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KEY=BASIC - MCMAHON BRENNAN

Strengthening Forensic Science in the United States

A Path Forward

National Academies Press Scores of talented and dedicated people serve the forensic science community, performing vitally important work. However, they are often constrained by lack of adequate resources, sound policies, and national support. It is clear that change and advancements, both systematic and scientific, are needed in a number of forensic science disciplines to ensure the reliability of work, establish enforceable standards, and promote best practices with consistent application. Strengthening Forensic Science in the United States: A Path Forward provides a detailed plan for addressing these needs and suggests the creation of a new government entity, the National Institute of Forensic Science, to establish and enforce standards within the forensic science community. The benefits of improving and regulating the forensic science disciplines are clear: assisting law enforcement officials, enhancing homeland security, and reducing the risk of wrongful conviction and exoneration. Strengthening Forensic Science in the United States gives a full account of what is needed to advance the forensic science disciplines, including upgrading of systems and organizational structures, better training, widespread adoption of uniform and enforceable best practices, and mandatory certification and accreditation programs. While this book provides an essential call-to-action for congress and policy makers, it also serves as a vital tool for law enforcement agencies, criminal prosecutors and attorneys, and forensic science educators.

Basic Engineering Circuit Analysis

Foundations of Analog and Digital Electronic Circuits

Elsevier Unlike books currently on the market, this book attempts to satisfy two goals: combine circuits and electronics into a single, unified treatment, and establish a strong connection with the contemporary world of digital systems. It will introduce a new way of looking not only at the treatment of circuits, but also at the treatment of introductory coursework in engineering in general. Using the concept of "abstraction," the book attempts to form a bridge between the world of physics and the world of large computer systems. In particular, it attempts to unify electrical engineering and computer science as the art of creating and exploiting successive abstractions to manage the complexity of building useful electrical systems. Computer systems are simply one type of electrical systems. +Balances circuits theory with practical digital electronics applications. +Illustrates concepts with real devices. +Supports the popular circuits and electronics course on the MIT OpenCourse Ware from which professionals worldwide study this new approach. +Written by two educators well known for their innovative teaching and research and their collaboration with industry. +Focuses on contemporary MOS technology.

Schaum's Outline of Theory and Problems of Basic Circuit Analysis

McGraw-Hill Companies Confusing Textbooks? Missed Lectures? Not Enough Time? . . . Fortunately for you, there's Schaum's Outlines. More than 40 million students have trusted Schaum's to help them succeed in the classroom and on exams. Schaum's is the key to faster learning and higher grades in every subject. Each Outline presents all the essential course information in an easy-to-follow, topic-by-topic format. You also get hundreds of examples, solved problems, and practice exercises to test your skills. . . . This Schaum's Outline gives you. . . . Practice problems with full explanations that reinforce knowledge. Coverage of the most up-to-date developments in your course field. In-depth review of practices and applications. . . . Fully compatible with your classroom text, Schaum's highlights all the important facts you need to know. Use Schaum's to shorten your study time-and get your best test scores!. . . . Schaum's Outlines-Problem Solved.. . .

Introduction To Algorithms

MIT Press The first edition won the award for Best 1990 Professional and Scholarly Book in Computer Science and Data Processing by the Association of American Publishers. There are books on algorithms that are rigorous but incomplete and others that cover masses of material but lack rigor. Introduction to Algorithms combines rigor and comprehensiveness. The book covers a broad range of algorithms in depth, yet makes their design and analysis accessible to all levels of readers. Each chapter is relatively self-contained and can be used as a unit of study. The algorithms are described in English and in a pseudocode designed to be readable by anyone who has done a little programming. The explanations have been kept elementary without sacrificing depth of coverage or mathematical rigor. The first edition became the standard reference for professionals and a widely used text in universities worldwide. The second edition features new chapters on the role of algorithms, probabilistic analysis and randomized algorithms, and linear programming, as well as extensive revisions to virtually every section of the book. In a subtle but important change, loop invariants are introduced early and used throughout the text to prove algorithm correctness. Without changing the mathematical and analytic focus, the authors have moved much of the mathematical foundations material from Part I to an appendix and have included additional motivational material at the beginning.

