

Business Essentials For Utility Engineers

Essentials & Applications of Food Engineering provides a comprehensive understanding of food engineering operations and their practical and industrial utility. It presents pertinent case studies, solved numerical problems, and multiple choice questions in each chapter and serves as a ready reference for classroom teaching and exam preparations. The first part of this textbook contains the introductory topics on units and dimensions, material balance, energy balance, and fluid flow. The second part deals with the theory and applications of heat and mass transfer, psychrometry, and reaction kinetics. The subsequent chapters of the book present the heat and mass transfer operations such as evaporation, drying, refrigeration, freezing, mixing, and separation. The final section focuses on the thermal, non-thermal, and nanotechnology-based novel food processing techniques, 3D food printing, active and intelligent food packaging, and fundamentals of CFD modeling. Features 28 case studies to provide a substantial understanding of the practical and industrial applications of various food engineering operations Includes 178 solved numerical problems and 285 multiple choice questions Highlights the application of mass balance in food product traceability and the importance of viscosity measurement in a variety of food products Provides updated information on novel food processing techniques such as cold plasma, 3D food printing, nanospray drying, electrospraying, and electrospinning The textbook is designed for undergraduate and graduate students pursuing Food Technology and Food Process Engineering courses. This book would also be of interest to course instructors and food industry professionals.

Essential Mathematics for Economics and Business is established as one of the leading introductory textbooks on mathematics for students of business and economics. Combining a user-friendly approach to mathematics with practical applications to the subjects, the text provides students with a clear and comprehensible guide to mathematics. The fundamental mathematical concepts are explained in a simple and accessible style, using a wide selection of worked examples, progress exercises and real-world applications. New to this Edition Fully updated text with revised worked examples and updated material on Excel and Powerpoint New exercises in mathematics and its applications to give further clarity and practice opportunities Fully updated online material including animations and a new test bank The fourth edition is supported by a companion website at www.wiley.com/college/bradley, which contains: Animations of selected worked examples providing students with a new way of understanding the problems Access to the Maple T.A. test bank, which features over 500 algorithmic questions Further learning material, applications, exercises and solutions. Problems in context studies, which present the mathematics in a business or economics framework. Updated PowerPoint slides, Excel problems and solutions. "The text is aimed at providing an introductory-level exposition of mathematical methods for economics and business students. In terms of level, pace, complexity of examples and user-friendly style the text is excellent - it genuinely recognises and meets the needs of students with minimal maths background." —Colin Glass, Emeritus Professor, University of Ulster "One of the major strengths of this book is the range of exercises in both drill and applications. Also the 'worked examples' are excellent; they provide examples of the use of mathematics to realistic problems and are easy to follow." —Donal Hurley, formerly of University College Cork "The most comprehensive reader in this topic yet, this book is an essential aid to the avid economist who loathes mathematics!" —Amazon.co.uk A clear explanation of the technology for producing and delivering electricity Electric Power Systems explains and illustrates how the electric grid works in a clear, straightforward style that makes highly technical material accessible. It begins with a thorough discussion of the underlying physical concepts of electricity, circuits, and complex power that serves as a foundation for more advanced material. Readers are then introduced to the main components of electric power systems, including generators, motors and other appliances, and transmission and distribution equipment such as power lines, transformers, and circuit breakers. The author explains how a whole power system is managed and coordinated, analyzed mathematically, and kept stable and reliable. Recognizing the economic and environmental implications of electric energy production and public concern over disruptions of service, this book exposes the challenges of producing and delivering electricity to help inform public policy decisions. Its discussions of complex concepts such as reactive power balance, load flow, and stability analysis, for example, offer deep insight into the complexity of electric grid operation and demonstrate how and why physics constrains economics and politics. Although this survival guide includes mathematical equations and formulas, it discusses their meaning in plain English and does not assume any prior familiarity with particular notations or technical jargon. Additional features include: * A glossary of symbols, units, abbreviations, and acronyms * Illustrations that help readers visualize processes and better understand complex concepts * Detailed analysis of a case study, including a Web reference to the case, enabling readers to test the consequences of manipulating various parameters With its clear discussion of how electric grids work, Electric Power Systems is appropriate for a broad readership of professionals, undergraduate and graduate students, government agency managers, environmental advocates, and consumers.

