Mathematics, Statistics, Physics & Astronomy

September to December 2022

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K-12 School

Mathematics

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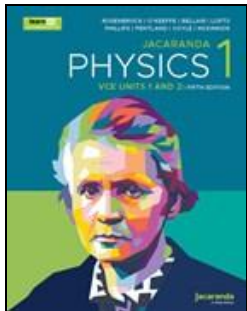## JACARANDA MATHS QUEST 11 FOUNDATION MATHEMATICS VCE UNITS 1 AND 2 2E LEARNON AND PRINT
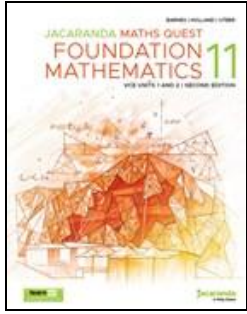
9781119876052
Pub Date: 9/30/22
$57.95 USD

0 Pages

JACARANDA PHYSICS 1 VCE UNITS 1 AND 2 5E LEARNON AND PRINT

9781119887898
Pub Date: 9/30/22
$57.95 USD

0 Pages

Modeling and Use of Context in Action
Patrick Brézillon, Roy M. Turner

Summary
This book brings together current research and adopts a pragmatic approach to modeling and using context to solve real-world problems. The editors were instrumental in creating - and continue to be involved in - the interdisciplinary research community, centered around the biennial CONTEXT (International and Interdisciplinary Conference on Modeling and Using Context) conference series, focused on studying context and its implications for artificial intelligence, software applications, psychology, philosophy, linguistics, neuroscience, as well as other fields.

The first three chapters lay the foundations, looking at the lessons learned over the past 25 years and arguing for a continued shift toward more pragmatic approaches. The remaining chapters contain contributions to pragmatic context-based research from a wide range of domains, including technological problems - such as subway incident management and autonomous underwater vehicle control - identifying emotions from speech without understanding the words, anonymization in a world where privacy is increasingly threatened, teaching ...

Contributor Bio
Patrick Brezillon is Professor Emeritus at Sorbonne University, France. His research focuses on context modeling and its use in applications and has culminated in the Contextual-Graph software. This research focus is shared by a large community that has been active for almost 25 years.

Roy M. Turner is Associate Professor of computer science at the University of Maine, USA. His research area is artificial intelligence, focusing in particular on context-sensitive reasoning, deep learning in context, intelligent real-world agent control and computational ecology.

Wiley-ISTE
9781786308290
Pub Date: 9/21/22
$165.00 USD
Hardcover

320 Pages
Mathematics / Mathematical Analysis

Introduction to Theoretical and Mathematical Fluid Dynamics
Shivamoggi

Summary
INTRODUCTION TO THEORETICAL AND MATHEMATICAL FLUID DYNAMICS
A practical treatment of mathematical fluid dynamics

In *Introduction to Theoretical and Mathematical Fluid Dynamics*, distinguished researcher Dr. Bhimsen K. Shivamoggi delivers a comprehensive and insightful exploration of fluid dynamics from a mathematical point of view. The book introduces readers to the mathematical study of fluid behavior and highlights areas of active research in fluid dynamics. With coverage of advances in the field over the last 15 years, this book provides in-depth examinations of theoretical and mathematical fluid dynamics with a particular focus on incompressible and compressible fluid flows.

Introduction to Theoretical and Mathematical Fluid Dynamics includes practical applications and exercises to illustrate the concepts discussed within, and real-world examples are explained throughout the text. Clear and explanatory material accompanies the rigorous mathematics, making the book perfect for students seeking to learn and retain this complex subject.

The book also offers:

- A thorough introduction to the...

