

Power Systems Ysis Bergen Vittal Solution Manual

Tropical forests are an undervalued asset in meeting the greatest global challenges of our time—averting climate change and promoting development. Despite their importance, tropical forests and their ecosystems are being destroyed at a high and even increasing rate in most forest-rich countries. The good news is that the science, economics, and politics are aligned to support a major international effort over the next five years to reverse tropical deforestation. Why Forests? Why Now? synthesizes the latest evidence on the importance of tropical forests in a way that is accessible to anyone interested in climate change and development and to readers already familiar with the problem of deforestation. It makes the case to decisionmakers in rich countries that rewarding developing countries for protecting their forests is urgent, affordable, and achievable.

This book requires an interdisciplinary understanding of creativity, ideal for the formation of a digital public culture. Educating students, young professionals and future engineers is to develop their capacity for creativity. Can creativity be learned? With this question, the relations of technology and art appear in a new light. Especially the notion of "progress" takes on a new meaning and must be distinguished from innovation. The discussion of particular educational approaches, the exploration of digital technologies and the presentation of best practice examples conclude the book. University teachers show how the teaching of creativity reinforces the teaching of other subjects, especially foreign languages.

Providing a complete and in-depth overview of the available knowledge in the area of low energy and low carbon architecture. The scope of this edited book includes several important topics ranging from chapters giving a broad view of the progressing models in ecologically responsible environments to other chapters focussing on recent advances in de

A thorough and exhaustive presentation of theoretical analysis and practical techniques for the small-signal analysis and control of large modern electric power systems as well as an assessment of their stability and damping performance.

International Handbook of Computer-Supported Collaborative Learning

The Urban Rail Development Handbook

Low Energy Low Carbon Architecture

Journal of the American Medical Association

Trading, Performance and Information Technology

Scientific, Social, Cultural and Educational Challenges

Electric Energy Systems, Second Edition provides an analysis of electric generation and transmission systems that addresses diverse regulatory issues. It includes fundamental background topics, such as load flow, short circuit analysis, and economic dispatch, as well as advanced topics, such as harmonic load flow, state estimation, voltage and frequency control, electromagnetic transients, etc. The new edition features updated material throughout the text and new sections throughout the chapters. It covers current issues in the industry, including renewable generation with associated control and scheduling problems, HVDC transmission, and use of synchrophasors (PMUs). The text explores more sophisticated protections and the new roles of demand, side management, etc. Written by internationally recognized specialists, the text contains a wide range of worked out examples along with numerous exercises and solutions to enhance understanding of the material. Features Integrates technical and economic analyses of electric energy systems. Covers HVDC transmission. Addresses renewable generation and the associated control and scheduling problems. Analyzes electricity markets, electromagnetic transients, and harmonic load flow. Features new sections and updated material throughout the text. Includes examples and solved problems.

Recent work in theoretical syntax has revealed the strong explanatory power of the notions of economy, competition, and optimization. Building grammars entirely upon these elements, Optimality Theory syntax provides a theory of universal grammar with a formally precise and strongly restricted theory of universal typology: cross-linguistic variation arises exclusively from the conflict among universal principles.Beginning with a general introduction to Optimality Theory syntax, this volume provides a comprehensive overview of the state of the art, as represented by the work of the leading developers of the theory. The broad range of topics treated includes morphosyntax (case, inflection, voice, and cliticization), the syntax of reference (control, anaphora, and pronominalization), the gammar of clauses (complementizers and their absence), and grammatical and discourse effects in word order. Among the theoretical themes running throughout are the interplay between faithfulness and markedness, and various questions of typology and of inventory. Contributors Peter Ackema, Judith Aissen, Eric Bakovic, Joan Bresnan, Hye-Won Choi, Jo ã o Costa, Jane Grimshaw, Edward Keer, G é raldine Legendre, Gereon M ü ller, Ad Neeleman, Vieri Samek-Lodovici, Peter Sells, Margaret Speas, Sten Vikner, Colin Wilson, Ellen Woolford

