derivations in favor of simple, clear explanations.

CRC Press
March 2021: 568pp
Hb: 978-1-482-25506-5
Pb: 978-0-367-78062-3
eBook: 978-0-429-43842-4
* For **full contents** and more information, visit: **www.routledge.com/9780367780623**

Time-Resolved Spectroscopy

An Experimental Perspective



Thomas Weinacht and **Brett J. Pearson**

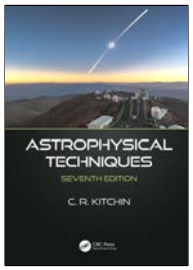
This concise and carefully developed text offers a reader friendly guide to the basics of time-resolved spectroscopy with an emphasis on experimental implementation. The authors carefully explain and relate for the reader how measurements are connected to the core physical principles. They use the time-dependent wave packet as a building block for understanding quantum dynamics, progressively advancing to more complex topics. The topics are discussed in paired sections, one discussing the theory and the next presenting the related experimental methods.

CRC Press
March 2021: 8 x 10: 370pp
Hb: 978-1-498-71673-4
Pb: 978-0-367-78040-1
eBook: 978-1-498-71674-1

* For **full contents** and more information, visit: **www.routledge.com/9780367780401**

7th Edition

Astrophysical Techniques



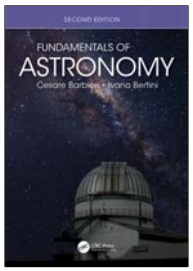
C.R. Kitchin

Long used in undergraduate and introductory graduate courses, Astrophysical Techniques, Seventh Edition provides an accessible yet comprehensive account of the innovate instruments, detectors, and techniques employed in astronomy and astrophysics. Emphasizing the underlying unity of all astronomical observations, this popular textbook provides a coherent state-of-the-art account of the instruments and techniques used in current astronomy and astrophysics.

CRC Press
Market: Astronomy
July 2020: 7 x 10: 466pp
Hb: 978-1-138-59016-8
Pb: 978-1-138-59120-2
eBook: 978-0-429-49113-9
Prev. Ed Hb: 978-1-466-51115-6
* For **full contents** and more information, visit: **www.routledge.com/9781138590168**

2nd Edition

Fundamentals of Astronomy



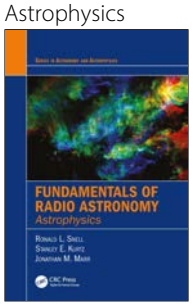
Cesare Barbieri and **Ivano Bertini**

Providing a broad overview of foundational concepts, this second edition of Fundamentals of Astronomy covers topics ranging from spherical astronomy to reference systems, and celestial mechanics to astronomical photometry and spectroscopy. It expounds arguments of classical astronomy that provided the foundation for modern astrometry, whilst presenting the latest results of the very-long-baseline interferometry (VLBI) radio technique, optical interferometers and satellites such as Hipparcos and GAIA, and recent resolutions of the IAU and IERS regarding precession, forced and free nutation, and Earth figure and rotation.

CRC Press
Market: Physics
November 2020: 7 x 10: 346pp
Hb: 978-0-367-25349-3
Pb: 978-0-367-25320-2
eBook: 978-0-429-28730-5
Prev. Ed Pb: 978-0-750-30886-1
* For **full contents** and more information, visit: **www.routledge.com/9780367253202**

Fundamentals of Radio Astronomy

Astrophysics



Ronald L. Snell, **Stanley Kurtz** and **Jonathan Marr**

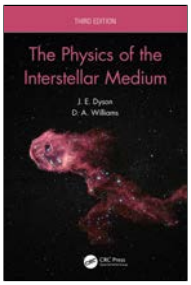
This textbook, the second of two volumes, presents an extensive introduction to the astrophysical processes that are studied in radio astronomy. Suitable for undergraduate courses on radio astronomy, it discusses the physical phenomena that give rise to radio emissions, presenting examples of astronomical objects, and illustrating how the relevant physical parameters of astronomical sources can be obtained from radio observations.

Unlike other radio astronomy textbooks, this book provides students with an understanding of the background and the underlying principles, with derivations available for most of the equations used in the textbook.

CRC Press
March 2021: 7 x 10: 360pp
Hb: 978-1-498-72577-4
Pb: 978-0-367-77982-5
eBook: 978-1-498-72579-8
* For **full contents** and more information, visit: **www.routledge.com/9780367779825**

3rd Edition

The Physics of the Interstellar Medium



J.E. Dyson, Dept of Physics and Astronomy, University of Leeds, UK and **D.A. Williams**, PhD, Department of Psychological Sciences, Purdue University

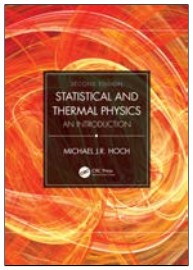
This third edition of The Physics of the Interstellar Medium continues to introduce advanced undergraduates to the fundamental processes and the wide range of disciplines needed to understand observations of the interstellar medium and its role in the Milky Way galaxy. The book is suitable for undergraduate students studying physics, astronomy, and astrophysics. The book also provides concise and straightforward discussions of interstellar physics and chemistry that are useful for more experienced readers.

CRC Press
Market: Physics
July 2020: 235 x 156: 206pp
Hb: 978-0-367-45732-7
Pb: 978-0-367-90423-4
eBook: 978-1-003-02503-0
Prev. Ed Pb: 978-0-750-30460-3
* For **full contents** and more information, visit: **www.routledge.com/9780367904234**

2nd Edition

Statistical and Thermal Physics

An Introduction



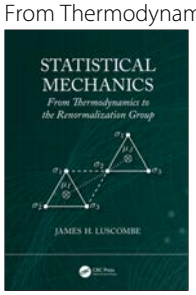
Michael J.R. Hoch

Thermal and statistical physics has established the principles and procedures needed to understand and explain the properties of systems consisting of macroscopically large numbers of particles. By developing microscopic statistical physics and macroscopic classical thermodynamic descriptions in tandem, Statistical and Thermal Physics: An Introduction provides insight into basic concepts and relationships at an advanced undergraduate level.

CRC Press
Market: Physics
May 2021: 7 x 10: 348pp
Hb: 978-0-367-46410-3
Pb: 978-0-367-46134-8
eBook: 978-1-003-02860-4
Prev. Ed Pb: 978-0-367-38269-8
* For **full contents** and more information, visit: **www.routledge.com/9780367461348**

Statistical Mechanics

From Thermodynamics to the Renormalization Group



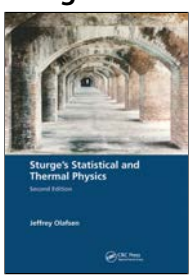
James H. Luscombe

This textbook provides a comprehensive, yet accessible, introduction to statistical mechanics. Crafted and class-tested over many years of teaching, it carefully guides advanced undergraduate and graduate students who are encountering statistical mechanics for the first time through this – sometimes - intimidating subject. The book provides a strong foundation in thermodynamics and the ensemble formalism of statistical mechanics.

CRC Press
Market: Physics
December 2020: 7 x 10: 400pp
Hb: 978-0-367-68927-8
Pb: 978-1-138-54297-6
eBook: 978-1-003-13966-9
* For **full contents** and more information, visit: **www.routledge.com/9781138542976**

2nd Edition

Sturge's Statistical and Thermal Physics



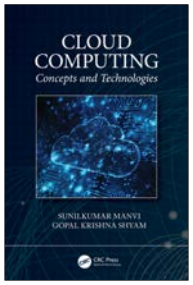
Jeffrey Olafsen

This fully revised and updated edition provides a uniquely accessible introduction to the principles and applications of statistical mechanics and thermodynamics. Based on the highly acclaimed text by famous physicist M.D. Sturge, it continues its emphasis on explaining concepts with simple mathematics and plain English, as well as consistent use of terminology and notation. The new edition includes a chapter on non-equilibrium thermodynamics and many new examples from soft condensed matter physics. Additionally, chapters have been reorganized for better flow.