Contributor Bio
**Bhimsen K. Shivamoggi, PhD,** is Professor in the Departments of Mathematics and Physics at the University of Central Florida. He is a Senior Fellow of the Japan Society for the Promotion of Science. His research is focused on mathematical physics, fluid dynamics, stochastic processes, and nonlinear dynamics.
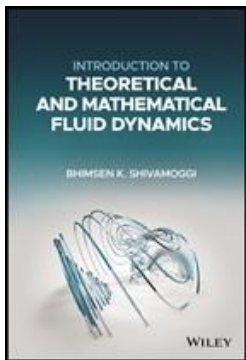
Wiley
9781119101505
Pub Date: 11/1/22
$135.00 USD
Hardcover

656 Pages
Mathematics / Applied
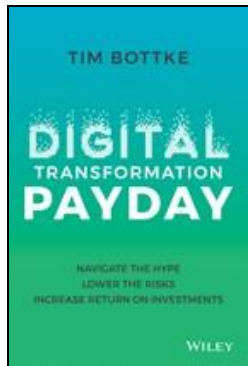
Digital Transformation Payday
Navigate the Hype, Lower the Risks, Increase Return on Investments
Tim Bottke

Wiley
9781119894179
Pub Date: 11/16/22
$32.00 USD
Hardcover

240 Pages
Business & Economics /
Strategic Planning

Summary
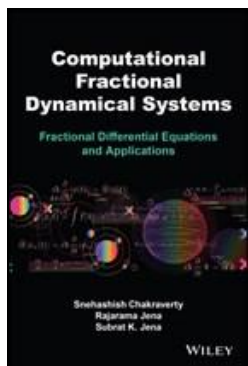**The Data-Driven Guide for your Digital Transformation Payday**

In *Digital Transformation Payday: Navigate the Hype, Lower the Risks, Increase Return on Investments*, Tim Bottke, Senior Strategy Partner at Deloitte and Associate Professor for Strategy and Digital Transformation at SDA Bocconi, a *Financial Times/Forbes/Bloomberg Businessweek* Top-Five European business school, delivers a provocative, new perspective on digital business transformation—using research to get beyond the hype and uncover its real financial payback.

Have you ever asked yourself: "Should I really embark on a digital transformation journey that is likely full of pain, failure, and high cash-outs? One that puts a lot of pressure on our stock price and my nerves? Who will thank me for that? Will there ever be a measurable return on invest for all these technologies that supports positive market value impact?" If so, this book is for you.

You'll find unique insights and guidance for managers, executives, board members, and investors as you navigate an immense array of strategic and operational choices, opportunities, an...

Computational Fractional Dynamical Systems
Fractional Differential Equations and Applications
Snehashish Chakraverty, Rajarama M. Jena, Subrat K. Jena

Wiley
9781119696957
Pub Date: 11/8/22
$130.00 USD
Hardcover

288 Pages
Mathematics / Differential
Equations

Summary
A rigorous presentation of different expansion and semi-analytical methods for fractional differential equations

Fractional differential equations, differential and integral operators with non-integral powers, are used in various science and engineering applications. Over the past several decades, the popularity of the fractional derivative has increased significantly in diverse areas such as electromagnetics, financial mathematics, image processing, and materials science. Obtaining analytical and numerical solutions of nonlinear partial differential equations of fractional order can be challenging and involve the development and use of different methods of solution.

Computational Fractional Dynamical Systems: Fractional Differential Equations and Applications presents a variety of computationally efficient semi-analytical and expansion methods to solve different types of fractional models. Rather than focusing on a single computational method, this comprehensive volume brings together more than 25 methods for solving an array of fractional-order models. The authors employ a rigorous a...

Contributor Bio
Snehashish Chakraverty, Senior Professor, Department of Mathematics (Applied Mathematics Group), National Institute of Technology Rourkela, Odisha, India.

Rajarama Mohan Jena, Senior Research Fellow, Department of Mathematics, National Institute of Technology Rourkela, Odisha, India.

Subrat Kumar Jena, Senior Research Fellow, Department of Mathematics, National Institute of Technology Rourkela, Odisha, India.

Mesh Adaptation for Computational Fluid Dynamics, Volume 1
Continuous Riemannian Metrics and Feature-based Adaptation
Dervieux

Wiley-ISTE
9781786308313
Pub Date: 9/21/22
$165.00 USD
Hardcover

256 Pages
Science / Physics

Summary
Simulation technology, and computational fluid dynamics (CFD) in particular, is essential in the search for solutions to the modern challenges faced by humanity. Revolutions in CFD over the last decade include the use of unstructured meshes, permitting the modeling of any 3D geometry. New frontiers point to mesh adaptation, allowing not only seamless meshing (for the engineer) but also simulation certification for safer products and risk prediction.

