

Api Spec Q2 Fundamentals

Petroleum Production Engineering, Second Edition, updates both the new and veteran engineer on how to employ day-to-day production fundamentals to solve real-world challenges with modern technology. Enhanced to include equations and references with today's more complex systems, such as working with horizontal wells, workovers, and an entire new section of chapters dedicated to flow assurance, this go-to reference remains the most all-inclusive source for answering all upstream and midstream production issues. Completely updated with five sections covering the entire production spectrum, including well productivity, equipment and facilities, well stimulation and workover, artificial lift methods, and flow assurance, this updated edition continues to deliver the most practical applied production techniques, answers, and methods for today's production engineer and manager. In addition, updated Excel spreadsheets that cover the most critical production equations from the book are included for download. Updated to cover today's critical production challenges, such as flow assurance, horizontal and multi-lateral wells, and workovers Guides users from theory to practical application with the help of

over 50 online Excel spreadsheets that contain basic production equations, such as gas lift potential, multilateral gas well deliverability, and production forecasting Delivers an all-inclusive product with real-world answers for training or quick look up solutions for the entire petroleum production spectrum

This open access book explores the concept of Industry 4.0, which presents a considerable challenge for the production and service sectors. While digitization initiatives are usually integrated into the central corporate strategy of larger companies, smaller firms often have problems putting Industry 4.0 paradigms into practice. Small and medium-sized enterprises (SMEs) possess neither the human nor financial resources to systematically investigate the potential and risks of introducing Industry 4.0. Addressing this obstacle, the international team of authors focuses on the development of smart manufacturing concepts, logistics solutions and managerial models specifically for SMEs. Aiming to provide methodological frameworks and pilot solutions for SMEs during their digital transformation, this innovative and timely book will be of great use to scholars researching technology management, digitization and small business, as well as practitioners within manufacturing companies.

This book highlights selected papers presented at the 2nd International Symposium on Artificial Intelligence and Robotics 2017 (ISAIR2017), held in Nakamura Centenary Memorial Hall, Kitakyushu, Japan on November 25–26, 2017. Today, the integration of artificial intelligence and robotic technologies has become a topic of growing interest for both researchers and developers from academic fields and industries worldwide, and artificial intelligence is poised to become the main approach pursued in next-generation robotics research. The rapidly growing number of artificial intelligence algorithms and big data solutions has significantly extended the number of potential applications for robotic technologies. However, it also poses new challenges for the artificial intelligence community. The aim of this symposium is to provide a platform for young researchers to share the latest scientific achievements in this field, which are discussed in these proceedings.

Based on the popular Artech House classic, Digital Communication Systems Engineering with Software-Defined Radio, this book provides a practical approach to quickly learning the software-defined radio (SDR) concepts needed for work in the field. This up-to-date volume guides readers on how to quickly prototype

wireless designs using SDR for real-world testing and experimentation. This book explores advanced wireless communication techniques such as OFDM, LTE, WLA, and hardware targeting. Readers will gain an understanding of the core concepts behind wireless hardware, such as the radio frequency front-end, analog-to-digital and digital-to-analog converters, as well as various processing technologies. Moreover, this volume includes chapters on timing estimation, matched filtering, frame synchronization message decoding, and source coding. The orthogonal frequency division multiplexing is explained and details about HDL code generation and deployment are provided. The book concludes with coverage of the WLAN toolbox with OFDM beacon reception and the LTE toolbox with downlink reception. Multiple case studies are provided throughout the book. Both MATLAB and Simulink source code are included to assist readers with their projects in the field.

Handbook Of Nanobiomedical Research: Fundamentals, Applications And Recent Developments (In 4 Volumes)World Scientific Centrifugal and Rotary Pumps offers both professionals and students a concise reference detailing the design, performance, and principles of operation of the different pumps