Engineering Circuit Analysis

Wiley Global Education Circuit analysis is the fundamental gateway course for computer and electrical engineering majors. Engineering Circuit Analysis has long been regarded as the most dependable textbook. Irwin and Nelms has long been known for providing the best supported learning for students otherwise intimidated by the subject matter. In this new 11th edition, Irwin and Nelms continue to develop the most complete set of pedagogical tools available and thus provide the highest level of support for students entering into this complex subject. Irwin and Nelms' trademark student-centered learning design focuses on helping students complete the connection between theory and practice. Key concepts are explained clearly and illustrated by detailed worked examples. These are then followed by Learning Assessments, which allow students to work similar problems and check their results against the answers provided. The WileyPLUS course contains tutorial videos that show solutions to the Learning Assessments in detail, and also includes a robust set of algorithmic problems at a wide range of difficulty levels. WileyPLUS sold separately from text.

Feedback Systems

An Introduction for Scientists and Engineers, Second Edition

Princeton University Press The essential introduction to the principles and applications of feedback systems—now fully revised and expanded This textbook covers the mathematics needed to model, analyze, and design feedback systems. Now more user-friendly than ever, this revised and expanded edition of Feedback Systems is a one-volume resource for students and researchers in mathematics and engineering. It has applications across a range of disciplines that utilize feedback in physical, biological, information, and economic systems. Karl Åström and Richard Murray use techniques from physics, computer science, and operations research to introduce control-oriented modeling. They begin with state space tools for analysis and design, including stability of solutions, Lyapunov functions, reachability, state feedback observability, and estimators. The matrix exponential plays a

central role in the analysis of linear control systems, allowing a concise development of many of the key concepts for this class of models. Åström and Murray then develop and explain tools in the frequency domain, including transfer functions, Nyquist analysis, PID control, frequency domain design, and robustness. Features a new chapter on design principles and tools, illustrating the types of problems that can be solved using feedback Includes a new chapter on fundamental limits and new material on the Routh-Hurwitz criterion and root locus plots Provides exercises at the end of every chapter Comes with an electronic solutions manual An ideal textbook for undergraduate and graduate students Indispensable for researchers seeking a self-contained resource on control theory

Implementing Six Sigma

Smarter Solutions Using Statistical Methods

John Wiley & Sons Includes new and expanded coverage of Six Sigma infrastructure building and benchmarking. Provides plans, checklists, metrics, and pitfalls.

Fundamentals of Electric Circuits

For use in an introductory circuit analysis or circuit theory course, this text presents circuit analysis in a clear manner, with many practical applications. It demonstrates the principles, carefully explaining each step.

Design of Analog Circuits Through Symbolic Analysis

Bentham Science Publishers "Symbolic analyzers have the potential to offer knowledge to sophomores as well as practitioners of analog circuit design. Actually, they are an essential complement to numerical simulators, since they provide insight into circuit behavior which numerical "

The Greenhouse Gas Protocol

A Corporate Accounting and Reporting Standard

World Resources Inst The GHG Protocol Corporate Accounting and Reporting Standard helps companies and other organizations to identify, calculate, and report GHG emissions. It is designed to set the standard for accurate, complete, consistent, relevant and transparent accounting and reporting of GHG emissions.

Circuit Simulation

John Wiley & Sons A Definitive text on developing circuit simulators Circuit Simulation gives a clear description of the numerical techniques and algorithms that are part of modern circuit simulators, with a focus on the most commonly used simulation modes: DC analysis and transient analysis. Tested in a graduate course on circuit simulation at the University of Toronto, this unique text provides the reader with sufficient detail and mathematical rigor to write his/her own basic circuit simulator. There is detailed coverage throughout of the mathematical and numerical techniques that are the basis for the various simulation topics, which facilitates a complete understanding of practical simulation techniques. In addition, Circuit Simulation: Explores a number of modern techniques from numerical analysis that are not synthesized anywhere else Covers network equation formulation in detail, with an emphasis on modified nodal analysis Gives a comprehensive treatment of the most relevant aspects of linear and nonlinear system solution techniques States all theorems without proof in order to maintain the focus on the end-goal of providing coverage of practical simulation methods Provides ample references for further study Enables newcomers to circuit simulation to understand the material in a concrete and holistic manner With problem sets and computer projects at the end of every chapter, Circuit Simulation is ideally suited for a graduate course on this topic. It is also a practical reference for design engineers and computer-aided design practitioners, as well as researchers and developers in

both industry and academia.