Mesh Adaptation for Computational Dynamics 1 is the first of two volumes and introduces basic methods such as feature-based and multiscale adaptation for steady models. Also covered is the continuous Riemannian metrics formulation which models the optimally adapted mesh problem into a pure partial differential statement. A number of mesh adaptative methods are defined based on a particular feature of the simulation solution.

This book will be useful to anybody interested in mesh adaptation pertaining to CFD, especially researchers, teachers and students.

Contributor Bio
Alain Dervieux is chief scientist at the Société Lemma and emeritus senior scientist at Inria, Sophia Antipolis. His main research interests are computational fluid dynamics, particularly approximations on unstructured meshes.

Frederic Alauzet is a senior researcher at Inria Saclay and adjunct professor at Mississippi State University. His research focuses on anisotropic mesh adaptation, advanced solvers, mesh generation and moving mesh methods.

Adrien Loseille is a research scientist at Inria Saclay, working in Luminary Cloud. His main domains of interest

Mesh Adaptation for Computational Fluid Dynamics, Volume 2
Unsteady and Goal-oriented Adaptation
Alain Dervieux, Frederic Alauzet, Adrien Loseille, Bruno Koobus

Wiley-ISTE
9781786308320
Pub Date: 9/21/22
$165.00 USD
Hardcover

240 Pages
Science / Physics

Summary
Simulation technology, and computational fluid dynamics (CFD) in particular, is essential in the search for solutions to the modern challenges faced by humanity. Revolutions in CFD over the last decade include the use of unstructured meshes, permitting the modeling of any 3D geometry. New frontiers point to mesh adaptation, allowing not only seamless meshing (for the engineer) but also simulation certification for safer products and risk prediction.

Mesh Adaptation for Computational Dynamics 2 is the second of two volumes and introduces topics including optimal control formulation, minimizing a goal function, and extending the steady algorithm to unsteady physics. Also covered are multi-rate strategies, steady inviscid flows in aeronautics and an extension to viscous flows.
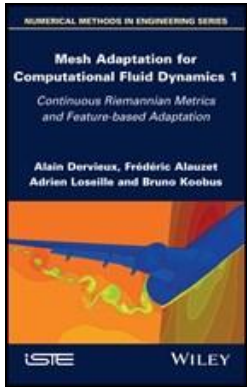
This book will be useful to anybody interested in mesh adaptation pertaining to CFD, especially researchers, teachers and students.

Contributor Bio
Alain Dervieux is chief scientist at the Société Lemma and emeritus senior scientist at Inria, Sophia Antipolis. His main research interests are computational fluid dynamics, particularly approximations on unstructured meshes.
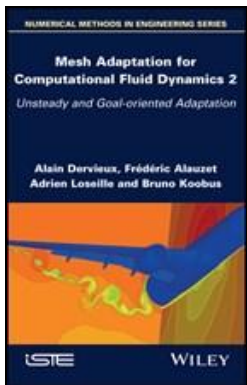
Frederic Alauzet is a senior researcher at Inria Saclay and adjunct professor at Mississippi State University. His research focuses on anisotropic mesh adaptation, advanced solvers, mesh generation and moving mesh methods.

Adrien Loseille is a research scientist at Inria Saclay, working in Luminary Cloud. His main domains of interest are unstructured mesh generation and adaptation for computational fluid dynamics.
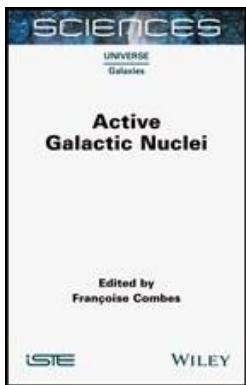
Active Galactic Nuclei
Francoise Combes

Summary
All galaxies host a super-massive black hole in their center. These black holes grow their mass in symbiosis with their host galaxy and moderate their star formation. When matter is driven towards the nucleus, an accretion disk is formed to transfer angular momentum and considerable energy is released when the material falls into the black hole: this is the phenomenon of active galactic nuclei (AGN). A nucleus can shine one thousand times more brightly than the entire galaxy with its 200 billion stars. The nuclear activity can take many forms, from very powerful quasars to more ordinary Seyfert galaxies, passing by radio-galaxies, which eject a collimated plasma at ten times the radius of the galaxy.

This book examines all of these manifestations and presents a unified view. When two galaxies merge, a binary black hole is formed and the two black holes will spiral inwards and merge, emitting long gravitational waves, which could be detected by the future LISA satellite.