types defined by the Hydraulic Institute. From historical background to the latest trends and technological developments, the author focuses on information with real-world practical application. In your day-to-day planning, design, operation, and optimization of pipelines, wading through complex formulas and theories is not the way to get the job done. Gas Pipeline Hydraulics acts as a quick-reference guide to formulas, codes, and standards encountered in the gas industry. Based on the author's 30 years of experience in manufacturing and the oil and gas industry, the book presents a step-by-step introduction to the concepts in a practical approach illustrated by real-world examples, case studies, and a wealth of problems at the end of each chapter. Avoiding overly complex equations and theorems, Gas Pipeline Hydraulics demonstrates the calculation of pressure drop using various commonly accepted formulas. The author extends this discussion to determine total pressure required under various configurations, the necessity of pressure regulators and control valves, the comparative pros and cons of adding compressor stations versus pipe loops, mechanical strength of the pipeline, and thermal hydraulic analysis. He also introduces transient pressure analysis along with references for more in-depth study. The text concludes with

the economic aspects of pipeline systems. Containing valuable appendices that provide conversions from USCS to SI units, tables of properties of natural gas, commonly used pipe sizes, and allowable internal and hydrotest pressures, this is the most easy-to-use, hands-on reference for gas pipelines available. This best-selling book is now revised and fully updated! it encompasses the new body of knowledge and covers nearly every aspect of the audit function. Though a valuable resource for studying for the CQA examination, it is also meant to be the single source for auditors, audit managers, audit teams, and quality professionals in the field.

[Designing Data-Intensive Applications](#)

[The Basics of Web Hacking](#)

[Data Structures](#)

[Reservoir Stimulation](#)

[With C and GNU Development Tools](#)

[Handbook of Modern Pharmaceutical Analysis](#)

[Big Data Fundamentals](#)

[Introduction to E-commerce](#)

[The ASQ Auditing Handbook](#)

[Tools and Techniques to Attack the Web](#)

[Fundamentals of Python](#)

Class-tested and coherent, this textbook teaches classical and web information retrieval, including web search and the related areas of text classification and text clustering

from basic concepts. It gives an up-to-date treatment of all aspects of the design and implementation of systems for gathering, indexing, and searching documents; methods for evaluating systems; and an introduction to the use of machine learning methods on text collections. All the important ideas are explained using examples and figures, making it perfect for introductory courses in information retrieval for advanced undergraduates and graduate students in computer science. Based on feedback from extensive classroom experience, the book has been carefully structured in order to make teaching more natural and effective. Slides and additional exercises (with solutions for lecturers) are also available through the book's supporting website to help course instructors prepare their lectures.

This textbook introduces the “Fundamentals of Multimedia”, addressing real issues commonly faced in the workplace. The essential concepts are explained in a practical way to enable students to apply their existing skills to address problems in multimedia. Fully revised and updated, this new edition now includes coverage of such topics as 3D TV, social networks, high-efficiency video compression and conferencing, wireless and mobile networks, and their attendant technologies. Features: presents an overview of the key concepts in multimedia, including color science; reviews lossless and lossy compression methods for image, video and audio data; examines the demands placed by multimedia communications on wired and wireless networks;

discusses the impact of social media and cloud computing on information sharing and on multimedia content search and retrieval; includes study exercises at the end of each chapter; provides supplementary resources for both students and instructors at an associated website. Introduction to E-commerce discusses the foundations and key aspects of E-commerce while focusing on the latest developments in the E-commerce industry. Practical case studies offer a useful reference for dealing with various issues in E-commerce such as latest applications, management techniques, or psychological methods. Dr. Zheng Qin is currently Director of the E-Commerce Institute of Xi'an Jiaotong University.

Adopting a practical approach, the authors provide a detailed interpretation of the existing regulations (GMP, ICH), while also discussing the appropriate calculations, parameters and tests. The book thus allows readers to validate the analysis of pharmaceutical compounds while complying with both the regulations as well as the industry demands for robustness and cost effectiveness. Following an introduction to the basic parameters and tests in pharmaceutical validation, including specificity, linearity, range, precision, accuracy, detection and quantitation limits, the text focuses on a life-cycle approach to validation and the integration of validation into the whole analytical quality assurance system. The whole is rounded off with a look at future trends. With its first-hand knowledge of the industry as well as regulating bodies, this is an invaluable reference for