CRC Press
March 2021: 7 x 10: 422pp
Hb: 978-1-482-25600-0
Pb: 978-0-367-77949-8
eBook: 978-1-482-25601-7
* For **full contents** and more information, visit: **www.routledge.com/9780367779498**

Cloud Computing

Concepts and Technologies



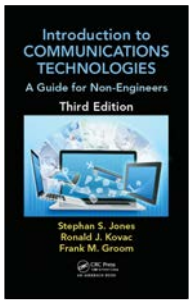
Sunilkumar Manvi and **Gopal Shyam**

This book gives students a comprehensive overview of the latest technologies and guidance on cloud computing, and is ideal for those studying the subject in specific modules or advanced courses. It is designed in twelve chapters followed by laboratory setups and experiments. Each chapter has multiple choice questions with answers, as well as review questions and critical thinking questions. The chapters are practically-focused, meaning that the information will also be relevant and useful for professionals wanting an overview of the topic.

CRC Press
Market: Cloud Computing
March 2021: 6.14 x 9.21: 350pp
Hb: 978-0-367-55459-0
Pb: 978-0-367-55461-3
eBook: 978-1-003-09367-1
* For **full contents** and more information, visit: **www.routledge.com/9780367554613**

3rd Edition

Introduction to Communications Technologies

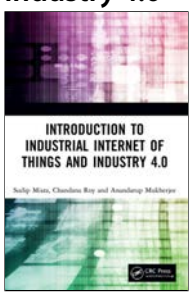


Stephan Jones, **Ronald J. Kovac** and **Frank M. Groom**

Introduction to Communications Technologies: A Guide for Non-Engineers, Third Edition helps students in telecommunications and business programs become familiar with and stay abreast of the ever-changing technology surrounding their industry. Used in the core curriculum at Ball State University's graduate professional program in Information and Communication Sciences, this textbook is designed for graduate and undergraduate students who do not necessarily have a high level of technical expertise, but need to have some understanding of the technical functions of information and communication technologies to prepare them for working in a corporate environment.

CRC Press
June 2020: 234x156: 364pp
Hb: 978-1-498-70293-5
Pb: 978-0-367-57561-8
* For **full contents** and more information, visit: **www.routledge.com/9780367575618**

Introduction to Industrial Internet of Things and Industry 4.0



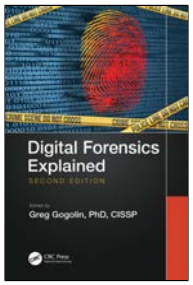
Sudip Misra, IIT Kharagput, INDIA, **Chandana Roy** and **Anandarup Mukherjee**

Industrial Internet of Things (IIoT) the application of Internet of Things in various industries such as manufacturing, aviation, transportation, supply chain, mining, and healthcare. This book covers the significant aspects of IIoT, including the communication, connectivity, and interoperability, as well as core concepts and business models. Starting with an overview of IIoT and Industry 4.0, the book delves deeply into IIOT technology to discuss providers as well as communications protocols. The book concludes with sections on prescriptive and predictive analytics as well as case studies of industrial applications.

CRC Press
Market: Mobile and Wireless Communications
December 2020: 6.14 x 9.21: 398pp
Hb: 978-0-367-64471-0
Pb: 978-0-367-89758-1
eBook: 978-1-003-02090-5
* For **full contents** and more information, visit: **www.routledge.com/9780367897581**

2nd Edition

Digital Forensics Explained



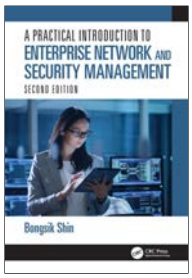
Edited by **Greg Gogolin**, Ferris State University, Big Rapids, Michigan, USA

Digital Forensics Explained, 2nd edition, covers the full life cycle of conducting a mobile and computer digital forensic examinations including planning and performing an investigation as well as report writing and testifying. Case reviews in corporate, civil and criminal situations are described from both prosecution and defence perspectives. The book draws from years of experience in local, state, federal and international environments and highlights the challenges presented from deficient cyber security practices.

CRC Press
Market: Digital Forensics
April 2021: 6.14 x 9.21: 254pp
Hb: 978-0-367-50281-2
Pb: 978-0-367-50343-7
eBook: 978-1-003-04935-7
* For **full contents** and more information, visit: **www.routledge.com/9780367503437**

2nd Edition

A Practical Introduction to Enterprise Network and Security Management



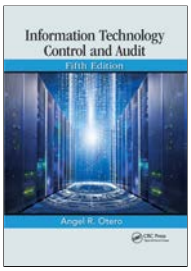
Bongsik Shin

A Practical Introduction to Enterprise Network and Security Management is written for people who are self-studying or studying information systems or computer science in the classroom setting. The book provides a balanced understanding of introductory and fairly advanced subjects on both computer networking and cybersecurity. Although much focus is to teach technical concepts, managerial issues related to enterprise network and security planning and design are explained from the practitioner's perspective.

Auerbach Publications
Market: IT - Network Security
July 2021: 7 x 10: 452pp
Hb: 978-0-367-64251-8
Pb: 978-1-032-04802-4
eBook: 978-1-003-12369-9
* For **full contents** and more information, visit: **www.routledge.com/9781032048024**

5th Edition

Information Technology Control and Audit



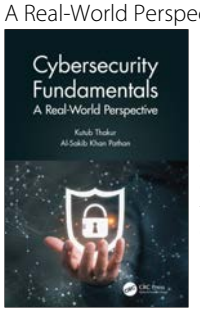
Angel R. Otero

The new fifth edition of Information Technology Control and Audit provides a comprehensive and up-to-date overview of IT governance, controls, auditing applications, systems development, and operations. Aligned to and supporting the Control Objectives for Information and Related Technology (COBIT), it examines emerging trends and defines recent advances in technology that impact IT controls and audits. Filled with exercises, review questions, section summaries, and references for further reading, this updated and revised edition promotes the mastery of the concepts and practical implementation of controls needed to manage information technology resources effectively well into the future.

Auerbach Publications
September 2020: 254x178: 510pp
Hb: 978-1-498-75228-2
Pb: 978-0-367-65715-4
eBook: 978-0-429-46500-0
* For **full contents** and more information, visit: **www.routledge.com/9780367657154**

Cybersecurity Fundamentals

A Real-World Perspective



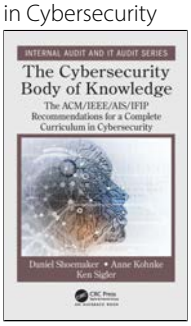
Kutub Thakur, NEW JERSEY CITY UNIVERSITY 2039 Kennedy Boulevard Jersey City New Jersey 07305 and **Al-Sakib Khan Pathan**, International Islamic University Malaysia, Kuala Lumpur

Cybersecurity Fundamentals explains detailed concepts within computer networks and computer security in an easy-to-understand way, making it the perfect introduction to the topic. The book covers fundamental issues, using practical examples and real-world applications to give readers a rounded understanding of the subject and how it is applied.

CRC Press
Market: Cybersecurity
May 2020: 6.14 x 9.21: 304pp
Hb: 978-0-367-47648-9
Pb: 978-0-367-47250-4
eBook: 978-1-003-03562-6
* For **full contents** and more information, visit: **www.routledge.com/9780367472504**

The Cybersecurity Body of Knowledge

The ACM/IEEE/AIS/IFIP Recommendations for a Complete Curriculum in Cybersecurity



Daniel Shoemaker, **Anne Kohnke**, Lawrence Technological University, Southfield, Michigan, USA and **Ken Sigler**

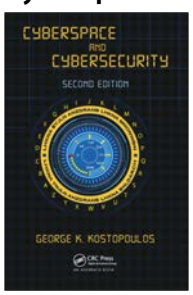
Series: Internal Audit and IT Audit

This book explains the content, purpose and use of eight knowledge areas that define the boundaries of the discipline of cybersecurity. The discussion focuses on the essential concepts of each knowledge area that collectively capture the cybersecurity body of knowledge to provide a complete picture of the field. This book is based on a brand-new and up to this point unique, global initiative, known as CSEC2017. In essence, this is the entry level survey of the comprehensive field of cybersecurity. This presentation is also explicitly designed to aid faculty members, administrators, CISOs, policy makers, and stakeholders involved with cybersecurity workforce development initiatives.

CRC Press
Market: Cybersecurity
April 2020: 235 x 156: 614pp
Hb: 978-0-367-90094-6
eBook: 978-1-003-02259-6
* For **full contents** and more information, visit: **www.routledge.com/9780367900946**

2nd Edition

Cyberspace and Cybersecurity



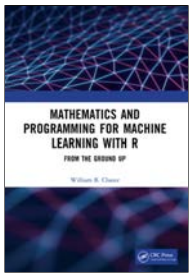
George Kostopoulos

Providing comprehensive coverage of cyberspace and cybersecurity, this textbook not only focuses on technologies but also explores human factors and organizational perspectives and emphasizes why asset identification should be the cornerstone of any information security strategy. Topics include addressing vulnerabilities, building a secure enterprise, blocking intrusions, ethical and legal issues, and business continuity. Updates include topics such as cyber risks in mobile telephony, steganography, cybersecurity as an added value, ransomware defense, review of recent cyber laws, new types of cybercrime, plus new chapters on digital currencies and encryption key management.