The examining team reviewed P3 Practice & Revision Kit provides invaluable guidance on how to approach the exam and contains past ACCA exam questions for you to try. It focuses on teaching you what to look for in questions and how to determine what the requirements are asking you to do. It contains many past exam questions and additional questions prepared by BPP Learning Media which reflect the scenarios and technical questions you will find in the exam.

Good aging infrastructure management consists of optimizing the choice of equipment and its refurbishment while also making compatible changes in all those operating and ownership policies, the whole combination aimed at optimizing the business results the power system owner desires. Both a reference and tutorial guide, this second edition of Aging Power Delivery Infrastructures provides updated coverage of aging power delivery systems, the problems they cause, and the technical and managerial approaches that power systems owners can take to manage them. See What's New in the Second Edition: All chapters have been updated or are completely new Comprehensive discussions of all issues related

to equipment aging Business impact analysis and models and engineering business studies of actual utility cases Strategy and policy issues and how to frame and customize them for specific situations This book looks at the basics of equipment aging and its system and business impacts on utilities. It covers various maintenance, service and retrofit methods available to mitigate age-related deterioration of equipment. It also presents numerous configuration and automation upgrades at the system level that can deal with higher portions of aging equipment in the system and still provide good service at a reasonable cost.

More than 75 case studies are presented, shedding light on design and relay setting calculations for the protection and control of power system elements. Logically organized, Protection and Control for Power Systems begins with an introduction to power system relaying functions and their implementation. Moving on, it deals with system faults, relay transducers, relay DC tripping circuits, and system grounding. Subsequent chapters discuss protection and control systems for transformers, generators, lines and cables, buses, breakers, distribution systems, phase angle regulating transformers, shunt capacitors and shunt reactors. Drawing on the author's half century of experience, the text enables engineers and other readers to utilize techniques and calculations in the application of protection and control for power system. It documents material published for the first time covering the philosophy of setting ground time over-current protection for transmission lines, supported by actual power system case studies. Additionally, protection of phase angle regulating transformers is covered in detail using real world numerical relaying applications. The book presents power system protection and control details, how they are applied, set and designed for most power system elements. Topics like symmetrical components, fault calculations, relay input devices, relay design and relay setting calculations are fully addressed. It further outlines the basics of protection and control for power system elements utilizing actual system case studies involving the protection system methods. This use of case studies and problems provides insights into protection and control engineering not usually presented in a single text. The emphasis on relay system design application and relay settings calculations are a central theme. Aimed at students, the book is ideal for undergraduate and graduate students seeking to sharpen and enhance their power system protection and control background. It conveys the basic principles of system protection and control and includes more than 90 problems to reinforce these principles. For these reasons, Protection and Control for Power Systems can greatly benefit students and young engineers who require a better understanding of the basics of protection and control engineering. Experienced protection engineers will also find the book beneficial as a solid reference guide.

The focus of this book is on technology ventures — how they start, operate, and sometimes exit profitably. In short, it covers all the elements required to launch a successful technology company, including discussion of cutting-edge trends such as "entrepreneurial method" and "lean startup," emphasis on the ideation process and development of an effective business plan, coverage of product and market development, intellectual property, structuring your venture, raising capital, sales and marketing, people management, and even strategies for exiting your venture. This is not another armchair book about entrepreneurship. It's a working guide for engineers and scientists who want to actually be entrepreneurs. An intense focus on product design and development, with customers and markets in mind Extensive discussion of intellectual property development, management, and protection Potent insights into marketing and selling technology products to the global marketplace Techniques for forecasting financials, raising funds, and establishing venture valuation Best practices in venture leadership and managing growth Overview of various exit strategies and how to prepare the venture for exit