Chronicling the British pursuit of the legendary El Dorado, Masters of All They Surveyed tells the fascinating story of geography, cartography, and scientific exploration in Britain's unique South American colony, Guyana. How did nineteenth-century Europeans turn areas they called terra incognita into bounded colonial territories? How did a tender-footed gentleman, predisposed to seasickness (and unable to swim), make his way up churning rivers into thick jungle, arid savanna, and forbidding mountain ranges, survive for the better part of a decade, and emerge with a map? What did that map mean? In answering these questions, D. Graham Burnett brings to light the work of several such explorers, particularly Sir Robert H. Schomburgk, the man who claimed to be the first to reach the site of Raleigh's El Dorado. Commissioned by the Royal Geographical Society and later by the British Crown, Schomburgk explored and mapped regions in modern Brazil, Venezuela, and Guyana, always in close contact with Amerindian communities. Drawing heavily on the maps, reports, and letters that Schomburgk sent back to England, and especially on the luxuriant images of survey landmarks in his Twelve Views in the Interior of Guiana (reproduced in color in this book), Burnett shows how a vast network of traverse surveys, illustrations, and travel narratives not only laid out the official boundaries of British Guiana but also marked out a symbolic landscape that fired the British imperial imagination. Engagingly written and beautifully illustrated, Masters of All They Surveyed will interest anyone who wants to understand the histories of colonialism and science.

In traditional power system dynamics and control books, the focus is on synchronous generators. Within current industry, where renewable energy, power electronics converters, and microgrids arise, the related system-level dynamics and control need coverage. Wind energy system dynamics and microgrid system control are covered. 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, as well as microgrids.

Exploring Universal Basic Income

Evolutionary Computing and Mobile Sustainable Networks

A Vast Machine

Exploration, Geography, and a British El Dorado

Wind Power in Power Systems

Analysis and Operation

Universal basic income (UBI) is emerging as one of the most hotly debated issues in development and social protection policy. But what are the features of UBI? What is it meant to achieve? How do we know, and what don't we know, about its performance? What does it take to implement it in practice? Drawing from global evidence, literature, and survey data, this volume provides a framework to elucidate issues and trade-offs in UBI with a view to help inform choices around its appropriateness and feasibility in different contexts. Specifically, the book examines how UBI differs from or complements other social assistance programs in terms of objectives, coverage, incidence, adequacy, incentives, effects on poverty and inequality, financing, political economy, and implementation. It also reviews past and current country experiences, surveys the full range of existing policy proposals, provides original results from micro+tax benefit simulations, and sets out a range of considerations around the analytics and practice of UBI.

The second edition of the highly acclaimed Wind Power in Power Systems has been thoroughly revised and expanded to reflect the latest challenges associated with increasing wind power penetration levels. Since its first release, practical experiences with high wind power penetration levels have significantly increased. This book presents an overview of the lessons learned in integrating wind power into power systems and provides an outlook of the relevant issues and solutions to allow even higher wind power penetration levels. This includes the development of standard wind turbine simulation models. This extensive update has 23 brand new chapters in cutting-edge areas including offshore wind farms and storage options, performance validation and certification for grid codes, and the provision of reactive power and voltage control from wind power plants. Key features: Offers an international perspective on integrating a high penetration of wind power into the power system, from basic network interconnection to industry deregulation; Outlines the methodology and results of European and North American large-scale grid integration studies; Extensive practical experience from wind power and power system experts and transmission systems operators in Germany, Denmark, Spain, UK, Ireland, USA, China and New Zealand; Presents various wind turbine designs from the electrical perspective and models for their simulation, and discusses industry standards and world-wide grid codes, along with power quality issues; Considers concepts to increase penetration of wind power in power systems, from wind turbine, power plant and power system redesign to smart grid and storage solutions. Carefully edited for a highly coherent structure, this work remains an essential reference for power system engineers, transmission and distribution network operator and planner, wind turbine designers, wind project developers and wind energy consultants dealing with the integration of wind power into the distribution or transmission network. Up-to-date and comprehensive, it is also useful for graduate students, researchers, regulation authorities, and policy makers who work in the area of wind power and need to understand the relevant power system integration issues.