analytical chemists, the pharmaceutical industry, pharmacutists, QA officers, and public authorities. Handbook of Modern Pharmaceutical Analysis, Second Edition, synthesizes the complex research and recent changes in the field, while covering the techniques and technology required for today's laboratories. The work integrates strategy, case studies, methodologies, and implications of new regulatory structures, providing complete coverage of quality assurance from the point of discovery to the point of use. Treats pharmaceutical analysis (PA) as an integral partner to the drug development process rather than as a service to it Covers method development, validation, selection, testing, modeling, and simulation studies combined with advanced exploration of assays, impurity testing, biomolecules, and chiral separations Features detailed coverage of QA, ethics, and regulatory guidance (quality by design, good manufacturing practice), as well as high-tech methodologies and technologies from "lab-on-a-chip" to LC-MS, LC-NMR, and LC-NMR-MS This book provides comprehensive coverage of fundamentals of database management system. It contains a detailed description on Relational Database Management System Concepts. There are a variety of solved examples and review questions with solutions. This book is for those who require a better understanding of relational data modeling, its purpose, its nature, and the standards used in creating relational data model. This monograph reviews all relevant technologies based

on mass spectrometry that are used to study or screen biological interactions in general. Arranged in three parts, the text begins by reviewing techniques nowadays almost considered classical, such as affinity chromatography and ultrafiltration, as well as the latest techniques. The second part focusses on all MS-based methods for the study of interactions of proteins with all classes of biomolecules. Besides pull down-based approaches, this section also emphasizes the use of ion mobility MS, capture-compound approaches, chemical proteomics and interactomics. The third and final part discusses other important technologies frequently employed in interaction studies, such as biosensors and microarrays. For pharmaceutical, analytical, protein, environmental and biochemists, as well as those working in pharmaceutical and analytical laboratories.

This book consists of 4 volumes containing about 70 chapters covering all the major aspects of the growing area of nanomedicine. Leading scientists from 15 countries cover all major areas of nanobiomedical research — materials for nanomedicine, application of nanomedicine in therapy of various diseases, use of nanomedicines for diagnostic purposes, technology of nanomedicines, and new trends in nanobiomedical research. This is the first detailed handbook specifically addressing various aspects of nanobiomedicine. Readers are treated to cutting-edge research and the newest data from leading researchers in this area.

[*Fundamentals of Salt Water Desalination*](#)

[*Method Validation in Pharmaceutical Analysis*](#)

[*Programming Embedded Systems*](#)

[*Regulated Bioanalysis: Fundamentals and Practice*](#)

[*The Big Ideas Behind Reliable, Scalable, and*](#)

[*Maintainable Systems*](#)

[*Nuclear Engineering Fundamentals*](#)

[*Quality Audits for Improved Performance*](#)

[*Analyzing Biomolecular Interactions by Mass*](#)

[*Spectrometry*](#)

[*Petroleum Production Engineering*](#)

[*How to Audit the Process-based QMS*](#)

[*Principles, Implementation, and Use*](#)

For decades gas chromatography has been and will remain an irreplaceable analytical technique in many research areas for both quantitative analysis and qualitative characterization/identification, which is still supplementary with HPLC. This book highlights a few areas where significant advances have been reported recently and/or a revisit of basic concepts is deserved. It provides an overview of instrumental developments, frontline and modern research as well as practical industrial applications. The topics include GC-based metabolomics in biomedical, plant and microbial research, natural products as well as characterization of aging of synthetic materials and industrial monitoring, which are contributions of several experts from different disciplines. It also contains best hand-on practices of sample preparation

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(derivatization) and data processing in daily research. This book is recommended to both basic and experienced researchers in gas chromatography.

A rigorous and thorough analysis of the production of air pollutants and their control, this text is geared toward chemical and environmental engineering students. Topics include combustion, principles of aerosol behavior, theories of the removal of particulate and gaseous pollutants from effluent streams, and air pollution control strategies. 1988 edition. Reprint of the Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1988 edition.