It is no longer acceptable for utility engineers to make spending decisions solely because they make good engineering sense. In today's environment, they must also demonstrate solid business acumen and show that recommendations make good business sense. With this goal in mind, Business Essentials for Utility Engineers systematically presents each business topic to arm engineers with the tools and vocabulary necessary to be more effective when interacting with senior management, and for promotion to senior management. This book covers all business concepts important to utility engineers, including regulation, ratemaking, accounting, finance, risk management, economics, budgeting, and asset management. The author applies his vast corporate experience to give readers a solid foundation for business theory, discussing the idiosyncrasies of utilities and using advanced mathematics to demonstrate business concepts. He also explains how to properly apply this theory to utilities, expounding on specific business skills that will greatly benefit utility engineers in their daily jobs. Chapters are organized to build sequentially upon each other, and take advantage of the mathematical sophistication and deductive nature of engineers when presenting material. After reading this book, utility engineers will view their industry from a new perspective, and will have a greatly expanded business vocabulary. Suitable for self-study, undergraduate study, graduate study, or as a desk reference, this book provides a robust framework for correct business thinking and a solid foundation for further learning. Watch Richard E. Brown talk about his book at: <http://youtu.be/gdyjq77nQFI>

An Introduction to e-Business provides the contemporary knowledge of the key issues affecting the modern e-business environment and links theory and practice of management strategies relating to e-business. This book brings together the most cogent themes for an introduction to e-business and constitutes a valuable contribution to formalising common themes for teaching the subject in higher education. It brings together theoretical perspectives based on academic research and the application of e-business strategies. These concepts are further explored in the six case studies that follow the set chapters. This new textbook integrates the main themes to provide a complete picture of the key elements relevant to an introductory text in e-business. To fully appreciate the e-business environment it is necessary to understand the links between the different disciplines that come together to form

Recognizing the unique needs of the technology startup, Duening focuses on intellectual property development, funding, and marketing/selling more than other texts in this market. Extensive use of technology examples, case studies, and

assignments keeps the book relevant and motivating for engineering students. Rich in case studies, examples, and in-chapter elements that focus on the challenges of launching and operating a technology venture In-depth examination of intellectual property development, valuation, deal structuring, and equity preservation, issues of most relevance to technology start-ups Extensive discussion of technology management and continuous innovation as a competitive advantage Addresses the issue of leading, managing, motivating, and compensating technical workers More time on the fundamentals of marketing and selling, as these are elements of entrepreneurship commonly most neglected by engineers and scientists

Engineering asset management encompasses all types of engineered assets including built environment, infrastructure, plant, equipment, hardware systems and components. Following the release of ISO 5500x set of standards, the 9th WCEAM addresses the hugely important issue of what constitutes the body of knowledge in Engineering Asset Management. Topics discussed by Congress delegates are grouped into a number of tracks including strategies for investment and divestment of assets, operations and maintenance of assets, assessments of assets condition, risk and vulnerability, technologies and systems for management of asset, standards, education, training and certification. These proceedings include a sample of the wide range of topics presented during the 9th World Congress on Engineering Asset Management in Pretoria South Africa 28 – 31 October, 2014 and complements other emerging publications and standards that embrace the wide ranging issues concerning the management of engineered physical assets.

Fundamentals of Public Utilities Management provides practical information for constructing a roadmap for successful compliance with new and ever-changing regulatory frameworks, upgrading and maintenance, and general management of utilities operations. It describes current challenges faced by utility managers and offers best practices. In an effort to maximize the usefulness of the material for a broad audience, the text is written in a straightforward, user-friendly, conversational style for students and practicing professionals alike. Features: Presents numerous illustrative examples and case studies throughout Examines environmental compliance and how to best work with continually changing regulations Frames the discussions in a context of energy conservation and ongoing sustainability efforts Fundamentals of Public Utilities Management is designed to provide insight and valuable information to public utility sector managers and prospective managers in water operations (drinking water, wastewater, storm water), and to serve the needs of students, teachers, consulting engineers, and technical personnel in city, state, and federal public sectors.