The principles of the First Edition--to teach students and engineers the fundamentals of electrical transients and equip them with the skills to recognize and solve transient problems in power networks and components--also guide this Second Edition. While the text continues to stress the physical aspects of the phenomena involved in these problems, it also broadens and updates the computational treatment of transients. Necessarily, two new chapters address the subject of modeling and models for most types of equipment are discussed. The adequacy of the models, their validation and the relationship between model and the physical entity it represents are also examined. There are now chapters devoted entirely to isolation coordination and protection, reflecting the revolution that metal oxide surge arresters have caused in the power industry. Features additional and more complete illustrative material--figures, diagrams and worked examples. An entirely new chapter of case studies demonstrates modeling and computational techniques as they have been applied by engineers to specific problems.

Provides solutions to everyday voltage stability problems increasingly faced by engineers in electric power plants. Table of Contents: General Aspects of Electric Power Systems; What is Voltage Stability; Transmission System Reactive Power Compensation and Control; Power System Loads; Generation Characteristics; Simulation of Equivalent Systems; Voltage Stability of a Large System; Voltage Stability with HVDC Links; Power System Planning and Operating Guidelines. Appendices: A. Notes on the Per Unit System; B. Voltage Stability and the Power Flow Problem; C. Power Flow Simulation Methodology; D. Dynamic Analysis Methods; E. Equivalent System 2 Data; F. Voltage Instability Incidents. Index. Illustrations.

Science and Technology

The Future of the Global Financial System: Downfall or Harmony

Electrical Transients in Power Systems

The Media Book

Transient Stability of Power Systems

Control and Dynamics in Power Systems and Microgrids

Infrastructure—electricity, telecommunications, roads, water, and sanitation—are central to people’s lives. Without it, they cannot make a living, stay healthy, and maintain a good quality of life. Access to basic infrastructure is also a key driver of economic development. This report lays out a framework for understanding infrastructure resilience - the ability of infrastructure systems to function and meet users’ needs during and after a natural hazard. It focuses on four infrastructure systems that are essential to economic activity and people’s well-being: power systems, including the generation, transmission, and distribution of electricity; water and sanitation—especially water utilities; transport systems—multiple modes such as road, rail, waterway, and airports, and multiple scales, including urban transit and rural access; and telecommunications, including telephone and Internet connections.

The Media Book provides today’s students with a comprehensive foundation for the study of the modern media. It has been systematically compiled to map the field in a way which corresponds to the curricular organization of the field around the globe, providing a complete resource for students in their third year to graduate level courses in the U.S.

Biochar is the carbon-rich product when biomass (such as wood, manure or crop residues) is heated in a closed container with little or no available air. It can be used to improve agriculture and the environment in several ways, and its stability in soil and superior nutrient-retention properties make it an ideal soil amendment to increase crop yields. In addition to this, biochar sequestration, in combination with sustainable biomass production, can be carbon-negative and therefore used to actively remove carbon dioxide from the atmosphere, with major implications for mitigation of climate change. Biochar production can also be combined with bioenergy production through the use of the gases that are given off in the pyrolysis process. This book is the first to synthesize the expanding research literature on this topic. The book’s interdisciplinary approach, which covers engineering, environmental sciences, agricultural sciences, economics and policy, is a vital tool at this stage of biochar technology development. This comprehensive overview of current knowledge will be of interest to advanced students, researchers and professionals in a wide range of disciplines.

THIS BOOK IS AVAILABLE AS OPEN ACCESS BOOK ON SPRINGERLINK One of the most significant tasks facing mathematics educators is to understand the role of mathematical reasoning and proving in mathematics teaching, so that its presence in instruction can be enhanced. This challenge has been given even greater importance by the assignment to proof of a more prominent place in the mathematics curriculum at all levels. Along with this renewed emphasis, there has been an upsurge in research on the teaching and learning of proof at all grade levels, leading to a re-examination of the role of proof in the curriculum and of its relation to other forms of explanation, illustration and justification. This book, resulting from the 19th ICMJ Study, brings together a variety of viewpoints on issues such as: The potential role of reasoning and proof in deepening mathematical understanding in the classroom as it does in mathematical practice. The developmental nature of mathematical reasoning and proof in teaching and learning from the earliest grades. The development of suitable curriculum materials and teacher education programs to support the teaching of proof and proving. The book considers proof and proving as complex but foundational in mathematics. Through the systematic examination of recent research this volume offers new ideas aimed at enhancing the place of proof and proving in our classrooms.