Auerbach Publications
September 2020: 234x156: 316pp
Hb: 978-1-138-05771-5
Pb: 978-0-367-65755-0
eBook: 978-1-315-11648-8
* For **full contents** and more information, visit: **www.routledge.com/9780367657550**

Mathematics and Programming for Machine Learning with R

From the Ground Up



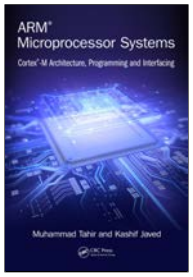
William B. Claster

The language of machine learning is programming, and this textbook helps novice programmers acquire step-by-step skills needed to understand and implement algorithms. Beginning with simple implementations and moving to the modern object-oriented paradigm, the text presents important basic algorithms and powerful deep learning algorithms. It begins with basic concepts in R and proceeds to basic concepts in math and statistics, all done from a programming point of view and then to the implementation of several algorithms. Strong emphasis is placed on improving the programming skills and implementing full-fledged algorithms.

CRC Press
Market: Computer Science & Engineering
October 2020: 7 x 10: 430pp
Hb: 978-0-367-56194-9
Pb: 978-0-367-50785-5
eBook: 978-1-003-05122-0
* For **full contents** and more information, visit: **www.routledge.com/9780367507855**

ARM Microprocessor Systems

Cortex-M Architecture, Programming, and Interfacing



Muhammad Tahir and **Kashif Javed**

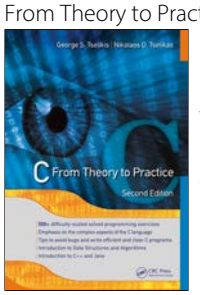
This book presents the use of a microprocessor-based digital system in our daily life. Its bottom-up approach ensures that all the basic building blocks are covered before the development of a real-life system. The ultimate goal of the book is to equip students with all the fundamental building blocks as well as their integration, allowing them to implement the applications they have dreamed up with minimum effort.

CRC Press
June 2020: 254x178: 514pp
Hb: 978-1-482-25938-4
Pb: 978-0-367-57391-1
eBook: 978-1-315-16151-8
* For **full contents** and more information, visit: **www.routledge.com/9780367573911**

2nd Edition

C

From Theory to Practice



George S. Tselikis, 4Plus company, Athens, Greece and **Nikolaos D. Tselikas**, University of Peloonnese, Tripolis, Greece

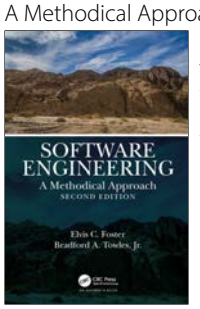
This easy-to-use, classroom-tested textbook covers the C programming language for computer science and IT students. Designed for a compulsory fundamental course, it presents the theory and principles of C. More than 500 exercises and examples of progressive difficulty aid students in understanding all the aspects and peculiarities of the C language. The exercises test students on various levels of programming and the examples enhance their concrete understanding of programming know-how. Instructor's manual and PowerPoint slides are available upon qualifying course adoption

CRC Press
Market: Information Technology
November 2020: 7 x 10: 716pp
Hb: 978-1-138-63600-2
Pb: 978-0-367-56600-5
eBook: 978-1-315-20624-0
* For **full contents** and more information, visit: **www.routledge.com/9780367566005**

2nd Edition

Software Engineering

A Methodical Approach

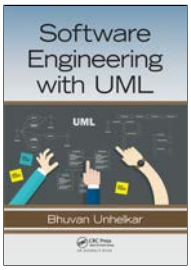


Elvis C. Foster and **Bradford A. Towle Jr.**

This text provides a comprehensive, but concise introduction to software engineering. It adopts a methodical approach to solving software engineering problems, proven over several years of teaching, with outstanding results. The book covers concepts, principles, design, construction, implementation, and management issues of software engineering. With an emphasis on object-oriented development, the second edition features new chapters on software engineering projects, management support systems, and software engineering frameworks and patterns as a significant building block for the design and construction of contemporary software systems.

Auerbach Publications
Market: Software Engineering
July 2021: 7 x 10: 548pp
Hb: 978-0-367-76943-7
Pb: 978-0-367-74601-8
eBook: 978-0-367-74602-5
* For **full contents** and more information, visit: **www.routledge.com/9780367746018**

Software Engineering with UML

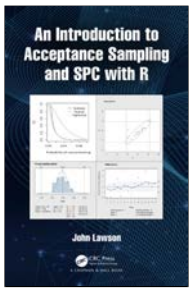


Bhuvan Unhelkar

This book presents the analysis, design, documentation, and quality of software solutions based on the OMG UML v2.5. Notably it covers 14 different modelling constructs including use case diagrams, activity diagrams, business-level class diagrams, corresponding interaction diagrams and state machine diagrams. It presents the use of UML in creating a Model of the Problem Space (MOPS), Model of the Solution Space (MOSS) and Model of the Architectural Space (MOAS). The book touches important areas of contemporary software engineering ranging from how a software engineer needs to invariably work in an Agile development environment through to the techniques to model a Cloud-based solution.

Auerbach Publications
September 2020: 254x178: 426pp
Hb: 978-1-138-29743-2
Pb: 978-0-367-65738-3
eBook: 978-1-351-23518-1
* For **full contents** and more information, visit: **www.routledge.com/9780367657383**

An Introduction to Acceptance Sampling and SPC with R



John Lawson, Brigham Young University, USA

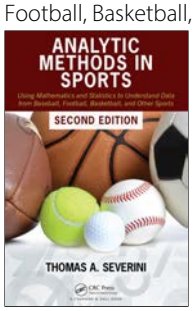
In the modern, world sampling plans and the statistical calculations used in statistical quality control are done with the help of computers. To get more hands on experience in creating acceptance sampling plans and control charts necessarily involves the use of software. In industry, commercial software is often used. In this book we will focus on several R packages that can duplicate and in some cases exceed the functionality of these commercial programs. In addition to demonstrating how to use R for acceptance sampling and control charts, this book will focus on how the use of these specific tools can lead to quality improvements both within a company and within their supplier companies.

Chapman and Hall/CRC
Market: Statistics
February 2021: 6.14 x 9.21: 292pp
Hb: 978-0-367-56995-2
Pb: 978-0-367-55576-4
eBook: 978-1-003-10027-0
* For **full contents** and more information, visit: **www.routledge.com/9780367555764**

2nd Edition

Analytic Methods in Sports

Using Mathematics and Statistics to Understand Data from Baseball, Football, Basketball, and Other Sports

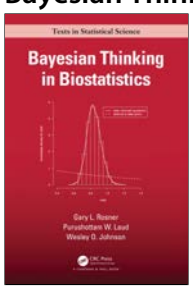


Thomas A. Severini, Northwestern University, USA

Analytic Methods in Sports: Using Mathematics and Statistics to Understand Data from Baseball, Football, Basketball, and Other Sports, 2nd Edition provides a concise yet thorough introduction to the analytic and statistical methods that are useful in studying sports. It explains how to apply the methods to sports data and interpret the results, demonstrating that the analysis of sports data is often different from standard statistical analyses. The book integrates a large number of motivating sports examples throughout and offers guidance on computation and suggestions for further reading in each chapter.

Chapman and Hall/CRC
Market: Statistics
March 2020: 6.14 x 9.21: 372pp
Hb: 978-0-367-25207-6
Pb: 978-0-367-46938-2
eBook: 978-0-367-25209-0
* For **full contents** and more information, visit: **www.routledge.com/9780367469382**

Bayesian Thinking in Biostatistics



Gary L Rosner, Johns Hopkins Medicine, Baltimore, Maryland, USA, **Purushottam W. Laud** and **Wesley O. Johnson**, UC Irvine

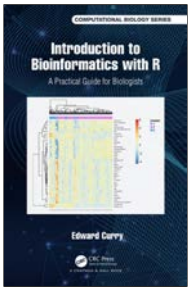
Series: Chapman & Hall/CRC Texts in Statistical Science

With discussions on many recent developments in Bayesian methodologies, Bayesian Thinking in Biostatistics considers statistical issues in biomedical research, allowing for greater collaborations between biostatisticians and biomedical researchers. The text presents biostatistical methods from a Bayesian perspective. It includes an overview of Bayesian statistics, a discussion of rates and proportions with applications in clinical and other population-based studies, recent developments in clinical trial design, methods for evaluating censored data and diagnostic tests, and problems resulting from multiple comparisons.