Introduction to PSpice Manual for Electric Circuits Using Orcad Release 9.2

The fourth edition of this work continues to provide a thorough perspective of the subject, communicated through a clear explanation of the concepts and techniques of electric circuits. This edition was developed with keen attention to the learning needs of students. It includes illustrations that have been redesigned for clarity, new problems and new worked examples. Margin notes in the text point out the option of integrating PSpice with the provided Introduction to PSpice; and an instructor's roadmap (for instructors only) serves to classify homework problems by approach. The author has also given greater attention to the importance of circuit memory in electrical engineering, and to the role of electronics in the electrical engineering curriculum.

Introduction to Embedded Systems, Second Edition A Cyber-Physical Systems Approach

MIT Press An introduction to the engineering principles of embedded systems, with a focus on modeling, design, and analysis of cyber-physical systems. The most visible use of computers and software is processing information for human consumption. The vast majority of computers in use, however, are much less visible. They run the engine, brakes, seatbelts, airbag, and audio system in your car. They digitally encode your voice and construct a radio signal to send it from your cell phone to a base station. They command robots on a factory floor, power generation in a power plant, processes in a chemical plant, and traffic lights in a city. These less visible computers are called embedded systems, and the software they run is called embedded software. The principal challenges in designing and analyzing embedded systems stem from their interaction with physical processes. This book takes a cyber-physical approach to embedded systems, introducing the engineering concepts underlying embedded systems as a technology and as a subject of study. The focus is on modeling, design, and analysis of cyber-physical systems, which integrate computation, networking, and physical processes. The second edition offers two new chapters, several new exercises, and other improvements. The book can be used as a textbook at the advanced undergraduate or introductory graduate level and as a professional reference for practicing engineers and computer scientists. Readers should have some familiarity with machine structures, computer programming, basic discrete mathematics and algorithms, and signals and systems.

The Analysis and Design of Linear Circuits Laplace Early

Wiley Now revised with a stronger emphasis on applications and more problems, this new Fourth Edition gives readers the opportunity to analyze, design, and evaluate linear circuits right from the start. The book's abundance of design examples, problems, and applications, promote creative skills and show how to choose the best design from several competing solutions. * Laplace first. The text's early introduction to Laplace transforms saves time spent on transitional circuit analysis techniques that will be superseded later on. Laplace transforms are used to explain all of the important dynamic circuit concepts, such as zero state and zero-input responses, impulse and step responses, convolution, frequency response, and Bode plots, and analog filter design. This approach provides students with a solid foundation for follow-up courses.

Electronic Devices And Circuit Theory,9/e With Cd

Pearson Education India

Probability on Graphs

Random Processes on Graphs and Lattices

Cambridge University Press This introduction to some of the principal models in the theory of disordered systems leads the reader through the basics, to the very edge of contemporary research, with the minimum of technical fuss. Topics covered include random walk, percolation, self-avoiding walk, interacting particle systems, uniform spanning tree, random graphs, as well as the Ising, Potts, and random-cluster models for ferromagnetism, and the Lorentz model for motion in a random medium. This new edition features accounts of major recent progress, including the exact value of the connective constant of the hexagonal lattice, and the critical point of the random-cluster model on the square lattice. The choice of topics is strongly motivated by modern applications, and focuses on areas that merit further research. Accessible to a wide audience of mathematicians and physicists, this book can be used as a graduate course text. Each chapter ends with a range of exercises.

Foundations of Cellular Neurophysiology

MIT Press with simulations and illustrations by Richard Gray Problem solving is an indispensable part of learning a quantitative science such as neurophysiology. This text for graduate and advanced undergraduate students in neuroscience, physiology, biophysics, and computational neuroscience provides comprehensive, mathematically sophisticated descriptions of modern principles of cellular neurophysiology. It is the only neurophysiology text that gives detailed derivations of equations, worked examples, and homework problem sets (with complete answers). Developed from notes for the course that the authors have taught since 1983, Foundations of Cellular Neurophysiology covers cellular neurophysiology (also some material at the molecular and systems levels) from its physical and mathematical foundations in a way that is far more rigorous than other commonly used texts in this area.