Historically, regulations governing chemical use have often focused on widely used chemicals and acute human health effects of exposure to them, as well as their potential to cause cancer and other adverse health effects. As scientific knowledge has expanded there has been an increased awareness of the mechanisms through which chemicals may exert harmful effects on human health, as well as their effects on other species and ecosystems. Identification of high-priority chemicals and other chemicals of concern has prompted a growing number of state and local governments, as well as major companies, to take steps beyond existing hazardous chemical federal legislation. Interest in approaches and policies that ensure that any new substances substituted for chemicals of concern are assessed as carefully and

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thoroughly as possible has also burgeoned. The overarching goal of these approaches is to avoid regrettable substitutions, which occur when a toxic chemical is replaced by another chemical that later proved unsuitable because of persistence, bioaccumulation, toxicity, or other concerns. Chemical alternative assessments are tools designed to facilitate consideration of these factors to assist stakeholders in identifying chemicals that may have the greatest likelihood of harm to human and ecological health, and to provide guidance on how the industry may develop and adopt safer alternatives. A Framework to Guide Selection of Chemical Alternatives develops and demonstrates a decision framework for evaluating potentially safer substitute chemicals as primarily determined by human health and ecological risks. This new framework is informed by previous efforts by regulatory agencies, academic institutions, and others to develop alternative assessment frameworks that could be operationalized. In addition to hazard assessments, the framework incorporates steps for life-cycle thinking - which considers possible impacts of a chemical at all stages including production, use, and disposal - as well as steps for performance and economic assessments. The report also highlights how modern information sources such as computational modeling can supplement traditional toxicology data in the assessment process. This new framework allows the

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evaluation of the full range of benefits and shortcomings of substitutes, and examination of tradeoffs between these risks and factors such as product functionality, product efficacy, process safety, and resource use. Through case studies, this report demonstrates how different users in contrasting decision contexts with diverse priorities can apply the framework. This report will be an essential resource to the chemical industry, environmentalists, ecologists, and state and local governments.

Break down the misconceptions of the Internet of Things by examining the different security building blocks available in Intel Architecture (IA) based IoT platforms. This open access book reviews the threat pyramid, secure boot, chain of trust, and the SW stack leading up to defense-in-depth. The IoT presents unique challenges in implementing security and Intel has both CPU and Isolated Security Engine capabilities to simplify it. This book explores the challenges to secure these devices to make them immune to different threats originating from within and outside the network. The requirements and robustness rules to protect the assets vary greatly and there is no single blanket solution approach to implement security. Demystifying Internet of Things Security provides clarity to industry professionals and provides an overview of different security solutions. What You'll Learn Secure devices, immunizing them against different

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threats originating from inside and outside the network. Gather an overview of the different security building blocks available in Intel Architecture (IA) based IoT platforms. Understand the threat pyramid, secure boot, chain of trust, and the software stack leading up to defense-in-depth. Who This Book Is For: Strategists, developers, architects, and managers in the embedded and Internet of Things (IoT) space trying to understand and implement the security in the IoT devices/platforms.

Written for computer programming students, hobbyists, and professionals, *FUNDAMENTALS OF PYTHON: DATA STRUCTURES* is an introduction to object-oriented design and data structures using the popular Python programming language. The level of instruction assumes at least one semester of programming in an object-oriented language such as Java, C++, or Python. Through the step-by-step instruction and exercises in this book, you'll cover such topics as the design of collection classes with polymorphism and inheritance, multiple implementations of collection interfaces, and the analysis of the space/time tradeoffs of different collection implementations (specifically array-based implementations and link-based implementations). Collections covered include sets, lists, stacks, queues, trees, dictionaries, and graphs. Get ready to dig into Python data structures with *FUNDAMENTALS OF PYTHON: DATA STRUCTURES*.

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Combines language tutorials with application design advice to cover the PHP server-side scripting language and the MySQL database engine.

Sucker-Rod Pumping Handbook presents the latest information on the most common form of production enhancement in today's oil industry, making up roughly two-thirds of the producing oilwell operations in the world.

The book begins with an introduction to the main features of sucker rod pumping and an explanation and comparison of lift methods.

It goes on to provide the technical and practical knowledge needed to introduce the new and practicing production engineer and operator to the equipment, technology, and applications required to maintain optimum operating conditions. Sucker-Rod Pumping Handbook is a must-have manual that ensures operators understand the design, components, and operation of sucker rod pump systems, learn the functions of the systems, apply the fundamental production engineering theories and calculations, and accomplish maximum system efficiency by avoiding the typical pitfalls that lead to fatigue and failure.