Chapman and Hall/CRC
Market: Statistics
March 2021: 7 x 10: 621pp
Hb: 978-1-439-80008-9
eBook: 978-1-439-80010-2
* For **full contents** and more information, visit: **www.routledge.com/9781439800089**

Introduction to Bioinformatics with R

A Practical Guide for Biologists



Edward Curry, Imperial Collenge, London

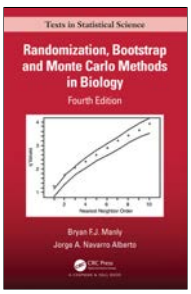
Series: Chapman & Hall/CRC Computational Biology Series

This book has been developed over years of training biological scientists and clinicians to analyse the large datasets available in their cancer research projects. Through the entire book, theoretical explanations are presented alongside step-by-step instructions for carrying out a number of widely-applicable data analysis tasks using freely available software. This book guides the reader through the basic principles of exploratory analysis and hypothesis testing in high-dimensional datasets, and the practicalities of installing statistical computing software and using this to handle different types of data tables.

Chapman and Hall/CRC
Market: Statistics
November 2020: 6.14 x 9.21: 310pp
Hb: 978-1-138-49895-2
Pb: 978-1-138-49571-5
eBook: 978-1-351-01531-8
* For **full contents** and more information, visit: **www.routledge.com/9781138495715**

4th Edition

Randomization, Bootstrap and Monte Carlo Methods in Biology



Bryan F.J. Manly, University of Otago, Dunedin, New Zealand and **Jorge A. Navarro Alberto**

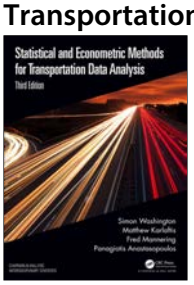
Series: Chapman & Hall/CRC Texts in Statistical Science

Modern computer-intensive statistical methods play a key role in solving many problems across a wide range of scientific disciplines. Like its bestselling predecessors, the fourth edition of *Randomization, Bootstrap and Monte Carlo Methods in Biology* illustrates a large number of statistical methods with an emphasis on biological applications. The focus is now on the use of randomization, bootstrapping, and Monte Carlo methods in constructing confidence intervals and doing tests of significance. It provides comprehensive coverage of computer-intensive applications, with datasets available online.

Chapman and Hall/CRC
Market: Statistics
July 2020: 6.14 x 9.21: 358pp
Hb: 978-0-367-34994-3
eBook: 978-0-429-32920-3
Prev. Ed Hb: 978-1-584-88541-2
* For **full contents** and more information, visit: **www.routledge.com/9780367349943**

3rd Edition

Statistical and Econometric Methods for Transportation Data Analysis



Simon Washington, **Matthew G. Karlaftis**, National Technical University of Athens, Greece, **Fred Mannering**, University of South Florida and **Panagiotis Anastasopoulos**

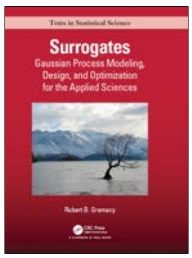
Series: Chapman & Hall/CRC Interdisciplinary Statistics

The complexity, diversity, and random nature of transportation problems necessitates a broad analytical toolbox. Describing tools commonly used in the field, Statistical and Econometric Methods for Transportation Data Analysis, Third Edition provides an understanding of a broad range of analytical tools required to solve transportation problems. It includes a wide breadth of examples and case studies covering applications in various aspects of transportation planning, engineering, safety, and economics.

Chapman and Hall/CRC
Market: Statistics
February 2020: 7 x 10: 496pp
Hb: 978-0-367-19902-9
eBook: 978-0-429-24401-8
Prev. Ed Hb: 978-1-420-08285-2
* For **full contents** and more information, visit: **www.routledge.com/9780367199029**

Surrogates

Gaussian Process Modeling, Design, and Optimization for the Applied Sciences



Robert B. Gramacy, Virginia Tech Department of Statistics, USA

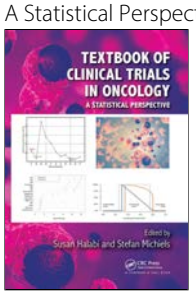
Series: Chapman & Hall/CRC Texts in Statistical Science

Surrogates: a graduate textbook, or professional handbook, on topics at the interface between machine learning, spatial statistics, computer simulation, meta-modeling (i.e., emulation), design of experiments, and optimization. Experimentation through simulation, "human out-of-the-loop" statistical support (focusing on the science), management of dynamic processes, online and real-time analysis, automation, and practical application are at the forefront.

Chapman and Hall/CRC
Market: Statistics
January 2020: 7 x 10: 559pp
Hb: 978-0-367-41542-6
eBook: 978-0-367-81549-3
* For **full contents** and more information, visit: **www.routledge.com/9780367415426**

Textbook of Clinical Trials in Oncology

A Statistical Perspective



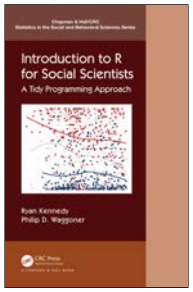
Edited by **Susan Halabi** and **Stefan Michiels**

This is a textbook on the design and analysis of cancer clinical trials. It opens with a discussion of the choice of endpoints before moving onto discuss various types of trials across all phases of study, including basket trials, non-inferiority trials and multi-arm trials. It then covers some methodological topics, including missing data and competing risks, before several chapters cover aspects of personalized medicine. It includes contributions from various leading teachers and researchers, all thoroughly edited to ensure it is consistent in terms of level and style. It has lots of examples and case studies, and includes exercises to enable use as a course text or for self-study.

Chapman and Hall/CRC
December 2020: 7 x 10: 644pp
Hb: 978-1-138-08377-6
Pb: 978-0-367-72957-8
eBook: 978-1-315-11208-4
* For **full contents** and more information, visit: **www.routledge.com/9780367729578**

Introduction to R for Social Scientists

A Tidy Programming Approach



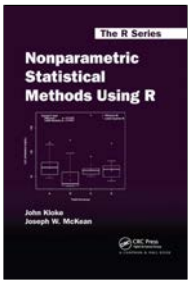
Ryan Kennedy and **Philip D. Waggoner**

Series: Chapman & Hall/CRC Statistics in the Social and Behavioral Sciences

The authors introduce R via the Tidyverse to social and behavioral scientists. They assume no prior experience with R, the Tidyverse, or computer programming. Primary audience is those serious about learning R for social and behavioral research: advanced undergraduates, graduate students, senior practitioners in the field.

Chapman and Hall/CRC
Market: Statistics
March 2021: 6.14 x 9.21: 208pp
Hb: 978-0-367-46070-9
Pb: 978-0-367-46072-3
eBook: 978-1-003-03066-9
* For **full contents** and more information, visit: **www.routledge.com/9780367460723**

Nonparametric Statistical Methods Using R



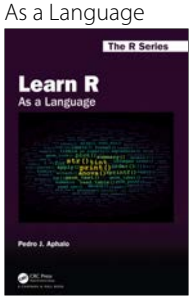
John Kloke and **Joseph McKean**

This book covers traditional nonparametric methods and rank-based analyses, including estimation and inference for models ranging from simple location models to general linear and nonlinear models for uncorrelated and correlated responses. The authors emphasize applications and statistical computation. They illustrate the methods with many real and simulated data examples using R, including the packages Rfit and npsm, which are available on CRAN. Each chapter includes exercises, making the book suitable for an undergraduate or graduate course.

Chapman and Hall/CRC
December 2020: 6.14 x 9.21: 287pp
Hb: 978-1-439-87343-4
Pb: 978-0-367-73972-0
* For **full contents** and more information, visit: **www.routledge.com/9780367739720**

Learn R

As a Language



Pedro J. Aphalo, University of Helsinki, Faculty of Biological and Environmental Sciences

Series: Chapman & Hall/CRC The R Series

This book teaches how to use the R for data analysis. However, it goes beyond a cookbook approach, and instead focuses on how to use R to flexibly explore and analyse data to efficiently and reliably extract information. Using this book, the reader will become confident and reasonably independent in the use of R when faced with new challenges. They will learn their way around in the R "ecosystem" and pick it up like a child would learn a language –explore, employ it, learn from mistakes, and recognise patterns and the coding philosophy behind R. The book is for everyone who wants to use R for complex statistical analysis and who wants to gain more self-confidence in their use of R.