Power System Analysis and Design

Cengage Learning The new edition of POWER SYSTEM ANALYSIS AND DESIGN provides students with an introduction to the basic concepts of power systems along with tools to aid them in applying these skills to real world situations. Physical concepts are highlighted while also giving necessary attention to mathematical techniques. Both theory and modeling are developed from simple beginnings so that they can be readily extended to new and complex situations. The authors incorporate new tools and material to aid students with design issues and reflect recent trends in the field. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Foundations for Microstrip Circuit Design

John Wiley & Sons Building on the success of the previous three editions, Foundations for Microstrip Circuit Design offers extensive new, updated and revised material based upon the latest research. Strongly design-oriented, this fourth edition provides the reader with a fundamental understanding of this fast expanding field making it a definitive source for professional engineers and researchers and an indispensable reference for senior students in electronic engineering. Topics new to this edition: microwave substrates, multilayer transmission line structures, modern EM tools and techniques, microstrip and planar transmission line design, transmission line theory, substrates for planar transmission lines, Vias, wirebonds, 3D integrated interposer structures, computer-aided design, microstrip and power-dependent effects, circuit models, microwave network analysis, microstrip passive elements, and slotline design fundamentals.

Introduction to Algorithms, third edition

MIT Press The latest edition of the essential text and professional reference, with substantial new material on such topics as vEB trees, multithreaded algorithms, dynamic programming, and edge-based flow. Some books on algorithms are rigorous but incomplete; others cover masses of material but lack rigor. Introduction to Algorithms uniquely combines rigor and comprehensiveness. The book covers a broad range of algorithms in depth, yet makes their design and analysis accessible to all levels of readers. Each chapter is relatively self-contained and can be used as a unit of study. The algorithms are described in English and in a pseudocode designed to be readable by anyone who has done a little programming. The explanations have been kept elementary without sacrificing depth of coverage or mathematical rigor. The first edition became a widely used text in universities worldwide as well as the standard reference for professionals. The second edition featured new chapters on the role of algorithms, probabilistic analysis and randomized algorithms, and linear programming. The third edition has been revised and updated throughout. It includes two completely new chapters, on van Emde Boas trees and multithreaded algorithms, substantial additions to the chapter on recurrence (now called "Divide-and-Conquer"), and an appendix on matrices. It features improved treatment of dynamic programming and greedy algorithms and a new notion of edge-based flow in the material on flow networks. Many exercises and problems have been added for this edition. The international paperback edition is no longer available; the hardcover is available worldwide.

Radio-Frequency Integrated-Circuit Engineering

John Wiley & Sons This book presents the theory, analysis, and design of passive and active RFICs at high frequencies to hundreds of GHz, beyond those in the traditional RF spectrum. Provides essential knowledge in EM and microwave engineering, passive and active RFICs, RFIC analysis and design techniques, and RF systems vital for RFIC students and engineers Blends analog and microwave engineering approaches for RFIC design at high frequencies Includes problems at the end of each chapter

Diseases of Swine

John Wiley & Sons Provides a fully revised Eleventh Edition of the definitive reference to swine health and disease Diseases of Swine has been the definitive reference on swine health and disease for over 60 years. This new edition has been completely revised to include the latest information, developments, and research in the field. Now with full color images throughout, this comprehensive and authoritative resource has been redesigned for improved consistency and readability, with a reorganized format for more intuitive access to information. Diseases of Swine covers a wide range of essential topics on swine production, health, and management, with contributions from more than 100 of the foremost international experts in the field. This revised edition makes the information easy to find and includes expanded information on welfare and behavior. A key reference for anyone involved in the swine industry, Diseases of Swine, Eleventh Edition: Presents a thorough revision to the gold-standard reference on pig health and disease Features full color images throughout the book Includes information on the most current advances in the field Provides comprehensive information on swine welfare and behavior Offers a reorganized format to make the information more accessible Written for veterinarians, academicians, students, and individuals and agencies responsible for swine health and public health, Diseases of Swine, Eleventh Edition is an essential guide to swine health. "The 11th edition of Diseases of Swine continues to serve as the gold-standard resource for anything and everything related to swine herd health...this edition does an outstanding job of keeping up with the advanced diagnostic technologies and the latest research on new or emerging diseases and syndromes...there is no other informational resource that comes close to providing the depth or quality of information on the topic of swine diseases as does this book"