The second edition of Steven W. Blume's bestseller provides a comprehensive treatment of power technology for the non-electrical engineer working in the electric power industry This book aims to give non-electrical professionals a fundamental understanding of large interconnected electrical power systems, better known as the "Power Grid", with regard to terminology, electrical concepts, design considerations, construction practices, industry standards, control room operations for both normal and emergency conditions, maintenance, consumption, telecommunications and safety. The text begins with an overview of the terminology and basic electrical concepts commonly used in the industry then it examines the generation, transmission and distribution of power. Other topics discussed include energy management, conservation of electrical energy, consumption characteristics and regulatory aspects to help readers understand modern electric power systems. This second edition features: New sections on renewable energy, regulatory changes, new measures to improve system reliability, and smart technologies used in the power grid system Updated practical examples, photographs, drawing, and illustrations to help the reader gain a better understanding of the material "Optional supplementary reading" sections within most chapters to elaborate on certain concepts by providing additional detail or background Electric Power System Basics for the Nonelectrical Professional, Second Edition, gives business professionals in the industry and entry-level engineers a strong introduction to power technology in non-technical terms. Steve W. Blume is Founder of Applied Professional Training, Inc., APT Global, LLC, APT College, LLC and APT Corporate Training Services, LLC, USA. Steve is a registered professional engineer and certified NERC Reliability Coordinator with a Master's degree in Electrical Engineering specializing in power and a Bachelor's degree specializing in Telecommunications. He has more than 25 years' experience teaching electric power system basics to non-electrical professionals. Steve's engineering and operations experience includes generation, transmission, distribution, and electrical safety. He is an active senior member in IEEE and has published two books in power systems through IEEE and Wiley.

Learn how to use PTC® Mathcad Prime® 3.0, one of the world's leading tools for technical computing, in the context of engineering, science, and math applications. Quickly harness the power of PTC Mathcad Prime 3.0 to solve both simple and complex problems. Essential PTC® Mathcad Prime® 3.0 is perfect for college students, first-time users, and experienced Mathcad 15 users who are moving to PTC Mathcad Prime 3.0. Updated from Maxfield's popular Essential Mathcad, this book introduces the most powerful functions and features of the new PTC Mathcad Prime 3.0 software and teaches how to apply them to create comprehensive calculations for any quantitative subject. Examples from several fields demonstrate the power and utility of PTC Mathcad's tools while also demonstrating how users can effectively incorporate Microsoft® Excel spreadsheets into the software. Learn the basics faster: Chapter 1 introduces many fundamentals of Mathcad, allowing the reader to begin using the program in less time. Learn PTC Mathcad tools in context: Incorporates many applied examples and problems from a wide variety of disciplines. Thorough discussion of many PTC Mathcad tools: Units, arrays, plotting, solving, symbolic calculations, programming, algebra, calculus, differential equations, reading from files, writing to files, and incorporating MS Excel spreadsheets. Includes a link to PTC with instructions on how to purchase the PTC® Mathcad Prime® 3.0 Student Edition (The Student Edition software is intended for educational purposes only.)

A Practical, Interdisciplinary Guide to Advanced Mathematical Methods for Scientists and Engineers Mathematical Methods in Science and Engineering, Second Edition, provides students and scientists with a detailed mathematical reference for advanced analysis and

computational methodologies. Making complex tools accessible, this invaluable resource is designed for both the classroom and the practitioners; the modular format allows flexibility of coverage, while the text itself is formatted to provide essential information without detailed study. Highly practical discussion focuses on the “how-to” aspect of each topic presented, yet provides enough theory to reinforce central processes and mechanisms. Recent growing interest in interdisciplinary studies has brought scientists together from physics, chemistry, biology, economy, and finance to expand advanced mathematical methods beyond theoretical physics. This book is written with this multidisciplinary group in mind, emphasizing practical solutions for diverse applications and the development of a new interdisciplinary science. Revised and expanded for increased utility, this new Second Edition: Includes over 60 new sections and subsections more useful to a multidisciplinary audience Contains new examples, new figures, new problems, and more fluid arguments Presents a detailed discussion on the most frequently encountered special functions in science and engineering Provides a systematic treatment of special functions in terms of the Sturm-Liouville theory Approaches second-order differential equations of physics and engineering from the factorization perspective Includes extensive discussion of coordinate transformations and tensors, complex analysis, fractional calculus, integral transforms, Green's functions, path integrals, and more Extensively reworked to provide increased utility to a broader audience, this book provides a self-contained three-semester course for curriculum, self-study, or reference. As more scientific disciplines begin to lean more heavily on advanced mathematical analysis, this resource will prove to be an invaluable addition to any bookshelf.