Chapman and Hall/CRC
Market: Statistics
July 2020: 7 x 10: 364pp
Hb: 978-0-367-18255-7
Pb: 978-0-367-18253-3
eBook: 978-0-429-06034-2
* For **full contents** and more information, visit: **www.routledge.com/9780367182533**

SAS Programming for Elementary Statistics

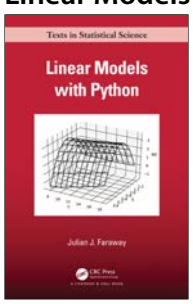
Getting Started

Carla L. Goad, Oklahoma State University, Department of Statistics

This textbook provides an introduction to SAS Programming for elementary statistical methods. It does not require any previous experience of SAS, but the reader is assumed to have a basic understanding of statistics. It covers the basics of programming, including creation of datasets in SAS, debugging a program, and the overall construction of a SAS program. It covers all DATA Step operations, t-tests, confidence intervals, simple linear regression, and ANOVA. The book is full of examples and computer-based exercises, and has been developed from the vast experience of the author teaching from the material over many years.

Chapman and Hall/CRC
Market: Statistics
December 2020: 7 x 10: 398pp
Hb: 978-1-138-58909-4
Pb: 978-1-138-58902-5
eBook: 978-0-429-49190-0
* For **full contents** and more information, visit: **www.routledge.com/9781138589025**

Linear Models with Python



Julian J. Faraway

Series: Chapman & Hall/CRC Texts in Statistical Science

Like its widely praised, best-selling companion version, *Linear Models with R,* this book replaces R with Python to seamlessly give a coherent exposition of the practice of linear modeling. *Linear Models with Python* offers up-to-date insight on essential data analysis topics, from estimation, inference, and prediction to missing data, factorial models, and block designs. Numerous examples illustrate how to apply the different methods using Python. *Linear Models with Python* explains how to use linear models in physical science, engineering, social science, and business applications. It is ideal as a textbook for linear models or linear regression courses.

Chapman and Hall/CRC
Market: Statistics
December 2020: 6.14 x 9.21: 308pp
Hb: 978-1-138-48395-8
eBook: 978-1-351-05341-9
* For **full contents** and more information, visit: **www.routledge.com/9781138483958**

2nd Edition

Statistical Computing with R

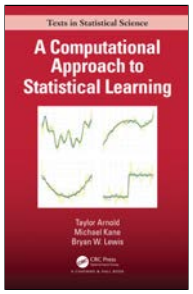
Maria L. Rizzo, Bowling Green State University, Ohio, USA

Series: Chapman & Hall/CRC The R Series

Computational statistics and statistical computing are two areas that employ computational, graphical, and numerical approaches to solve statistical problems, making the versatile R language an ideal computing environment for these fields. This second edition continues to encompass the traditional core material of computational statistics, with an emphasis on using the R language via an examples-based approach. It includes R code for all examples and R notes to help explain the R programming concepts. This edition also features a new chapter on nonparametric regression and smoothing.

Chapman and Hall/CRC
Market: Statistics
March 2019: 6.14 x 9.21: 490pp
Hb: 978-1-466-55332-3
eBook: 978-0-429-19276-0
Prev. Ed Hb: 978-1-584-88545-0
* For **full contents** and more information, visit: **www.routledge.com/9781466553323**

A Computational Approach to Statistical Learning



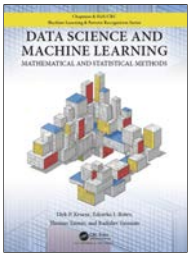
Taylor Arnold, **Michael Kane** and **Bryan W. Lewis**, School of Education, University of Delaware

This book synthesizes those techniques from numerical analysis, algorithms, data structures, and optimization theory mostcommonly employed in statistics and machine learning. We provide concrete applications of these methods by giving complete reference implementations for a large set of the most commonly used statistical estimators. The goal is to provide a self-contained textbook explaining the inner algorithmic workings of statistical estimators.

Chapman and Hall/CRC
June 2020: 234x156: 374pp
Hb: 978-1-138-04637-5
Pb: 978-0-367-57061-3
eBook: 978-1-315-17140-1
* For **full contents** and more information, visit: **www.routledge.com/9780367570613**

Data Science and Machine Learning

Mathematical and Statistical Methods



Dirk P. Kroese, **Zdravko Botev**, University of New South Wales, **Thomas Taimre** and **Radislav Vaisman**

Series: Chapman & Hall/CRC Machine Learning & Pattern Recognition

The purpose of this book is to provide an accessible, comprehensive textbook in data science and machine learning. The book will provide a solid basis in linear algebra, optimization, probability, and statistics. The main body will discuss the major topics in machine learning and data science: data manipulation, supervised and unsupervised learning, modelling of data, linear models, regression, classification, principal component analysis, deep learning, high dimensional data, regularization, kernel methods, support vector machines, etc.

Chapman and Hall/CRC
Market: Statistics
November 2019: 8.25 x 11: 532pp
Hb: 978-1-138-49253-0
eBook: 978-0-367-81697-1
* For **full contents** and more information, visit: **www.routledge.com/9781138492530**

2nd Edition

Big Data and Social Science

Data Science Methods and Tools for Research and Practice

Edited by **Ian Foster**, University of Chicago, Illinois, USA, **Rayid Ghani**, University of Chicago, Illinois, USA, **Ron S. Jarmin**, **Frauke Kreuter**, University of Maryland, USA; University of Mannheim, Germany; and Institute for Employment Research, Germany and **Julia Lane**, New York University; American Institutes for Research, USA

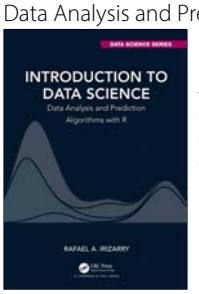
Series: Chapman & Hall/CRC Statistics in the Social and Behavioral Sciences

This classroom-tested book fills a major gap in graduate- and professional-level data science and social science education. It can be used to train a new generation of social data scientists to tackle real-world problems and improve the skills and competencies of applied social scientists and public policy practitioners. It empowers you to use the massive and rapidly growing amounts of available data to interpret economic and social activities in a scientific and rigorous manner.

Chapman and Hall/CRC
Market: Statistics
November 2020: 411pp
Hb: 978-0-367-34187-9
Pb: 978-0-367-56859-7
eBook: 978-0-429-32438-3
* For **full contents** and more information, visit: **www.routledge.com/9780367568597**

Introduction to Data Science

Data Analysis and Prediction Algorithms with R



Rafael A. Irizarry

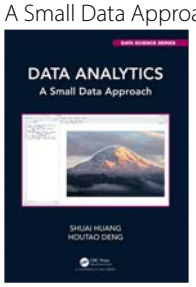
Series: Chapman & Hall/CRC Data Science Series

The book begins by going over the basics of R and the tidyverse. You learn R throughout the book, but in the first part we go over the building blocks needed to keep learning during the rest of the book.

Chapman and Hall/CRC
Market: Statistics
November 2019: 7 x 10: 743pp
Hb: 978-0-367-35798-6
eBook: 978-0-429-34183-0
* For **full contents** and more information, visit: **www.routledge.com/9780367357986**

Data Analytics

A Small Data Approach



Shuai Huang and **Houtao Deng**

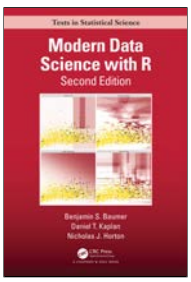
Series: Chapman & Hall/CRC Data Science Series

Highlights a combination of two aspects: technical concreteness and holistic thinking. Authors discuss what principles are used to invent these techniques, what assumptions are made, how mathematics is used to articulate these assumptions, and how these formulations generalize a range of real-world applications into generic and abstract forms.