Report of the Presidential Commission on the Space Shuttle Challenger Accident

DIANE Publishing Reviews the circumstances surrounding the Challenger accident to establish the probable cause or causes of the accident. Develops recommendations for corrective or other action based upon the Commission's findings and determinations. Color photos, charts and tables.

The Algorithm Design Manual

Springer Science & Business Media This newly expanded and updated second edition of the best-selling classic continues to take the "mystery" out of designing algorithms, and analyzing their efficacy and efficiency. Expanding on the first edition, the book now serves as the primary textbook of choice for algorithm design courses while maintaining its status as the premier practical reference guide to algorithms for programmers, researchers, and students. The reader-friendly Algorithm Design Manual provides straightforward access to combinatorial algorithms technology, stressing design over analysis. The first part, Techniques, provides accessible instruction on methods for designing and analyzing computer algorithms. The second part, Resources, is intended for browsing and reference, and comprises the catalog of algorithmic resources, implementations and an extensive bibliography. **NEW to the second edition:** • Doubles the tutorial material and exercises over the first edition • Provides full online support for lecturers, and a completely updated and improved website component with lecture slides, audio and video • Contains a unique catalog identifying the 75 algorithmic problems that arise most often in practice, leading the reader down the right path to solve them • Includes several NEW "war stories" relating experiences from real-world applications • Provides up-to-date links leading to the very best algorithm implementations available in C, C++, and Java

Circuits and Networks:

OUP India Circuits & Networks: Analysis, Design, and Synthesis has been designed for undergraduate students of Electrical, Electronics, Instrumentation, and Control Engineering. The book is structured to provide an in-depth knowledge of electrical circuit analysis, design, and synthesis.

Design with Operational Amplifiers and Analog Integrated Circuits

Franco's "Design with Operational Amplifiers and Analog Integrated Circuits, 4e" combines theory with real-life applications to deliver a straightforward look at analog design principles and techniques. An emphasis on the physical picture helps the student develop the intuition and practical insight that are the keys to making sound design decisions. The book is intended for a design-oriented course in applications with operational amplifiers and analog ICs. It also serves as a comprehensive reference for practicing engineers. This new edition includes enhanced pedagogy (additional problems, more in-depth coverage of negative feedback, more effective layout), updated technology (current-feedback and folded-cascode amplifiers, and low-voltage amplifiers), and increased topical coverage (current-feedback amplifiers, switching regulators and phase-locked loops).

Renewable Energy Integration

Challenges and Solutions

Springer Science & Business Media This book presents different aspects of renewable energy integration, from the latest developments in renewable energy technologies to the currently growing smart grids. The importance of different renewable energy sources is discussed, in order to identify the advantages and challenges for each technology. The rules of connecting the renewable energy sources have also been covered along with practical examples. Since solar and wind energy are the most popular forms of renewable energy sources, this book provides the challenges of integrating these renewable generators along with some innovative solutions. As the complexity of power system operation has been raised due to the renewable energy integration, this book also includes some analysis to investigate the characteristics of power systems in a smarter way. This book is intended for those working in the area of renewable energy integration in distribution networks.

The Art of Software Testing

John Wiley & Sons The classic, landmark work on software testing The hardware and software of computing have changed markedly in the three decades since the first edition of The Art of Software Testing, but this book's powerful underlying analysis has stood the test of time. Whereas most books on software testing target particular development

techniques, languages, or testing methods, *The Art of Software Testing, Third Edition* provides a brief but powerful and comprehensive presentation of time-proven software testing approaches. If your software development project is mission critical, this book is an investment that will pay for itself with the first bug you find. The new Third Edition explains how to apply the book's classic principles to today's hot topics including: Testing apps for iPhones, iPads, BlackBerrys, Androids, and other mobile devices Collaborative (user) programming and testing Testing for Internet applications, e-commerce, and agile programming environments Whether you're a student looking for a testing guide you'll use for the rest of your career, or an IT manager overseeing a software development team, *The Art of Software Testing, Third Edition* is an expensive book that will pay for itself many times over.