Covers basic equipment, techniques, and codes to follow in a comprehensive and easy-to-understand format Helps users grasp common handling problems that lead to failures

Provides analysis of sucker rod pump installations, including well testing, dynamometer surveys, and modern interpretation methods Aids operators in

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understanding and applying fundamental production theories and calculations of operational parameters

Authored by two of the leading authorities in the field, this guide offers readers the knowledge and skills needed to achieve proficiency with embedded software.

[Exam 98-375 HTML5 Application Development Fundamentals](#)

[Fundamentals of Basin and Petroleum Systems Modeling](#)

[Concepts, Drivers, and Techniques](#)

[Successful IoT Device/Edge and Platform Security Deployment](#)

[Software-Defined Radio for Engineers](#)

[Web Database Applications with PHP and MySQL](#)

[Fundamentals of Multimedia](#)

[Artificial Intelligence and Robotics](#)

[Demystifying Internet of Things Security](#)

[Sucker-Rod Pumping Handbook](#)

[Fundamentals of Petroleum Refining](#)

Various combinations of commercially available technologies could greatly reduce fuel consumption in passenger cars, sport-utility vehicles, minivans, and other light-duty vehicles without compromising vehicle performance or safety. Assessment of Technologies for Improving Light Duty Vehicle Fuel Economy estimates the potential fuel savings and costs to consumers of available technology combinations for three types of engines: spark-ignition gasoline, compression-ignition diesel, and hybrid. According to its estimates, adopting the full combination of

improved technologies in medium and large cars and pickup trucks with spark-ignition engines could reduce fuel consumption by 29 percent at an additional cost of \$2,200 to the consumer. Replacing spark-ignition engines with diesel engines and components would yield fuel savings of about 37 percent at an added cost of approximately \$5,900 per vehicle, and replacing spark-ignition engines with hybrid engines and components would reduce fuel consumption by 43 percent at an increase of \$6,000 per vehicle. The book focuses on fuel consumption--the amount of fuel consumed in a given driving distance--because energy savings are directly related to the amount of fuel used. In contrast, fuel economy measures how far a vehicle will travel with a gallon of fuel. Because fuel consumption data indicate money saved on fuel purchases and reductions in carbon dioxide emissions, the book finds that vehicle stickers should provide consumers with fuel consumption data in addition to fuel economy information.

The Basics of Web Hacking introduces you to a tool-driven process to identify the most widespread vulnerabilities in Web applications. No prior experience is needed. Web apps are a "path of least resistance" that can be exploited to cause the most damage to a system, with the lowest hurdles to overcome. This is a perfect storm for beginning hackers. The process set forth in this book introduces not only the theory and

practical information related to these vulnerabilities, but also the detailed configuration and usage of widely available tools necessary to exploit these vulnerabilities. The Basics of Web Hacking provides a simple and clean explanation of how to utilize tools such as Burp Suite, sqlmap, and Zed Attack Proxy (ZAP), as well as basic network scanning tools such as nmap, Nikto, Nessus, Metasploit, John the Ripper, web shells, netcat, and more. Dr. Josh Pauli teaches software security at Dakota State University and has presented on this topic to the U.S. Department of Homeland Security, the NSA, BlackHat Briefings, and Defcon. He will lead you through a focused, three-part approach to Web security, including hacking the server, hacking the Web app, and hacking the Web user. With Dr. Pauli's approach, you will fully understand the what/where/why/how of the most widespread Web vulnerabilities and how easily they can be exploited with the correct tools. You will learn how to set up a safe environment to conduct these attacks, including an attacker Virtual Machine (VM) with all necessary tools and several known-vulnerable Web application VMs that are widely available and maintained for this very purpose. Once you complete the entire process, not only will you be prepared to test for the most damaging Web exploits, you will also be prepared to conduct more advanced Web hacks that mandate a strong base of knowledge. Provides a simple and clean

approach to Web hacking, including hands-on examples and exercises that are designed to teach you how to hack the server, hack the Web app, and hack the Web user Covers the most significant new tools such as nmap, Nikto, Nessus, Metasploit, John the Ripper, web shells, netcat, and more! Written by an author who works in the field as a penetration tester and who teaches Web security classes at Dakota State University