Contributor Bio
Francoise Combes is a professor at the College de France, an astrophysicist at Paris Observatory and member of the Academy of Sciences. She is currently working on the formation and evolution of galaxies, their co-evolution with supermassive black holes and dark matter models.
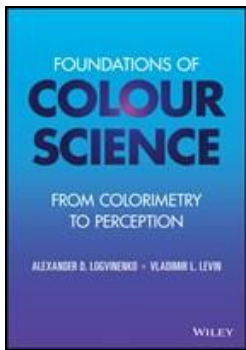
Foundations of Colour Science
From Colorimetry to Perception
Alexander D. Logvinenko

Summary
Presents the science of colour from new perspectives and outlines results obtained from the authors' work in the mathematical theory of colour

This innovative volume summarizes existing knowledge in the field, attempting to present as much data as possible about colour, accumulated in various branches of science (physics, phychophysics, colorimetry, physiology) from a unified theoretical position. Written by a colour specialist and a professional mathematician, the book offers a new theoretical framework based on functional analysis and convex analysis. Employing these branches of mathematics, instead of more conventional linear algebra, allows them to provide the knowledge required for developing techniques to measure colour appearance to the standards adopted in colorimetric measurements. The authors describe the mathematics in a language that is understandable for colour specialists and include a detailed overview of all chapters to help readers not familiar with colour science.

Divided into two parts, the book first covers various key aspects of light colour, such as colour stimulu...

Contributor Bio
Alexander D. Logvinenko is a Professor of Vision Science at Glasgow Caledonian University. His research interests deal with visual perception, psychophysics, and colour vision, with an emphasis on the application of mathematical methods to the vision sciences. For the last 25 years, he has been working on colour and human perception of colour.

Vladimir L. Levin was a Professor of Mathematics at the Russian Academy of Sciences. Now deceased, Dr Levin's fields of interest included functional analysis, convex analysis of extremal problems, and set-valued analysis. He was awarded the Nemchinov Prize of the Russian Academy of Sciences in 2008.
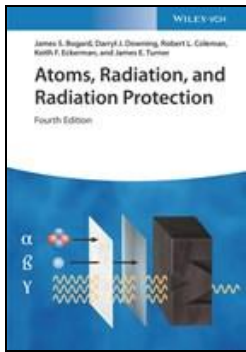
Atoms, Radiation, and Radiation Protection *(4th Edition)*
James S. Bogard, Darryl J. Downing, Robert L. Coleman, Keith F. Eckerman, James E. Turner

Wiley-VCH
9783527413522
Pub Date: 11/21/22
$113.00 USD
Hardcover

608 Pages
Science / Physics

Summary
Discover the keys to radiation protection in the fourth edition of this best-selling textbook

A variety of atomic and sub-atomic processes, including alpha, beta, and gamma decay or electron ejection from inner atom shells, can produce ionizing radiation. This radiation can in turn produce environmental and biological effects both harmful—including DNA damage and other impacts of so-called 'radiation sickness'—and helpful, including radiation treatment for cancerous tumors. Understanding the processes that generate radiation and the steps which can be taken to mitigate or direct its effects is therefore critical in a wide range of industries and medical subfields.

For decades, *Atoms, Radiation, and Radiation Protection* has served as the classic reference work on the subject of ionizing radiation and its safeguards. Beginning with a presentation of fundamental atomic structure and the physical mechanisms which produce radiation, the book also includes thorough discussion of how radiation can be detected and measured, as well as guidelines for interpreting radiation statistics and detail...

Contributor Bio
James S. Bogard is Senior Health Physicist at Oak Ridge National Laboratory, Tennessee, and an Adjunct Professor in the Departments of Nuclear Engineering and Anthropology at the University of Tennessee. He is a Fellow of the Health Physics Society and has served as President of the American Academy of Health Physics, as well as publishing very widely on issues related to health physics and atomic radiation.