The Problem with Work

Essentials of Systems Analysis and Design, Global Edition

National Power and the Structure of Foreign Trade

Masters of All They Surveyed

Electric Energy Systems

A Unified Approach to Assessment and Control

CSCL has in the past 15 years (and often in conjunction with Springer) grown into a thriving and active community. Yet, lacking is a comprehensive CSCL handbook that displays the range of research being done in this area. This handbook will provide an overview of the diverse aspects of the field, allowing newcomers to develop a sense of the entirety of CSCL research and for existing community members to become more deeply aware of work outside their direct area. The handbook will also serve as a ready reference for foundational concepts, methods, and approaches in the field. The chapters are written in such a way that each of them can be used in a stand-alone fashion while also serving as introductory readings in relevant study courses or in teacher education. While some CSCL-relevant topics are addressed in the International Handbook of the Learning Sciences and the International Handbook of Collaborative Learning, these books do not aim to present an integrated and comprehensive view of CSCL. The International Handbook of Computer- Supported Collaborative Learning covers all relevant topics in CSCL, particularly recent developments in the field, such as the rise of computational approaches and learning analytics.

Provides a basic comprehensive treatment of the major electrical engineering problems associated with the design and operation of electric power systems. The major components of the power system are modeled in terms of their sequence (symmetrical component) equivalent circuits. Reviews power flow, fault analysis, economic dispatch, and transient stability in power systems.

The Problem with Work develops a Marxist feminist critique of the structures and ethics of work, as well as a perspective for imagining a life no longer subordinated to them.

Energy is one of the world’s most challenging problems, and power systems are an important aspect of energy related issues. This handbook contains state-of-the-art contributions on power systems modeling and optimization. The book is separated into two volumes with six sections, which cover the most important areas of energy systems. The first volume covers the topics operations planning and expansion planning while the second volume focuses on transmission and distribution modeling, forecasting in energy, energy auctions and markets, as well as risk management. The contributions are authored by recognized specialists in their fields and consist in either state-of-the-art reviews or examinations of state-of-the-art developments. The articles are not purely theoretical, but instead also discuss specific applications in power systems.

Climate Change and Arctic Sustainable Development

A History

Handbook of Power Systems II

Power Systems Analysis

Proof and Proving in Mathematics Education

Biochar for Environmental Management

This book features selected research papers presented at the International Conference on Evolutionary Computing and Mobile Sustainable Networks (ICECMSN 2020), held at the Sir M. Visvesvaraya Institute of Technology on 20–21 February 2020. Discussing advances in evolutionary computing technologies, including swarm intelligence algorithms and other evolutionary algorithm paradigms which are emerging as widely accepted descriptors for mobile sustainable networks virtualization, optimization and automation, this book is a valuable resource for researchers in the field of evolutionary computing and mobile sustainable networks.

For courses in Systems Analysis and Design, Structured A clear presentation of information, organised around the systems development life cycle model This briefer version of the authors’ highly successful Modern System Analysis and Design is a clear presentation of information, organised around the systems development life cycle model. Designed for courses needing a streamlined approach to the material due to course duration, lab assignments, or special projects, it emphasises current changes in systems analysis and design, and shows the concepts in action through illustrative fictional cases. The full text downloaded to your computer With eBooks you can: search for key concepts, words and phrases make highlights and notes as you study share your notes with friends eBooks are downloaded to your computer and accessible either offline through the Bookshelf (available as a free download), available online and also via the iPad and Android apps. Upon purchase, you'll gain instant access to this eBook. Time limit The eBooks products do not have an expiry date. You will continue to access your digital ebook products whilst you have your Bookshelf installed.