Fundamentals of Petroleum Refining presents the fundamentals of thermodynamics and kinetics, and it explains the scientific background essential for understanding refinery operations. The text also provides a detailed introduction to refinery engineering topics, ranging from the basic principles and unit operations to overall refinery economics. The book covers important topics, such as clean fuels, gasification, biofuels, and environmental impact of refining, which are not commonly discussed in most refinery textbooks. Throughout the source, problem sets and examples are given to help the reader practice and apply the fundamental principles of refining. Chapters 1-10 can be used as core materials for teaching undergraduate courses. The first two chapters present an introduction to the petroleum refining industry and then focus on feedstocks and products. Thermophysical properties of crude oils and petroleum fractions, including processes of atmospheric and vacuum distillations, are discussed in

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Chapters 3 and 4. Conversion processes, product blending, and alkylation are covered in chapters 5-10. The remaining chapters discuss hydrogen production, clean fuel production, refining economics and safety, acid gas treatment and removal, and methods for environmental and effluent treatments. This source can serve both professionals and students (on undergraduate and graduate levels) of Chemical and Petroleum Engineering, Chemistry, and Chemical Technology. Beginners in the engineering field, specifically in the oil and gas industry, may also find this book invaluable. Provides balanced coverage of fundamental and operational topics Includes spreadsheets and process simulators for showing trends and simulation case studies Relates processing to planning and management to give an integrated picture of refining

Data is at the center of many challenges in system design today. Difficult issues need to be figured out, such as scalability, consistency, reliability, efficiency, and maintainability. In addition, we have an overwhelming variety of tools, including relational databases, NoSQL datastores, stream or batch processors, and message brokers. What are the right choices for your application? How do you make sense of all these buzzwords? In this practical and comprehensive guide, author Martin Kleppmann helps you navigate this diverse landscape by examining the pros and cons of various

technologies for processing and storing data. Software keeps changing, but the fundamental principles remain the same. With this book, software engineers and architects will learn how to apply those ideas in practice, and how to make full use of data in modern applications. Peer under the hood of the systems you already use, and learn how to use and operate them more effectively Make informed decisions by identifying the strengths and weaknesses of different tools Navigate the trade-offs around consistency, scalability, fault tolerance, and complexity Understand the distributed systems research upon which modern databases are built Peek behind the scenes of major online services, and learn from their architectures

The Microsoft Technology Associate certification (MTA) curriculum helps instructors teach and validate fundamental technology concepts with a foundation for students' careers as well as the confidence they need to succeed in advanced studies. Through the use of MOAC MTA titles you can help ensure your students future success in and out of the classroom. This MTA text covers the following HTML5 Application vital fundamental skills:

- Manage the Application Life Cycle
- Build the User Interface by Using HTML5
- Format the User Interface by Using CSS
- Code by Using JavaScript

Click here to learn more about the Microsoft Technology Associate (MTA), a new and innovative certification track designed to

provide a pathway for future success in technology courses and careers.

This is the third revised edition of the established and trusted RFID Handbook; the most comprehensive introduction to radio frequency identification (RFID) available. This essential new edition contains information on electronic product code (EPC) and the EPC global network, and explains near-field communication (NFC) in depth. It includes revisions on chapters devoted to the physical principles of RFID systems and microprocessors, and supplies up-to-date details on relevant standards and regulations. Taking into account critical modern concerns, this handbook provides the latest information on: the use of RFID in ticketing and electronic passports; the security of RFID systems, explaining attacks on RFID systems and other security matters, such as transponder emulation and cloning, defence using cryptographic methods, and electronic article surveillance; frequency ranges and radio licensing regulations. The text explores schematic circuits of simple transponders and readers, and includes new material on active and passive transponders, ISO/IEC 18000 family, ISO/IEC 15691 and 15692. It also describes the technical limits of RFID systems. A unique resource offering a complete overview of the large and varied world of RFID, Klaus Finkenzeller's volume is useful for end-users of the technology as well as practitioners in auto ID and IT