Darryl J. Downing is Vice President, Statistical and Quantitative Sciences, as GlaxoSmithKline Pharmaceutical company. He is also a member of the International Statistics Institute, and has served as a researcher at the Oak Ridge National Laboratory, as well as authoring numerous scholarl...
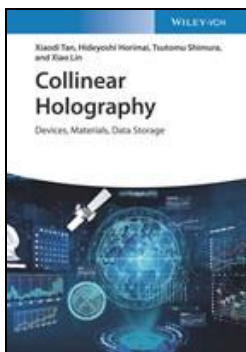
Collinear Holography
Devices, Materials, Data Storage
Xiaodi Tan, Hideyoshi Horimai, Tsutomu Shimura, Xiao Lin

Wiley-VCH
9783527413638
Pub Date: 12/27/22
$175.00 USD
Hardcover

288 Pages
Technology & Engineering / Holography

Summary
Provides state-of-the-art, in-depth knowledge on the principles, devices, and applications of collinear holography

In the era of Big Data, traditional magnetic and optical storage technologies are unable to satisfy the growing demand for reliable, scalable, cost-effective, and energy-efficient data storage. Holographic storage, considered the most promising technology for meeting the future storage needs of the information age, adopts a three-dimensional volume storage mode with a theoretical storage density vastly greater than conventional optical disks.

Collinear Holography: Devices, Materials, Data Storage is a comprehensive, up-to-date account of the volumetric recording technology that combines large storage capacities with high transfer rates and exceptional reliability in optical data storage systems. Written by pioneers in the field, this authoritative book provides detailed coverage of the key technological approaches, theories, applications, systems, devices, and components in the rapidly advancing field of holographic data storage.

* Explains the principles of collinear hologra...
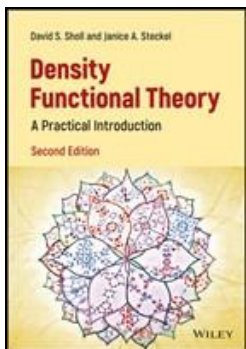
Contributor Bio
Xiaodi Tan is Professor, College of Photonic & Electric Engineering, Fujian Normal University , China. He previously served as a Professor at Beijing Institute of Technlogy, China, and a Senior Technology Analyst, Distinguished Engineer, and Optical Technology Manager of Core Device Development Group at Sony Corporation, Japan.

Hideyoshi Horimai is an inventor of collinear holography. He is currently President of HolyMine Corporation, Japan, and is a Research Fellow at Institute of Industrial Science, The University of Tokyo, Japan. He worked for more than twenty years at SONY Corporation in optical data storage R&D field.

Density Functional Theory *(2nd Edition)*
A Practical Introduction
David S. Sholl, Janice A. Steckel

Wiley
9781119840862
Pub Date: 1/19/23
$129.95 USD
Hardcover

240 Pages
Science / Physics

Summary
A concise and rigorous introduction to the applications of DFT calculations

In the newly revised second edition of *Density Functional Theory: A Practical Introduction*, the authors deliver a concise and easy-to-follow introduction to the key concepts and practical applications of density functional theory (DFT) with an emphasis on plane-wave DFT. The authors draw on decades of experience in the field, offering students from a variety of backgrounds a balanced approach between accessibility and rigor, creating a text that is highly digestible in its entirety.
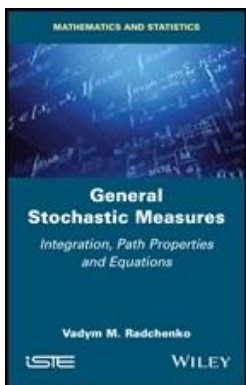
- This new edition:Discusses in more detail the accuracy of DFT calculations and the choice of functionals
- Adds an overview of the wide range of available DFT codes
- Contains more examples on the use of DFT for high throughput materials calculations
- Puts more emphasis on computing phase diagrams and on open ensemble methods widely used in electrochemistry
- Is significantly extended to cover calculation beyond standard DFT, e.g., dispersion-corrected DFT, DFT+U, time-dependent DFT

Perfect for graduate students and postdoctoral candidates in p...

Contributor Bio
David S. Sholl is a Professor of Chemical and & Biomolecular Engineering at the Georgia Institute of Technology, where holds the Michael Tennenbaum Family Chair and remains a GRA Eminent Scholar in Energy Sustainability.

Janice A. Steckel is a Physical Scientist at the United States Department of Energy, National Energy Technology Laboratory in Pittsburgh, Pennsylvania.