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

This book focuses on the introduction of new and modern maintenance management frameworks of assets in the electricity & gas network sector and more specifically, on electricity networks for distribution. The author describes methodologies for developing and implementing maintenance management maturity models, using case studies to show how these have been applied. These maturity models are discussed as part of an overarching, multi-disciplinary organizational maintenance management professionalization framework. This book adds a new dimension to the well-known Reliability Centered Maintenance (RCM) method, by incorporating failure modes via multiple scenarios into business values, by means of statistical risk calculation methods. The author demonstrates a method called Utility Risk Linked RCM, which uses a statistical tool to develop failure models which can be used to predict future failure behavior of assets in relation to corporate business values. This new method is a practical, structured and comprehensive framework for assessing risk based maintenance policies. The book also proposes a condition monitoring framework that can be used as a guide to assist asset managers in identifying the relationship between failure modes, ageing processes to select amongst condition monitoring regimes.

This book devotes much needed attention to understanding how society benefits from infrastructure resources and how management decisions affect a wide variety of interests. The book links infrastructure, a particular set of resources, with commons, a resource management principle by which a resource is shared within a community. broad implications for scholarship and public policy across many fields ranging from traditional infrastructure like roads to environmental economics to intellectual property to Internet policy.

Thought leaders and experts offer the most current information and insights into energy finance Energy Finance and Economics offers the most up-to-date information and compelling insights into the finance and economics of energy. With contributions from today's thought leaders who are experts in various areas of energy finance and economics, the book provides an overview of the energy industry and addresses issues concerning energy finance and economics. The book focuses on a range of topics including corporate finance relevant to the oil and gas industry as well as addressing issues of unconventional, renewable, and alternative energy. A timely compendium of information and insights centering on topics related to energy finance Written by Betty and Russell Simkins, two experts on the topic of the economics of energy Covers special issues related to energy finance such as hybrid cars, energy hedging, and other timely topics In one handy resource, the editors have collected the best-thinking on energy finance.

Infrastructure Asset Management with Power System Applications is about infrastructure asset management, which can be expressed as the combination of management, financial, economic, and engineering, applied to physical assets with the objective of providing the required level of service in the most cost-effective manner. It includes management of the whole lifecycle of a physical asset from design, construction, commission, operation, maintenance, modification, decommissioning, and disposal. It covers budget issues and focuses on asset management of an infrastructure for energy—i.e., the electric power system. Features Offers a comprehensive reference book providing definitions, terminology, and basic theories as well as a comprehensive set of examples from a wide range of applications for the electric power system and its components. Spans a wide range of applications for the electric power system area, including real data and pictures. Contains results from recently published research and application studies. Includes a wide range of application examples for the electric power systems area from hydro, nuclear, and wind, plus shows future trends. Contributes to the overall goals of developing a sustainable energy system by providing methods and tools for a resource efficient use of physical assets in the electric power system area.

Principles of Economics covers the scope and sequence for a two-semester principles of economics course. The text has been developed to meet the scope and sequence of most introductory courses.

Your text simplified as the essential facts to prepare you for your exams. Over 2,000 highly probable test items.