Fundamentals of Electric Circuits

McGraw-Hill Education "Alexander and Sadiku's sixth edition of *Fundamentals of Electric Circuits* continues in the spirit of its successful previous editions, with the objective of presenting circuit analysis in a manner that is clearer, more interesting, and easier to understand than other, more traditional texts. Students are introduced to the sound, six-step problem solving methodology in chapter one, and are consistently made to apply and practice these steps in practice problems and homework problems throughout the text."--
Publisher's website.

BIM Handbook

A Guide to Building Information Modeling for Owners, Designers, Engineers, Contractors, and Facility Managers

John Wiley & Sons Discover BIM: A better way to build better buildings Building Information Modeling (BIM) offers a novel approach to design, construction, and facility management in which a digital representation of the building product and process is used to facilitate the exchange and interoperability of information in digital format. BIM is beginning to change the way buildings look, the way they function, and the ways in which they are designed and built. The *BIM Handbook, Third Edition* provides an in-depth understanding of BIM technologies, the business and organizational issues associated with its implementation, and the profound advantages that effective use of BIM can provide to all members of a project team. Updates to this edition include: Information on the ways in which professionals should use BIM to gain maximum value New topics such as collaborative working, national and major construction clients, BIM standards and guides A discussion on how various professional roles have expanded through the widespread use and the new avenues of BIM practices and services A wealth of new case studies that clearly illustrate exactly how BIM is applied in a wide variety of conditions Painting a colorful and thorough picture of the state of the art in building information modeling, the *BIM Handbook, Third Edition* guides readers to successful implementations, helping them to avoid needless frustration and costs and take full advantage of this paradigm-shifting approach to construct better buildings that consume fewer materials and require less time, labor, and capital resources.

A Treatise on the Theory of Bessel Functions

Cambridge University Press This monumental 1995 treatise by the late Professor G. N. Watson will be indispensable to mathematicians and physicists.

Modeling and Analysis of Dynamic Systems

Houghton Mifflin School This text is intended for a first course in dynamic systems and is designed for use by sophomore and junior majors in all fields of engineering, but principally mechanical and electrical engineers. All engineers must understand how dynamic systems work and what responses can be expected from various physical systems.

The Design of Everyday Things

Revised and Expanded Edition

Hachette UK Design doesn't have to be complicated, which is why this guide to human-centered design shows that usability is just as important as aesthetics. Even the smartest among us can feel inept as we fail to figure out which light switch or oven burner to turn on, or whether to push, pull, or slide a door. The fault, argues this ingenious -- even liberating -- book, lies not in ourselves, but in product design that ignores the needs of users and the principles of cognitive psychology. The problems range from ambiguous and hidden controls to arbitrary relationships between controls and functions, coupled with a lack of feedback or other assistance and unreasonable demands on memorization. The Design of Everyday Things shows that good, usable design is possible. The rules are simple: make things visible, exploit natural relationships that couple function and control, and make intelligent use of constraints. The goal: guide the user effortlessly to the right action on the right control at the right time. The Design of Everyday Things is a powerful primer on how -- and why -- some products satisfy customers while others only frustrate them.