General Stochastic Measures
Integration, Path Properties and Equations
Radchenko

Wiley-ISTE
9781786308283
Pub Date: 9/21/22
$165.00 USD
Hardcover

272 Pages
Mathematics / Probability & Statistics

Summary
This book is devoted to the study of stochastic measures (SMs). An SM is a sigma-additive in probability random function, defined on a sigma-algebra of sets. SMs can be generated by the increments of random processes from many important classes such as square-integrable martingales and fractional Brownian motion, as well as alpha-stable processes. SMs include many well-known stochastic integrators as partial cases.
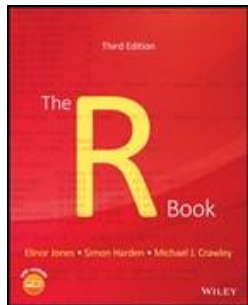
General Stochastic Measures provides a comprehensive theoretical overview of SMs, including the basic properties of the integrals of real functions with respect to SMs. A number of results concerning the Besov regularity of SMs are presented, along with equations driven by SMs, types of solution approximation and the averaging principle. Integrals in the Hilbert space and symmetric integrals of random functions are also addressed.
The results from this book are applicable to a wide range of stochastic processes, making it a useful reference text for researchers and postgraduate or postdoctoral students who specialize in stochastic analysis.

Contributor Bio
Vadym M. Radchenko is Full Professor in the Department of Mathematical Analysis at Taras Shevchenko National University of Kyiv, Ukraine. His research interests include stochastic integration and stochastic partial differential equations.

The R Book *(3rd Edition)*

Elinor Jones, Simon Harden, Michael J. Crawley

Wiley
9781119634324
Pub Date: 11/7/22
$104.00 USD
Hardcover

896 Pages
Computers / Mathematical
& Statistical Software

Summary

A start-to-finish guide to one of the most useful programming languages for researchers in a variety of fields

In the newly revised Third Edition of *The R Book*, a team of distinguished teachers and researchers delivers a user-friendly and comprehensive discussion of foundational and advanced topics in the R software language, which is used widely in science, engineering, medicine, economics, and other fields. The book is designed to be used as both a complete text—readable from cover to cover—and as a reference manual for practitioners seeking authoritative guidance on particular topics.

This latest edition offers instruction on the use of the RStudio GUI, an easy-to-use environment for those new to R. It provides readers with a complete walkthrough of the R language, beginning at a point that assumes no prior knowledge of R and very little previous knowledge of statistics. Readers will also find:

- A thorough introduction to fundamental concepts in statistics and step-by-step roadmaps to their implementation in R;
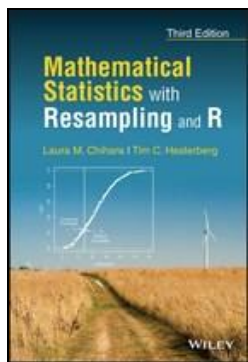- Comprehensive explorations of worked examples in R;
- A complementary companio...

Contributor Bio

Elinor Jones, PhD, is an Associate Professor (Teaching) in the Department of Statistical Science at University College London. She is an experienced teacher with a background in statistics consultancy in a range of fields.

Simon Harden, PhD, is an Associate Professor (Teaching) in the Department of Statistical Science at University College London. He has taught R and statistics to people with a wide range of backgrounds, and has experience working in finance and IT.

Michael J Crawley FRS is Emeritus Professor of Plant Ecology at Imperial College London.

Mathematical Statistics with Resampling and R *(3rd Edition)*

Laura M. Chihara, Tim C. Hesterberg

Wiley
9781119874034
Pub Date: 9/27/22
$113.00 USD
Hardcover

576 Pages
Mathematics / Probability &
Statistics

Summary

Mathematical Statistics with **Resampling** and **R**
This thoroughly updated third edition combines the latest software applications with the benefits of modern resampling techniques

Resampling helps students understand the meaning of sampling distributions, sampling variability, P-values, hypothesis tests, and confidence intervals. The third edition of *Mathematical Statistics with Resampling and R* combines modern resampling techniques and mathematical statistics. This book is classroom-tested to ensure an accessible presentation, and uses the powerful and flexible computer language R for data analysis.