The Electric Power Engineering Handbook, Third Edition updates coverage of recent developments and rapid technological growth in crucial aspects of power systems, including protection, dynamics and stability, operation, and control. With contributions from worldwide field leaders—edited by L.L. Grigsby, one of the world's most respected, accomplished authorities in power engineering—this reference includes chapters on: Nonconventional Power Generation Conventional Power Generation Transmission Systems Distribution Systems Electric Power Utilization Power Quality Power System Analysis and Simulation Power System Transients Power System Planning (Reliability) Power Electronics Power System Protection Power System Dynamics and Stability Power System Operation and Control Content includes a simplified overview of advances in international standards, practices, and technologies, such as small-signal stability and power system oscillations, power system stability controls, and dynamic modeling of power systems. Each book in this popular series supplies a high level of detail and, more importantly, a tutorial style of writing and use of photographs and graphics to help the reader understand the material. This resource will help readers achieve safe, economical, high-quality power delivery in a dynamic and demanding environment.

Volumes in the set: K12642 Electric Power Generation, Transmission, and Distribution, Third Edition (ISBN: 9781439856284) K12648 Power Systems, Third Edition (ISBN: 9781439856338) K13917 Power System Stability and Control, Third Edition (9781439883204) K12650 Electric Power Substations Engineering, Third Edition (9781439856383) K12643 Electric Power Transformer Engineering, Third Edition (9781439856291)

Cloud Data Centers and Cost Modeling establishes a framework for strategic decision-makers to facilitate the development of cloud data centers. Just as building a house requires a clear understanding of the blueprints, architecture, and costs of the project; building a cloud-based data center requires similar knowledge. The authors take a theoretical and practical approach, starting with the key questions to help uncover needs and clarify project scope. They then demonstrate probability tools to test and support decisions, and provide processes that resolve key issues. After laying a foundation of cloud concepts and definitions, the book addresses data center creation, infrastructure development, cost modeling, and simulations in decision-making, each part building on the previous. In this way the authors bridge technology, management, and infrastructure as a service, in one complete guide to data centers that facilitates educated decision making. Explains how to balance cloud computing functionality with data center efficiency Covers key requirements for power management, cooling, server planning, virtualization, and storage management Describes advanced methods for modeling cloud computing cost including Real Option Theory and Monte Carlo Simulations Blends theoretical and practical discussions with insights for developers, consultants, and analysts considering data center development

Maximize Utility ("MU") is, on the surface, a review of contemporary monetary and macroeconomics ("M&M"). It is really a broader summary of the economy, markets, investing and government economic policy, and how these economywide forces affect the lives of everyday people and the economic success of households. MU highlights the limitations of M&M fiscal and monetary policies, active investment management and the myriad government programs designed to improve the economic well-being of people. MU reveals the tenuous nature of the models historically taught in M&M, that our current M&M canon is defunct and that we instituting ad hoc M&M policy with the hope that our future economic output will suffice for all the commitments we have made. Indeed, M&M parables and models are insightful about national economies, especially their historical development. M&M does not, however, constitute a body of scientific ideas to perform successful proactive government M&M policy and to engender greater economic output by the macroeconomic manipulations of interest rates and aggregate demand. Economic policy advocates, whether conservative or liberal, break on prejudices. The prevailing intellectual economic prejudice in America today, perhaps more than in any other society, is Keynesianism. American society perceives spending as the source of greater economic output. The other major player in our economic lives - the investment community or "Wall Street" - has been inordinately successful in the period from about 1980 until the present, i.e. over the lifetimes of the people who currently run America. Portfolios of assets, including stocks, bonds and real estate, have yielded high rates of return. This era was a unique period of asset price increases motivated by a fortuitous combination of underlying economic and social conditions. Through Wall Street and our central bank we have valued every asset to its maximum. We bet our economic future on the continuation of rising asset valuations. Future returns will be much lower, however, and we will face constant government budget shortfalls and related insolvencies like those of many pensions. In America we admire our central bank for managing the macroeconomy and we admire Wall Street for providing high rates of return but both are illusions. Our M&M story is largely a generational story about a generation that borrowed against the future of its children. Maximize Utility reveals the rightness of microeconomics. People are competent to manage their lives. To the extent they cannot, it is largely the result of a plethora of government interventions into education, family formation, healthcare, retirement, housing and labor markets. Our government patronizes our people extremely. Microeconomic parables are singular. Substitution, choice, preferences, technology, profit, marginal product, optimality, etc. are great ideas to think about our economic lives and how to run a household and live a fulfilling life. People need no nudges or supervisions of their choices. MU is three thrusts. It is a review of current economic conditions, a short text on M&M concepts and a section on methods in social and business science. MU is designed to be a reference book to accompany a textbook in course like economics, macroeconomics, monetary economics and various finance and international economics courses. MU is updated through 2016.