Honorable Mention, 2008 ASLI Choice Awards. Atmospheric Science Librarians International This book offers an informed and revealing account of NASA’s involvement in the scientific understanding of the Earth’s atmosphere. Since the nineteenth century, scientists have attempted to understand the complex processes of the Earth’s atmosphere and the weather created within it. This effort has evolved with the development of new technologies—from the first instrument-equipped weather balloons to multibillion-dollar meteorological satellite and planetary science programs. Erik M. Conway chronicles the history of atmospheric science at NASA, tracing the story from its beginnings in 1958, the International Geophysical Year, through to the present, focusing on NASA’s programs and research in meteorology, stratospheric ozone depletion, and planetary climates and global warming. But the story is not only a scientific one. NASA’s researchers operated within an often politically contentious environment. Although environmental issues garnered strong public and political support in the 1970s, the following decades saw increased opposition to environmentalism as a threat to free market capitalism. Atmospheric Science at NASA critically examines this politically controversial science, dissecting

the often convoluted roles, motives, and relationships of the various institutional actors involved—among them NASA, congressional appropriation committees, government weather and climate bureaus, and the military.

This Open Access textbook represents a vital contribution to global health education, offering insights into health promotion as part of patient care for bachelor’s and master’s students in health care (nurses, occupational therapists, physiotherapists, radiotherapists, social care workers etc.) as well as health care professionals, and providing an overview of the field of health science and health promotion for PhD students and researchers. Written by leading experts from seven countries in Europe, America, Africa and Asia, it first discusses the theory of health promotion and vital concepts. It then presents updated evidence-based health promotion approaches in different populations (people with chronic diseases, cancer, heart failure, dementia, mental disorders, long-term ICU patients, elderly individuals, families with newborn babies, palliative care patients) and examines different health promotion approaches integrated into primary care services. This edited scientific anthology provides much-needed knowledge, translating research into guidelines for practice. Today’s medical approaches are highly developed; however, patients are human beings with a wholeness of body-mind-spirit. As such, providing high-quality and effective health care requires a holistic physical-psychological-social-spiritual model of health care is required. A great number of patients, both in hospitals and in primary health care, suffer from the lack of a holistic oriented health approach: Their condition is treated, but they feel scared, helpless and lonely. Health promotion focuses on improving people’s health in spite of illnesses. Accordingly, health care that supports/promotes patients’ health by identifying their health resources will result in better patient outcomes: shorter hospital stays, less re-hospitalization, being better able to cope at home and improved well-being, which in turn lead to lower health-care costs. This scientific anthology is the first of its kind, in that it connects health promotion with the salutogenic theory of health throughout the chapters. the authors here expand the understanding of health promotion beyond health protection and disease prevention. The book focuses on describing and explaining salutogenesis as an umbrella concept, not only as the key concept of sense of coherence.

The Resilient Infrastructure Opportunity

Optimality-Theoretic Syntax

Proceedings of 8th Computer Science On-line Conference 2019, Vol. 1

Atmospheric Science at NASA

Why Forests? Why Now?

Power System Analysis and Design

The science behind global warming, and its history: how scientists learned to understand the atmosphere, to measure it, to trace its past, and to model its future. Global warming skeptics often fall back on the argument that the scientific case for global warming is all model predictions, nothing but simulation; they warn us that we need to wait for real data, “sound science.” In A Vast Machine Paul Edwards has news for these skeptics: without models, there are no data. Today, no collection of signals or observations—even from satellites, which can “see” the whole planet with a single instrument—becomes global in time and space without passing through a series of data models. Everything we know about the world’s climate we know through models. Edwards offers an engaging and innovative history of how scientists learned to understand the atmosphere—to measure it, trace its past, and model its future.

The restructuring and deregulation of the power utility industry is resulting in significant competitive, technological and regulatory changes. Independent power producers, power marketers and brokers have added a new and significant dimension to the task of maintaining a reliable electric system. Power System Restructuring and Deregulation provides comprehensive coverage of the technological advances, which have helped redesign the ways in which utility companies manage their business. With the aid of practical case studies, an international panel of contributors address the most up to date problems and their solutions in a cohesive manner, making this book indispensable to graduates and engineers in the power industry field. Presents state of the art techniques in power industry restructuring

Includes applications of new technology in power industry deregulation Includes practical examples of changes in load forecasting techniques and methods International contributors offer a global perspective detailing power utility restructuring and deregulation from various countries