Chapman and Hall/CRC
Market: Statistics
April 2021: 8.25 x 11: 273pp
Hb: 978-0-367-60950-4
eBook: 978-1-003-10265-6
* For **full contents** and more information, visit: **www.routledge.com/9780367609504**

2nd Edition

Modern Data Science with R



Benjamin S. Baumer, Smith College, Northhampton, MA, **Daniel T. Kaplan**, Macalester College, Saint Paul, Minnesota, USA and **Nicholas J. Horton**, Amherst College, Amherst, MA

Series: Chapman & Hall/CRC Texts in Statistical Science

New data technologies and database systems facilitate scraping data and merging information from different sources and formats and restructuring data into a form suitable for analysis. State-of-the-art workflow and tools foster well-documented and reproducible analysis. Modern statistical methods allow the analyst to fit and assess models as well as to undertake supervised or unsupervised learning to extract information. Contemporary data science requires tight integration of these statistics, computing, data skills, mathematics, and communication. The text is intended for readers with some background in statistics and modest prior experience in scripting and programming.

Chapman and Hall/CRC
Market: Statistics
April 2021: 7 x 10: 650pp
Hb: 978-0-367-19149-8
eBook: 978-0-429-20071-7
Prev. Ed Hb: 978-1-498-72448-7
* For **full contents** and more information, visit: **www.routledge.com/9780367191498**

Statistical Foundations of Data Science

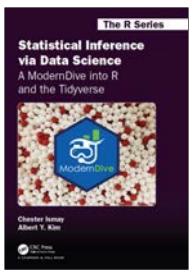
Jianqing Fan, Princeton University, New Jersey, USA, **Runze Li**, Pennsylvania State University, University Park, USA, **Cun-Hui Zhang**, Rudgers University, Piscataway, New Jersey, USA and **Hui Zou**

Series: Chapman & Hall/CRC Data Science Series

This book gives a comprehensive and systematic account of high-dimensional data analysis, including variable selection via regularization methods and sure independent feature screening methods. Offering more details on the topics than similar books, it is a valuable reference for researchers involved with model selection, variable selection, machine learning, and risk management. The book can also be used as a text for graduate and senior undergraduate students.

Chapman and Hall/CRC
Market: Statistics
August 2020: 6.14 x 9.21: 774pp
Hb: 978-1-466-51084-5
eBook: 978-0-429-09628-0
* For **full contents** and more information, visit: **www.routledge.com/9781466510845**

Statistical Inference via Data Science: A ModernDive into R and the Tidyverse



Chester Ismay, DataCamp and **Albert Y. Kim**

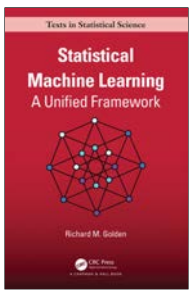
Series: Chapman & Hall/CRC The R Series

This is a modern textbook in statistical inference, using the principles of data science through R and the Tidyverse. It assumes minimal background knowledge of the reader: there is no algebra, no calculus, and no prior programming/coding experience. It is designed to be a gentle introduction to the practice of analyzing data and answering questions using data the way data scientists, statisticians, data journalists, and other researchers would. This book is suitable for teaching a first course in statistical inference at undergraduate level.

Chapman and Hall/CRC
Market: Statistics
December 2019: 7 x 10: 460pp
Hb: 978-0-367-40987-6
Pb: 978-0-367-40982-1
eBook: 978-0-367-40991-3
* For **full contents** and more information, visit: **www.routledge.com/9780367409821**

Statistical Machine Learning

A Unified Framework



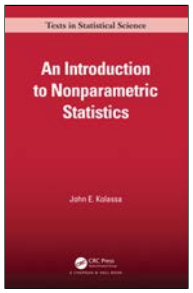
Richard Golden

Series: Chapman & Hall/CRC Texts in Statistical Science

For advanced undergraduate students, graduate students, and professional. Presents a wide range of popular, disparate, and diverse machine learning algorithms within a unified theoretical framework, characterized by a collection of carefully chosen theorems from the fields of nonlinear optimization theory and mathematical statistics which respectively characterize both asymptotic behavior and generalization performance. The purpose is to teach students how to confidently apply these theorems in practice. The only required mathematical prerequisites are lower-division linear algebra, lower-division calculus, and an upper-division calculus-based course in probability theory.

Chapman and Hall/CRC
Market: Statistics
July 2020: 7 x 10: 524pp
Hb: 978-1-138-48469-6
eBook: 978-1-351-05150-7
* For **full contents** and more information, visit: **www.routledge.com/9781138484696**

An Introduction to Nonparametric Statistics



John E. Kolassa

Series: Chapman & Hall/CRC Texts in Statistical Science

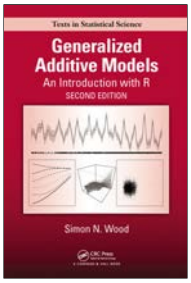
This book presents the theory and practice of non-parametric statistics, with an emphasis on motivating principals. The course is a combination of traditional rank based methods and more computationally-intensive topics like density estimation, kernel smoothers in regression, and robustness. The text is aimed at MS students.

Chapman and Hall/CRC
Market: Statistics
September 2020: 6.14 x 9.21: 224pp
Hb: 978-0-367-19484-0
eBook: 978-0-429-20275-9
* For **full contents** and more information, visit: **www.routledge.com/9780367194840**

2nd Edition

Generalized Additive Models

An Introduction with R



Simon N. Wood

Series: Chapman & Hall/CRC Texts in Statistical Science

The first edition of this book has established itself as one of the leading references on generalized additive models (GAMs), and the only book on the topic to be introductory in nature with a wealth of practical examples and software implementation. It is self-contained, providing the necessary background in linear models, linear mixed models, and generalized linear models (GLMs), before presenting a balanced treatment of the theory and applications of GAMs and related models.

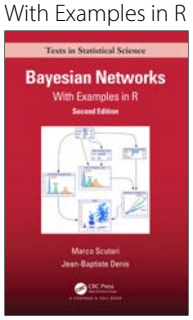
The author bases his approach on a framework of penalized regression splines, and while firmly focused on the practical aspects of GAMs, discussions include fairly full explanations of the theory underlying the methods. Use of R software helps explain the theory and illustrates the practical application of the methodology. Each chapter contains an extensive set of exercises, with solutions in an appendix or in the book's R data package gamair, to enable use as a course text or for self-study.

Chapman and Hall/CRC
Market: Statistics
May 2017: 6.14 x 9.21: 496pp
Hb: 978-1-498-72833-1
eBook: 978-1-498-72836-2
Prev. Ed Hb: 978-1-584-88474-3
* For **full contents** and more information, visit: **www.routledge.com/9781498728331**

2nd Edition

Bayesian Networks

With Examples in R



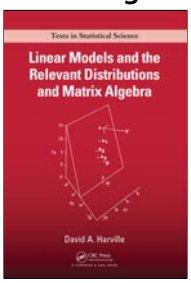
Marco Scutari, Istituto Dalle Molle and **Jean-Baptiste Denis**, INRA

Series: Chapman & Hall/CRC Texts in Statistical Science

The book introduces Bayesian networks using a hands-on approach, through simple yet meaningful examples. Discrete Bayesian networks are described first (Chapter 2), followed by Gaussian Bayesian networks (Chapter 3). Mixed networks (which include arbitrary random variables, and typically mix continuous and discrete ones) are covered as well (Chapter 4). These chapters explain the whole process of Bayesian network modelling, from structure learning to parameter learning to inference. All steps in learning are illustrated with R code.

Chapman and Hall/CRC
Market: Statistics
July 2021: 6.14 x 9.21: 272pp
Hb: 978-0-367-36651-3
eBook: 978-0-429-34743-6
Prev. Ed Hb: 978-1-482-22558-7
* For **full contents** and more information, visit: **www.routledge.com/9780367366513**

Linear Models and the Relevant Distributions and Matrix Algebra



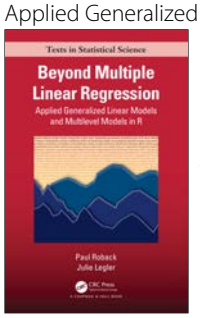
David A. Harville

The book describes the use of linear statistical models as a basis for statistical inference and the theoretical underpinnings of the resultant inferential procedures. It covers the relevant distributions and matrix algebra that is relatively complete and self-contained. Derivations or proofs are provided for almost all results; some of these are are not readily available from other sources. The book includes coverage of some topics that are typically covered less extensively or not covered at all in other books on linear models; among these topics are prediction, multiple-comparison procedures for controlling the FDR, and spherical/elliptical distributions.