This book introduces permutation tests and bootstrap methods to motivate classical inference methods, as well as to be utilized as useful tools in their own right when classical methods are inaccurate or unavailable. The book strikes a balance between simulation, computing, theory, data, and applications.
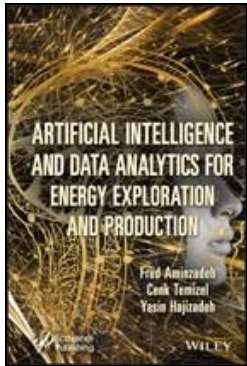
Throughout the book, new and updated case studies representing a diverse range of subjects, such as flight delays, birth weights of babies, U.S. demographics, views on sociological issues, and ...

Contributor Bio

Laura M. Chihara, PhD, is Professor of Mathematics at Carleton College with extensive experience teaching mathematical statistics and applied regression analysis. Dr. Chihara has experience with S+ and R from her work at Insightful Corporation (formerly MathSoft) and in statistical consulting.

Tim C. Hesterberg, PhD, is a Staff Data Scientist at Instacart. He was previously a data scientist at Google and research scientist at Insightful Corporation, led the development of *S+Resample*, and wrote the R *resample* package.

Artificial Intelligence and Data Analytics for Energy Exploration and Production
Aminzadeh

Wiley-Scrivener
9781119879695
Pub Date: 10/4/22
$249.00 USD
Hardcover

608 Pages
Science / Energy

Summary
ARTIFICAL INTELLIGENCE AND DATA ANALYTICS FOR ENERGY EXPLORATION AND PRODUCTION
This groundbreaking new book is written by some of the foremost authorities on the application of data science and artificial intelligence techniques in exploration and production in the energy industry, covering the most comprehensive and updated new processes, concepts, and practical applications in the field.

The book provides an in-depth treatment of the foundations of Artificial Intelligence (AI) Machine Learning, and Data Analytics (DA). It also includes many of AI-DA applications in oil and gas reservoirs exploration, development, and production. The book covers the basic technical details on many tools used in "smart oil fields". This includes topics such as pattern recognition, neural networks, fuzzy logic, evolutionary computing, expert systems, artificial intelligence machine learning, human-computer interface, natural language processing, data analytics and next-generation visualization. While theoretical details will be kept to the minimum, these topics are introduced from oil and gas applicati...

Contributor Bio
Fred Aminzadeh is an expert in artificial intelligence and energy. He was professor at the University of Houston and University of Southern California. He worked at dGB, Unocal (now part of Chevron) and Bell Laboratories. His work experience includes fossil energy, geothermal energy, and carbon sequestration. He served as the president of Society of Exploration Geophysicists. He has authored over 15 books and holds several patents. He was the editor in chief of *The Journal of Sustainable Energy Engineering*. Currently, he is president of FACT, an energy services company. He is also a member of technical advisory board of DOE/NETL's SMART initiative and an adjunct Professor at the University o...
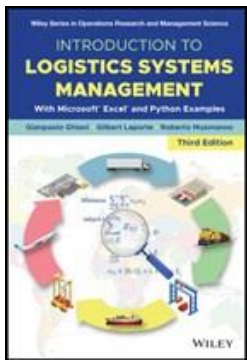
Introduction to Logistics Systems Management *(3rd Edition)*
With Microsoft Excel and Python examples
Gianpaolo Ghiani, Gilbert Laporte, Roberto Musmanno

Wiley
9781119789390
Pub Date: 11/7/22
$75.00 USD
Hardcover

608 Pages
Technology & Engineering / Quality Control
Series: Wiley Series in Operations Research and Management Science

Summary
The updated new edition of the award-winning introductory textbook on logistics system management

Introduction to Logistics Systems Management provides an in-depth introduction to the methodological aspects of planning, organization, and control of logistics for organizations in the private, public and non-profit sectors. Based on the authors' extensive teaching, research, and industrial consulting experience, this classic textbook is used in universities worldwide to teach students the use of quantitative methods for solving complex logistics problems.

Fully updated and revised, the third edition places increased emphasis on the complexity and flexibility required by modern logistics systems. In this context, the extensive use of data, descriptive analytics, predictive models, and optimization techniques will be invaluable to support the decisions and actions of logistics and supply chain managers. Throughout the book, brand-new case studies and numerical examples illustrate how various methods can be used in industrial and service logistics to reduce costs and improve service levels....
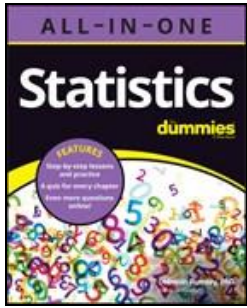
Contributor Bio
Gianpaolo Ghiani, Professor of Operations Research, University of Salento, Lecce, Italy.