Mathematical Foundations of Computer Networking

Addison-Wesley "To design future networks that are worthy of society's trust, we must put the 'discipline' of computer networking on a much stronger foundation. This book rises above the considerable minutiae of today's networking technologies to emphasize the long-standing mathematical underpinnings of the field." -Professor Jennifer Rexford, Department of Computer Science, Princeton University "This book is exactly the one I have been waiting for the last couple of years. Recently, I decided most students were already very familiar with the way the net works but were not being taught the fundamentals-the math. This book contains the knowledge for people who will create and understand future communications systems." -Professor Jon Crowcroft, The Computer Laboratory, University of Cambridge The Essential Mathematical Principles Required to Design, Implement, or Evaluate Advanced Computer Networks Students, researchers, and professionals in computer networking require a firm conceptual understanding of its foundations. Mathematical Foundations of Computer Networking provides an intuitive yet rigorous introduction to these essential mathematical principles and techniques. Assuming a basic grasp of calculus, this book offers sufficient detail to serve as the only reference many readers will need. Each concept is described in four ways: intuitively; using appropriate mathematical notation; with a numerical example carefully chosen for its relevance to networking; and with a numerical exercise for the reader. The first part of the text presents basic concepts, and the second part introduces four theories in a progression that has been designed to gradually deepen readers' understanding. Within each part, chapters are as self-contained as possible. The first part covers probability; statistics; linear algebra; optimization; and signals, systems, and transforms. Topics range from Bayesian networks to hypothesis testing, and eigenvalue computation to Fourier transforms. These preliminary chapters establish a basis for the four theories covered in the second part of the book: queueing theory, game theory, control theory, and information theory. The second part also demonstrates how mathematical concepts can be applied to issues such as contention for limited resources, and the optimization of network responsiveness, stability, and throughput.

Science and Application of High-Intensity Interval Training

Human Kinetics The popularity of high-intensity interval training (HIIT), which consists primarily of repeated bursts of high-intensity exercise, continues to soar because its effectiveness and efficiency have been proven in use by both elite athletes and general fitness enthusiasts. Surprisingly, few resources have attempted to explain both the science behind the HIIT movement and its sport-specific application to athlete training. That's why Science and Application of High-Intensity Interval Training is a must-have resource for sport coaches, strength and conditioning professionals, personal trainers, and exercise physiologists, as well as for researchers and sport scientists who study high-intensity interval training.

Time Series Analysis and Inverse Theory for Geophysicists

Cambridge University Press This unique textbook provides the foundation for understanding and applying techniques commonly used in geophysics to process and interpret modern digital data. The geophysicist's toolkit contains a range of techniques which may be divided into two main groups: processing, which concerns time series analysis and is used to separate the signal of interest from background noise; and inversion, which involves generating some map or physical model from the data. These two groups of techniques are normally taught separately, but are here presented together as parts I and II of the book. Part III describes some real applications and includes case studies in seismology, geomagnetism, and gravity. This textbook gives students and practitioners the theoretical background and practical experience, through case studies, computer examples and exercises, to understand and apply new processing methods to modern geophysical datasets. Solutions to the exercises are available on a website at <http://publishing.cambridge.org/resources/0521819652>

Power Systems Modelling and Fault Analysis

Theory and Practice

Elsevier This book provides a comprehensive practical treatment of the modelling of electrical power systems, and the theory and practice of fault analysis of power systems covering detailed and advanced theories as well as modern industry practices. The continuity and quality of electricity delivered safely and economically by today's and future's electrical power networks are important for both developed and developing economies. The correct modelling of power system equipment and correct fault analysis of electrical networks are pre-requisite to ensuring safety and they play a critical role in the identification of economic network investments. Environmental and economic factors require engineers to maximise the use of existing assets which in turn require accurate modelling and analysis techniques. The technology described in this book will always be required for the safe and economic design and operation of electrical power systems. The book describes relevant advances in industry such as in the areas of international standards developments, emerging new generation technologies such as wind turbine generators, fault current limiters, multi-phase fault analysis, measurement of equipment parameters, probabilistic short-circuit analysis and electrical interference. *A fully up-to-date guide to the analysis and practical troubleshooting of short-circuit faults in electricity utilities and industrial power systems *Covers generators, transformers, substations, overhead power lines and industrial systems with a focus on best-practice techniques, safety issues, power system planning and economics *North American and British / European standards covered

Fluid Power Circuits and Controls

Fundamentals and Applications

CRC Press Engineers not only need to understand the basics of how fluid power components work, but they must also be able to design these components into systems and analyze or model fluid power systems and circuits. There has long been a need for a comprehensive text on fluid power systems, written from an engineering perspective, which is suitable for an u

The Psychology of Everyday Things

Basic Books