Chapman and Hall/CRC
June 2020: 254x178: 538pp
Hb: 978-1-138-57833-3
Pb: 978-0-367-57203-7
eBook: 978-1-351-26468-6
* For **full contents** and more information, visit: **www.routledge.com/9780367572037**

Beyond Multiple Linear Regression

Applied Generalized Linear Models And Multilevel Models in R



Paul Roback, St. Olaf College, Northfield, Minnesota, USA and **Julie Legler**

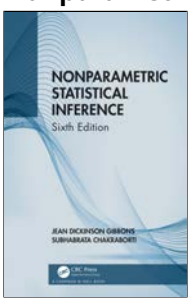
Series: Chapman & Hall/CRC Texts in Statistical Science

Designed for advanced undergraduate or non-major graduate students in Advanced Statistical Modeling or Regression II as well as courses on Generalized Linear Models, Longitudinal Data Analysis, Correlated Data, or Multilevel Models, this text offers a unified discussion of generalized linear models and correlated data methods. It explores case studies involving real data and details material on R at the end of each chapter. A solutions manual is available for qualified instructors.

Chapman and Hall/CRC
Market: Statistics
December 2020: 6.14 x 9.21: 436pp
Hb: 978-1-439-88538-3
eBook: 978-0-429-06666-5
* For **full contents** and more information, visit: **www.routledge.com/9781439885383**

6th Edition

Nonparametric Statistical Inference



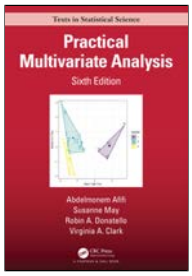
Jean Dickinson Gibbons and **Subhabrata Chakraborti**

Since its first publication in 1971, Nonparametric Statistical Inference has been widely regarded as the source for learning about nonparametrics. The sixth edition carries on this tradition and incorporates computer solutions based on R and has been thoroughly revised and rewritten to make it more readable and reader-friendly. All of the R solutions are new and make this book much more useful for applications in the modern times. It has been updated throughout and contains 100 new citations, including some of the most recent, to make it more current and useful for researchers.

Chapman and Hall/CRC
Market: Statistics
December 2020: 6.14 x 9.21: 694pp
Hb: 978-1-138-08744-6
eBook: 978-1-315-11047-9
Prev. Ed Hb: 978-1-420-07761-2
* For **full contents** and more information, visit: **www.routledge.com/9781138087446**

6th Edition

Practical Multivariate Analysis



Abdelmonem Afifi, University of California, Los Angeles, USA, **Susanne May**, University of Washington, Seattle, USA, **Robin Donatello**, UCLA and **Virginia A. Clark**, Consultant, Sequim, Washington, USA

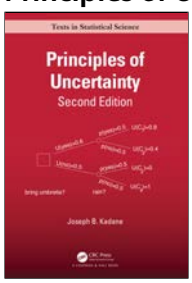
Series: Chapman & Hall/CRC Texts in Statistical Science

This is the sixth edition of a popular textbook on multivariate analysis. Well-regarded for its practical and accessible approach, with excellent examples and good guidance on computing, the book is particularly popular for teaching outside statistics, i.e. in epidemiology, social science, business, etc. The sixth edition has been updated with a new chapter on data visualization, and many new updates and references throughout. This new edition will enable the book to continue as one of the leading textbooks in the area, particularly for non-statisticians.

Chapman and Hall/CRC
Market: Statistics
October 2019: 7 x 10: 434pp
Hb: 978-1-138-70222-6
Pb: 978-1-032-08847-1
eBook: 978-1-315-20373-7
Prev. Ed Hb: 978-1-439-81680-6
* For **full contents** and more information, visit: **www.routledge.com/9781138702226**

2nd Edition

Principles of Uncertainty



Joseph B. Kadane, Carnegie Mellon University, Pittsburgh, Pennsylvania, USA

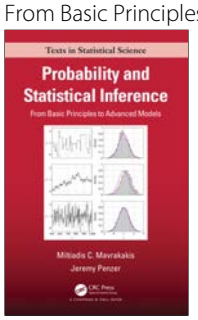
Series: Chapman & Hall/CRC Texts in Statistical Science

Like the De Groot winning first edition, the second edition of *Principles of Uncertainty* is an accessible, comprehensive guide to the theory of Bayesian Statistics written in an appealing, inviting style, and packed with interesting examples. It presents an accessible, comprehensive guide to the subjective Bayesian approach which has played a pivotal role in game theory, economics, and the recent boom in Markov Chain Monte Carlo methods. This new edition has been updated throughout and features a new chapter on Nonparametric Bayesian Methods.

Chapman and Hall/CRC
Market: Statistics
August 2020: 7 x 10: 522pp
Hb: 978-1-138-05273-4
eBook: 978-1-315-16756-5
* For **full contents** and more information, visit: **www.routledge.com/9781138052734**

Probability and Statistical Inference

From Basic Principles to Advanced Models



Miltiadis C. Mavrakakis, Imperial College London, United Kingdom and **Jeremy Penzer**, London School of Economics, UK

Series: Chapman & Hall/CRC Texts in Statistical Science

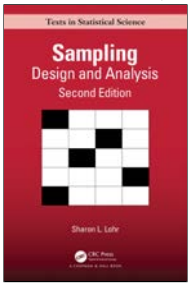
This book covers aspects of probability, distribution theory, and inference that are fundamental to a proper understanding of data analysis and statistical modelling. It presents these topics in an accessible manner without sacrificing mathematical rigour, bridging the gap between the many excellent introductory books and the more advanced, graduate-level texts. The book introduces and explores techniques that are relevant to modern practitioners, while being respectful to the history of statistical inference. It seeks to provide a thorough grounding in both the theory and application of statistics, with even the more abstract parts placed in the context of a practical setting.

Chapman and Hall/CRC
Market: Statistics
March 2021: 6.14 x 9.21: 444pp
Hb: 978-1-584-88939-7
eBook: 978-1-584-88940-3
* For **full contents** and more information, visit: **www.routledge.com/9781584889397**

2nd Edition

Sampling

Design and Analysis



Sharon L. Lohr

Series: Chapman & Hall/CRC Texts in Statistical Science

This authoritative text, used as a standard reference by numerous survey organizations, teaches sampling using real data sets from social sciences, public opinion research, medicine, public health. Can be used for a graduate class for statistics students a class with students from business, sociology, psychology, or biology. Readers should be familiar with concepts from an introductory statistics class including linear regression; optional sections contain the statistical theory, for readers who have studied mathematical statistics.

Chapman and Hall/CRC
Market: Statistics
April 2019: 610pp
Hb: 978-0-367-27346-0
Pb: 978-0-367-27341-5
eBook: 978-0-429-29628-4
* For **full contents** and more information, visit: **www.routledge.com/9780367273415**

2nd Edition

Statistical Rethinking

A Bayesian Course with Examples in R and STAN

Richard McElreath, Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany

Series: Chapman & Hall/CRC Texts in Statistical Science

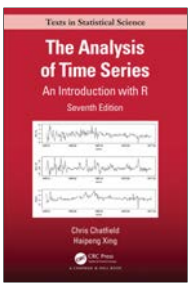
The very popular Statistical Rethinking: A Bayesian Course with Examples in R and Stan, Second Edition builds readers' knowledge of and confidence in statistical modeling. Reflecting the need for even minor programming in today's model-based statistics, the book pushes readers to perform step-by-step calculations that are usually automated. This unique computational approach ensures that readers understand enough of the details to make reasonable choices and interpretations in their own modeling work.

Chapman and Hall/CRC
Market: Statistics
March 2020: 7 x 10: 612pp
Hb: 978-0-367-13991-9
eBook: 978-0-429-02960-8
Prev. Ed Hb: 978-1-482-25344-3
* For **full contents** and more information, visit: **www.routledge.com/9780367139919**

7th Edition

The Analysis of Time Series

An Introduction with R



Chris Chatfield, University of Bath, UK and **Haipeng Xing**, SUNY, Stony Brook, New York, USA

Series: Chapman & Hall/CRC Texts in Statistical Science

This new edition of this classic title, now in its seventh edition, presents a balanced and comprehensive introduction to the theory, implementation, and practice of time series analysis. The book covers a wide range of topics, including ARIMA models, forecasting methods, spectral analysis, linear systems, state-space models, the Kalman filters, nonlinear models, volatility models, and multivariate models.