This book gathers the best papers presented at the conference “The Future of the Global Financial System: Downfall or Harmony”, which took place in Limassol, Cyprus on April 13-14, 2018. Organized by the Institute of Scientific Communications (Volgograd, Russia), the conference chiefly focused on reassessing the role and meaning of the global financial system in the modern global economy in light of the crisis that began in 2008 and can still be observed in many countries, and on developing conceptual and applied recommendations on spurring the development of the global financial system. All works underwent peer-review and conform to strict criteria, including a high level of originality (more than 90%), elements of scientific novelty, contribution to the development of economic science, and broad possibilities for practical application. The target audience of this scientific work includes postgraduates, lecturers at higher educational establishments, and researchers studying the modern global financial system. Based on the authors’ conclusions and results, readers will be equipped to pursue their own scientific research. The topics addressed include (but are not limited to) the following issues, which are interesting for modern economic science and practice: financial globalization, the role of finances in the global economy, perspectives of transition in the financial system from part of the infrastructure to a new vector of development in the global economy in the 21st century, reasons for the crisis of the modern financial system and ways of overcoming it, problems and perspectives regarding the harmonization of the global financial system, and scenarios of development for the global financial system. The content is divided into the following parts: development of financial systems at the micro-, meso- and macro-levels, financial infrastructure of the modern economy, legal issues of development of the modern financial system, and management of the global financial system.

The twin challenge of meeting global energy demands in the face of growing economies and populations and restricting greenhouse gas emissions is one of the most daunting ones that humanity has ever faced. Smart electrical generation and distribution infrastructure will play a crucial role in meeting these challenges. We would need to develop capabilities to handle large volumes of data generated by the power system components like PMUs, DFRs and other data acquisition devices as well as by the capacity to process these data at high resolution via multi-scale and multi-period simulations, cascading and security analysis, interaction between hybrid systems (electric, transport, gas, oil, coal, etc.) and so on, to get meaningful information in real time to ensure a secure, reliable and stable power system grid. Advanced research on development and implementation of market-ready leading-edge high-speed enabling technologies and algorithms for solving real-time, dynamic, resource-critical problems will be required for dynamic security analysis targeted towards successful implementation of Smart Grid initiatives. This books aims to bring together some of the latest research developments as well as thoughts on the future research directions of the high performance computing applications in electric power systems planning, operations, security, markets, and grid integration of alternate sources of energy, etc.

The Science, Economics, and Politics of Tropical Forests and Climate Change

Feminism, Marxism, Antiwork Politics, and Postwork Imaginaries

Proceedings of ICECMSN 2020

High Performance Computing in Power and Energy Systems

NUREG/CR.

Power System Voltage Stability

The market liberalization is expected to affect drastically the operation of power systems, which under economical pressure and increasing amount of transactions are being operated much closer to their limits than previously. These changes put the system operators faced with rather different and much more problematic scenarios than in the past. They have now to calculate available transfer capabilities and manage congestion problems in a near on line environment, while operating the transmission system under extremely stressed conditions. This requires highly reliable and efficient software aids, which today are non-existent, or not yet in use. One of the most problematic issues, very much needed but not yet en countered today, is on-line dynamic security assessment and control, enabling the power system to withstand unexpected contingencies without experienc ing voltage or transient instabilities. This monograph is devoted to a unified approach to transient stability assessment and control, called Single Machine Equivalent (SIME).

Cities across the globe are looking to develop affordable, environmentally friendly, and socially responsible transportation solutions that can meet the accessibility needs of expanding metropolitan populations and support future economic and urban development. When appropriately planned and properly implemented as part of a larger public transportation network, urban rail systems can provide rapid mobility and vital access to city centers from surrounding districts. High-performing urban rail services, when carefully approached as development projects, can help enhance quality of life by giving citizens access to employment opportunities, essential services, urban amenities, and neighboring communities. The purpose of this Handbook is to synthesize and disseminate knowledge to inform the planning, implementation, and operations of urban rail projects with a view towards: -- Emphasizing the need for early studies and project planning; -- Making projects more sustainable (economically, socially, and environmentally); -- Improving socioeconomic returns and access to opportunities for users; -- Maximizing the value of private participation, where appropriate; and -- Building capacity within project implementing and managing institutions This Handbook provides experiential advice to tackle the technical, institutional, and financial challenges faced by decision makers considering urban rail projects. It brings together the expertise of World Bank staff and the input of numerous specialists to synthesize international ‘good practices’ and recommendations that are independent of commercial, financial political, or other interests. The material presented is intended as an honest-broker guide to maximize the impact and manage the challenges of urban rail systems in cities in both developed and developing countries. Rather than identify a single approach, this Handbook acknowledges the complexities and context necessary when approaching an urban rail development by helping to prepare decision makers to ask the right questions, consider the key issues, perform the necessary studies, apply adequate tools, and learn from international good practice all at the right time in the project development process.