Customer Experience Management for Water Utilities presents a practical framework for water utilities to become more focussed on their customers. This framework is founded on Service-Dominant Logic, a contemporary theory of marketing that explains value creation as a process of co-creation between the customer and the service provider. Standard models for marketing do not apply to monopolistic water utilities without modification. The first two chapters develop a marketing mix tailored to water utilities to assist them with providing customer-centric services. The water utility marketing mix includes the value proposition, internal marketing, service quality and customer relationships. The book discusses the four dimensions of the marketing mix. Chapter three presents a template for developing value propositions to assist water utilities in positioning their service. This model is based on the needs and wants of individual customer segments and the type of service. Chapter four discusses internal marketing, activities designed to improve the way utilities add value for customers. This chapter also analyses potential tensions between engineering and science-oriented employees and proposes methods to resolve these tensions. The final chapters describe customer relationships from both a theoretical and practical perspective. The customer experience is a complex phenomenon that is difficult to quantify. The book provides a method to measure the experience of the customer, based on service quality theory and psychometric statistics. Customer Experience Management for Water Utilities is one of the first books that discusses urban water supply from a marketing perspective. This perspective provides a unique insight into an industry which is often dominated by technological concerns. This book is a valuable resource for Water Utility Managers and Regulators, as well as for Marketing Consultants seeking to assist water utilities to become more customer focussed.

Due to its high impact on the cost of electricity and its direct correlation with customer satisfaction, distribution reliability continues to be one of the most important topics in the electric power industry. Continuing in the unique tradition of the bestselling first edition, Electric Power Distribution Reliability, Second Edition consolidates all pertinent topics on electric power distribution into one comprehensive volume balancing theory, practical knowledge, and real world applications. Updated and expanded with new information on benchmarking, system hardening, underground conversion, and aging infrastructure, this timely reference enables you to— · Manage aging infrastructure · Harden electric power distribution systems · Avoid common benchmarking pitfalls · Apply effective risk management The electric power industry will continue to make distribution system reliability and customer-level reliability a top priority. Presenting a wealth of useful knowledge, Electric Power Distribution Reliability, Second Edition remains the

only book that is completely dedicated to this important topic.

Business Essentials for Utility Engineers CRC Press

Engineering managers and professionals make a long and lasting impact in the industry by regularly developing technology-based projects, as related to new product development, new service innovation or efficiency-centered process improvement, or both—to create strategic differentiation and operational excellence for their employers. They need certain business fundamentals that enable them to make decisions, based on both technology and business perspectives, leading to new or improved product or service offerings, which are technically feasible, economically viable, marketplace acceptable, and customer enlightening. This book consists of three sets of business fundamentals. The chapter “Cost Accounting and Control” discusses service and product costing, activity-based costing to define overhead expenses, and risk analysis and cost estimation under uncertainty. The chapter “Financial Accounting and Analysis” delineates the key financial statements, financial analyses, balanced scorecard, ratio analysis, and capital asset valuation—including operations, opportunities, and acquisition and mergers. The chapter “Marketing Management” reviews marketing functions, marketing forecasting, marketing segmentation, customers, and other factors affecting marketing in making value-adding contributions. The new business vocabulary and useful analysis tools presented will enable engineering managers to become more effective when interacting with senior management, and to prepare themselves for assuming higher-level corporate responsibilities.