Chapman and Hall/CRC
Market: Statistics
May 2019: 6.14 x 9.21: 414pp
Hb: 978-1-138-06613-7
Pb: 978-1-498-79563-0
eBook: 978-1-351-25944-6
Prev. Ed Pb: 978-1-584-88317-3
* For **full contents** and more information, visit: **www.routledge.com/9781498795630**

2nd Edition

Time Series

Modeling, Computation, and Inference, Second Edition

Raquel Prado, University of California, Santa Cruz, California, USA, **Marco A. R. Ferreira**, Virginia Tech, Blacksburg, USA and **Mike West**, Duke University, Durham, North Carolina, USA

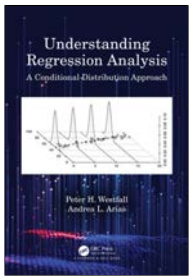
Series: Chapman & Hall/CRC Texts in Statistical Science

This is the second edition of a popular graduate level textbook on time series modeling, computation and inference. The book is essentially unique in its approach, with a focus on Bayesian methods, although classical methods are also covered. The second edition has been updated with an additional author, new references throughout, and new material on multivariate time series. There are also lots of new examples and exercises, and the computing has been greatly enhanced. Code, data, and other material are now made available on a supplementary website.

Chapman and Hall/CRC
Market: Statistics
July 2021: 6.14 x 9.21: 472pp
Hb: 978-1-498-74702-8
eBook: 978-1-498-74703-5
Prev. Ed Hb: 978-1-420-09336-0
* For **full contents** and more information, visit: **www.routledge.com/9781498747028**

Understanding Regression Analysis

A Conditional Distribution Approach



Peter H. Westfall, Texas Tech University, Lubbock, USA and **Andrea L. Arias**

This book unifies diverse regression applications including the classical model, ANOVA models, generalized models including Poisson, Negative binomial, logistic, and survival, neural networks and decision trees under a common umbrella; namely, the conditional distribution model. It explains why the conditional distribution model is the *correct* model, also explains why the assumptions of the classical regression model are *wrong*. This one takes a realistic approach from the outset that all models are just approximations. The emphasis is to model Nature's processes realistically, rather than to assume that Nature works in particular, constrained ways.

Chapman and Hall/CRC
Market: Statistics
July 2020: 7 x 10: 514pp
Hb: 978-0-367-45852-2
eBook: 978-1-003-02576-4
* For **full contents** and more information, visit: **www.routledge.com/9780367458522**

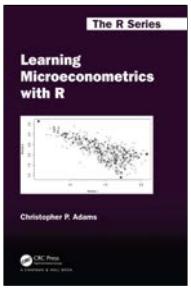
Algorithmic Trading and Quantitative Strategies

Raja Velu, Maxence Hardy and Daniel Nehren

This book brings together the literature in main stream finance and the tools presented in quantitative finance with a focus on what is being practiced in industry. The author begins with the economic theory behind price formation and tests the model that results from the theory and suggests algorithms to detect and exploit the anomalies. The book provides a comprehensive description of the methodologies both published and unpublished, but being practiced. The strength of the book is the intuitive approach to developing algorithms – based on statistical techniques, machine learning ideas, and optimization methods.

Chapman and Hall/CRC
Market: Mathematics
August 2020: 6.14 x 9.21: 450pp
Hb: 978-1-498-73716-6
* For **full contents** and more information, visit: **www.routledge.com/9781498737166**

Learning Microeconometrics with R



Christopher P. Adams, Federal Trade Commission

Series: Chapman & Hall/CRC The R Series

This book provides an introduction to the field of microeconometrics through the use of R. The focus is on applying current learning from the field to real world problems. It uses R to both teach the concepts of the field and show the reader how the techniques can be used. It is aimed at the general reader with the equivalent of a bachelor's degree in economics, statistics or some more technical field. It covers the standard tools of microeconometrics, OLS, instrumental variables, Heckman selection and difference in difference. In addition, it introduces bounds, factor models, mixture models and empirical Bayesian analysis.

Chapman and Hall/CRC
Market: Statistics
December 2020: 6.14 x 9.21: 398pp
Hb: 978-0-367-25538-1
eBook: 978-0-429-28833-3
* For **full contents** and more information, visit: **www.routledge.com/9780367255381**

Derivative Pricing

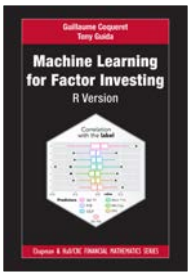
A Problem-Based Primer

Ambrose Lo

The proliferation of financial derivatives over the past few decades, options in particular, has underscored the increasing importance of derivative pricing literacy. This textbook adopts a mathematically rigorous yet widely accessible pedagogical approach, providing a formal treatment of derivative pricing methodologies and their underlying theory. The abundance of examples and problems makes the book particularly suitable for advanced undergraduates, beginning graduates as well as professionals who need a fundamental understanding of how and, more importantly, why derivative pricing works.

Chapman and Hall/CRC
December 2020: 7 x 10: 450pp
Hb: 978-1-138-03335-1
Pb: 978-0-367-73421-3
eBook: 978-1-315-30123-5
* For **full contents** and more information, visit: **www.routledge.com/9780367734213**

Machine Learning for Factor Investing: R Version



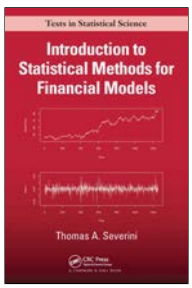
Guillaume Coqueret and **Tony Guida**

Series: Chapman and Hall/CRC Financial Mathematics Series

The aim of the book is to give an interpretation of ML tools through the lens of factor investing. Concepts illustrated with examples on the same (public) dataset throughout the book. Provides code samples and the corresponding results so that anybody can reproduce the steps.

Chapman and Hall/CRC
Market: Finance
September 2020: 7 x 10: 341pp
Hb: 978-0-367-47322-8
Pb: 978-0-367-54586-4
eBook: 978-1-003-03485-8
* For **full contents** and more information, visit: **www.routledge.com/9780367545864**

Introduction to Statistical Methods for Financial Models



Thomas A Severini

This book provides an introduction to the use of statistical concepts and methods to model and analyze financial data. Chapters 1 to 3 cover some basic concepts of finance, focusing on the properties of returns on an asset. Chapters 4 through 6 cover aspects of portfolio theory and the methods of estimation needed to implement that theory. The remainder of the book, Chapters 7 to 10, discusses several models for financial data, along with the implications of those models for portfolio theory and for understanding the properties of return data.

Chapman and Hall/CRC
September 2020: 234x156: 386pp
Hb: 978-1-138-19837-1
Pb: 978-0-367-65787-1
eBook: 978-1-315-27038-8
* For **full contents** and more information, visit: **www.routledge.com/9780367657871**

Practical Spreadsheet Modeling Using @Risk

Dale Lehman, Loras College, Dubuque, IA and **Huybert Groenendaal**, EpiX Analytics, Boulder, Colorado, USA

This book is written for anyone interested in conducting applied risk analysis in business, engineering, environmental planning, public policy, medicine, or virtually any field amenable to spreadsheet modeling. The authors provide practical case studies along with detailed instruction and illustration of the features of @Risk, the most advanced risk modeling spreadsheet software currently available. If you intend to use spreadsheets for decision-supporting analysis, rather than merely as placeholders for numbers, then this is the resource for you.

Chapman and Hall/CRC
Market: Statistics
December 2019: 242pp
Hb: 978-0-367-17386-9
eBook: 978-0-429-05644-4
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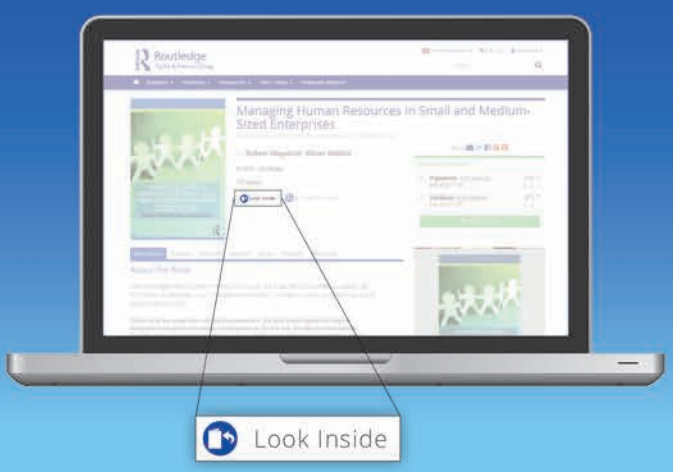

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