Gilbert Laporte, Professor Emeritus, Department of Decision Sciences, HEC, Montréal, Canada.

Roberto Musmanno, Professor of Operations Research, University of Calabria, Italy.

Statistics All-in-One For Dummies
Deborah J. Rumsey

Summary
**The odds-on best way to master stats.**

Statistics All-in-One For Dummies is packed with lessons, examples, and practice problems to help you slay your stats course. Develop confidence and understanding in statistics with easy-to-understand (even fun) explanations of key concepts. Plus, you'll get access to online chapter quizzes and other resources that will turn you into a stats master. This book teaches you how to interpret graphs, determine probability, critique data, and so much more. Written by an expert author and serious statistics nerd, *Statistics AIO For Dummies* explains everything in terms anyone can understand.

- Get a grasp of basic statistics concepts required in every statistics course
- Clear up the process of interpreting graphs, understanding polls, and analyzing data
- Master correlation, regression, and other data analysis tools
- Score higher on stats tests and get a better grade in your high school or college class

Statistics All-in-One For Dummies follows the curriculum of intro college statistics courses (including AP Stats!) so you can learn everything you need to know to ge...

For Dummies
9781119902560
Pub Date: 11/8/22
$39.99 USD
Paperback

640 Pages
Mathematics / Probability & Statistics
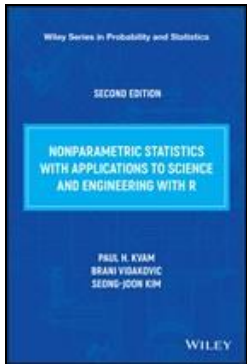
Nonparametric Statistics with Applications to Science and Engineering with R *(2nd Edition)*
Paul Kvam, Brani Vidakovic, Seong-joon Kim

Summary
Introduction to the methods and techniques of traditional and modern nonparametric statistics, incorporating R code

Nonparametric Statistics with Applications to Science and Engineering presents modern nonparametric statistics from a practical point of view, with the newly revised edition including custom R functions implementing nonparametric methods to explain how to compute them and make them more comprehensible.

Relevant built-in functions and packages on CRAN are also provided with a sample code. R codes in the new edition not only enable readers to perform nonparametric analysis easily, but also to visualize and explore data using R's powerful graphic systems, such as ggplot2 package and R base graphic system.
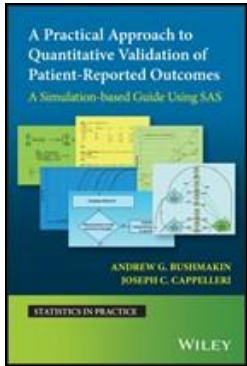
The new edition includes useful tables at the end of each chapter that help the reader find data sets, files, functions, and packages that are used and relevant to the respective chapter. New examples and exercises that enable readers to gain a deeper insight into nonparametric statistics and increase their comprehension are also included, with answers available on a compani...

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A Practical Approach to Quantitative Validation of Patient-Reported Outcomes
A Simulation-based Guide Using SAS
Andrew G. Bushmakin, Joseph C. Cappelleri

Summary

In *A Practical Approach to Quantitative Validation of Patient-Reported Outcomes,* two distinguished researchers, with 50 years of collective research experience and hundreds of publications on patient-centered research, deliver a detailed and comprehensive exposition on the critical steps required for quantitative validation of patient-reported outcomes (PROs). The book provides an incisive and instructional explanation and discussion on major aspects of psychometric validation methodology on PROs, especially relevant for medical applications sponsored by the pharmaceutical industry, where SAS is the primary software, and evaluated in regulatory and other healthcare environments.

Central topics include test-retest reliability, exploratory and confirmatory factor analyses, construct and criterion validity, responsiveness and sensitivity, interpretation of PRO scores and findings, and meaningful within-patient change and clinical important difference. The authors provide step-by-step guidance while walking readers through how to structure data prior to a PRO analysis and demonstrate how ...

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