THE DEFINITIVE GUIDE TO POWER QUALITY--UPDATED AND EXPANDED Electrical Power Systems Quality, Third Edition, is a complete, accessible, and up-to-date guide to identifying and preventing the causes of power quality problems. The information is presented without heavy-duty equations, making it practical and easily readable for utility engineers, industrial engineers, technicians, and equipment designers. This in-depth resource addresses the essentials of power quality and tested methods to improve compatibility among the power system, customer equipment, and processes. Coverage includes: Standard terms and definitions for power quality phenomena Protecting against voltage sags and interruptions Harmonic phenomena and dealing with harmonic distortion Transient overvoltages Long-duration voltage variations Benchmarking power quality International Electrotechnical Commission (IEC) and Institute of Electrical and Electronics Engineers (IEEE) standards Maintaining power quality in distributed generation systems Common wiring and grounding problems, along with solutions Site surveys and power quality monitoring

Power Systems, Third Edition (part of the five-volume set, The Electric Power Engineering Handbook) covers all aspects of power system protection, dynamics, stability, operation, and control. Under the editorial guidance of L.L. Grigsby, a respected and accomplished authority in power engineering, and section editors Andrew Hanson, Pritindra Chowdhuri, Gerry Sheblé, and Mark Nelms, this carefully crafted reference includes substantial new and revised contributions from worldwide leaders in the field. This content provides convenient access to overviews and detailed information on a diverse array of topics. Concepts covered include: Power system analysis and simulation Power system transients Power system planning (reliability) Power electronics Updates to nearly every chapter keep this book at the forefront of developments in modern power systems, reflecting international standards, practices, and technologies. New sections present developments in small-signal stability and power system oscillations, as well as power system stability controls and dynamic modeling of power systems. With five new and 10 fully revised chapters, the book supplies a high level of detail and, more importantly, a tutorial style of writing and use of photographs and graphics to help the reader understand the material. New chapters cover: Symmetrical Components for Power System Analysis Transient Recovery Voltage Engineering Principles of Electricity Pricing Business Essentials Power Electronics for Renewable Energy A volume in the Electric Power Engineering Handbook, Third Edition Other volumes in the set: K12642 Electric Power Generation, Transmission, and Distribution, Third Edition (ISBN: 9781439856284) K13917 Power System Stability and Control, Third Edition (9781439883204) K12650 Electric Power Substations Engineering, Third Edition (9781439856383) K12643 Electric Power Transformer Engineering, Third Edition (9781439856291)

NOTE: This edition features the same content as the traditional text in a convenient, three-hole-punched, loose-leaf version. Books a la Carte also offer a great value—this format costs significantly less than a new textbook. Before purchasing, check with your instructor or review your course syllabus to ensure that you select the correct ISBN. Several versions of Pearson's MyLab & Mastering products exist for each title, including customized versions for individual schools, and registrations are not transferable. In addition, you may need a CourseID, provided by your instructor, to register for and use Pearson's MyLab & Mastering products. For junior/senior undergraduates taking probability and statistics as applied to engineering, science, or computer science. This classic text provides a rigorous introduction to basic probability theory and statistical inference, with a unique balance between theory and methodology. Interesting, relevant applications use real data from actual studies, showing how the concepts and methods can be used to solve problems in the field. This revision focuses on improved clarity and deeper understanding. This latest edition is also available in as an enhanced Pearson eText. This exciting new version features an embedded version of StatCrunch, allowing students to analyze data sets while reading the book. Also available with MyStatLab MyStatLab(tm) is an online homework, tutorial, and assessment program designed to work with this text to engage students and improve results. Within its structured environment, students practice what they learn, test their understanding, and pursue a personalized study plan that helps them absorb course material and understand difficult concepts. Note: You are purchasing a standalone product; MyLab(tm) & Mastering(tm) does not come packaged with this content. Students, if interested in purchasing this title with MyLab & Mastering, ask your instructor for the correct package ISBN and Course ID. Instructors, contact your Pearson representative for more information.

Focusing on basic skills and tips for career enhancement, Engineer Your Own Success is a guide to improving efficiency and performance in any engineering field. It imparts valuable organization tips, communication advice, networking tactics,

and practical assistance for preparing for the PE exam—every necessary skill for success. Authored by a highly renowned career coach, this book is a battle plan for climbing the rungs of any engineering ladder.

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