The Arctic is undergoing rapid and dramatic environmental and social transformations due to climate change. This has ramifications for the entire planet, as change spreads through interconnected global networks that are environmental, cultural, economic and political. Today, with the major thrust of research shifting away from deciphering causes and monitoring trends, the central preoccupation of a growing circle of actors has become the exploration of strategies for responding and adapting to climate change. But to understand the far-reaching nature of climate change impacts and the complexities of adaptation, a truly interdisciplinary approach is required. Unique in the UN system, UNESCO brings together the domains of natural sciences, social sciences,culture, education and communication. Given this broad mandate, UNESCO favors integrated approaches for monitoring and adapting to climate change in the Arctic, fostering dialogue among scientists, circumpolar communities and decision-makers. This book brings together the knowledge, concerns and visions of leading Arctic scientists in the natural and social sciences, prominent Chukchi, Even, Inuit and Saami leaders from across the circumpolar North, and international experts in education, health and ethics. They highlight the urgent need for a sustained interdisciplinary and multi-actor approach to monitoring, managing and responding to climate change in the Arctic, and explore avenues by which this can be achieved.--Publisher’s description.

All students taking laboratory courses within the physical sciences and engineering will benefit from this book, whilst researchers will find it an invaluable reference. This concise, practical guide brings the reader up-to-speed on the proper handling and presentation of scientific data and its inaccuracies. It covers all the vital topics with practical guidelines, computer programs (in Python), and recipes for handling experimental errors and reporting experimental data. In addition to the essentials, it also provides further background material for advanced readers who want to understand how the methods work. Plenty of examples, exercises and solutions are provided to aid and test understanding, whilst useful data, tables and formulas are compiled in a handy section for easy reference.

A Student's Guide to Data and Error Analysis

A Guide to Navigating Concepts, Evidence, and Practices

Small-signal stability, control and dynamic performance of power systems

Lifelines

Computer Models, Climate Data, and the Politics of Global Warming

XXI Professional Culture of the Specialist of the Future

This innovative approach to the fundamentals of electric power provides the most rigorous, comprehensive and modern treatment available. To impart a thorough grounding in electric power systems, it begins with an informative discussion on per-unit normalizations, symmetrical components and iterative load flow calculations. Covering important topics within the power system, such as protection and DC transmission, this book looks at both traditional power plants and those used for extracting sustainable energy from wind and sunlight. With classroom-tested material, this book also presents: the principles of electromechanical energy conversion and magnetic circuits; synchronous machines - the most important generators of electric power; power electronics; induction and direct current electric motors.

Homework problems with varying levels of difficulty are included at the end of each chapter, and an online solutions manual for tutors is available. A useful Appendix contains a review of elementary network theory. For senior undergraduate and postgraduate students studying advanced electric power systems as well as engineers re-training in this area, this textbook will be an indispensable resource. It will also benefit engineers in electronic power systems, power electronic systems, electric motors and generators, robotics and mechatronics. www.wiley.com/go/kirtley_electric

This book presents software engineering methods in the context of the intelligent systems. It discusses real-world problems and exploratory research describing novel approaches and applications of software engineering, software design and algorithms. The book constitutes the refereed proceedings of the Software Engineering Methods in Intelligent Algorithms Section of the 8th Computer Science On-line Conference 2019 (CSOC 2019), held on-line in April 2019.

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.

Technology, Innovation and Creativity in Digital Society

Power System Analysis

Health Promotion in Health Care – Vital Theories and Research

The 19th ICMI Study

Power System Restructuring and Deregulation

Software Engineering Methods in Intelligent Algorithms