designers of RFID products. Computer and electronics engineers in security system development, microchip designers, and materials handling specialists benefit from this book, as do automation, industrial and transport engineers. Clear and thorough explanations also make this an excellent introduction to the topic for graduate level students in electronics and industrial engineering design. Klaus Finkenzeller was awarded the Fraunhofer-Smart Card Prize 2008 for the second edition of this publication, which was celebrated for being an outstanding contribution to the smart card field. Industrial desalination of sea and brackish water is becoming an essential part in providing sustainable sources of fresh water for a larger number of communities around the world. Desalination is a main source of fresh water in the Gulf countries, a number of the Caribbean and Mediterranean Islands, and several municipalities in a large number of countries. As the industry expands there is a pressing need to have a clear and well-written textbook that focuses on desalination fundamentals and other industrial aspects. This book focuses on the processes widely used in industry, which include multistage flash desalination and reverse osmosis. Also, other desalination processes with attractive features and high potential are featured. It includes a large number of solved examples, which are explained in simple and careful matter that allow the reader to follow and

understand the development. The data used in the development of the examples and case studies are extracted from existing desalination plants. This title also includes comparisons of model predictions against results reported in literature as well as available experimental and industrial data. Several industries include similar unit operation processes, i.e., evaporators, condensers, flashing units, membrane separation, and chemical treatment. Examples of such industries include wastewater treatment, food, petroleum, petrochemical, power generation, and pulp and paper. Process fundamentals and design procedures of such unit processes follow the same procedures given in this textbook.

This book is an excellent reference for learning and applying basic quality auditing principles. Examples and checklists throughout the book help make this one of the best single-source reference guides. Quality practitioners, registrars, and those preparing for certification exams will find this book to be a useful tool. The new edition expands on established techniques and addresses both internal and supplier auditing as it relates to any quality management system, including ISO 9001, GMP, automotive, and others.

[Fundamentals With Applications](#)

[A Framework to Guide Selection of Chemical Alternatives](#)

[A Guide to Best Practice](#)

[Assessment of Fuel Economy Technologies for Light-Duty Vehicles](#)

[Fundamentals of Relational Database](#)

[Management Systems](#)

[Fundamentals of Database Systems](#)

[A Practical Perspective](#)

[Production Engineering Fundamentals and Long-Stroke Rod Pumping](#)

[Pipe Line News](#)

[Fundamentals of Air Pollution Engineering](#)

Big Data Science Fundamentals offers a comprehensive, easy-to-understand, and up-to-date understanding of Big Data for all business professionals and technologists. Leading enterprise technology author Thomas Erl introduces key Big Data concepts, theory, terminology, technologies, key analysis/analytics techniques, and more - all logically organized, presented in plain English, and supported by easy-to-understand diagrams and case study examples. Erl provides a uniquely valuable methodology for Big Data analysis, and introduces the underlying analysis techniques and enabling technological constructs that constitute a Big Data solution environment. He presents vendor-neutral guidance on implementing Big Data for competitive advantage; and for successfully integrating Big Data with existing enterprise systems. Coverage includes: Big Data's fundamental concepts and key

business/technology drivers "5 V" characteristics of data in Big Data environments: volume, velocity, variety, veracity, and value Types of Big Data: structured, unstructured, semi-structured, and meta-data Big Data's relationships with OLTP, OLAP, ETL, data warehouses, and data marts Fundamental types of analysis, analytics, and machine learning Requirements and tools for visualizing big data Adoption and planning: business cases, privacy, security, provenance, performance, governance, and more Big Data technologies, including clusters, NoSQL, distributed and parallel data processing, Hadoop, cloud computing, and storage Big Data analysis and analytics across the full lifecycle And much more

The editors have engaged leading scientists in the field to participate in the development of this book, which is envisioned as a "one of a kind" contribution to the field. The book is a comprehensive text that puts fundamental bioanalytical science in context with current practice, its challenges and ongoing developments. It expands on existing texts on the subject by covering regulated bioanalysis of both small and large molecule therapeutics from both a scientific and regulatory viewpoint. The content will be useful to a wide spectrum of readers: from those new to bioanalysis; to those developing their

experience in the laboratory, or working in one of the many critical supporting roles; to seasoned practitioners looking for a solid source of information on this exciting and important discipline.

The first comprehensive presentation of methods and algorithms used in basin modeling, this text provides geoscientists and geophysicists with an in-depth view of the underlying theory and includes advanced topics such as probabilistic risk assessment methods.

NUCLEAR ENGINEERING FUNDAMENTALS is the most modern, up-to-date, and reader friendly nuclear engineering textbook on the market today. It provides a thoroughly modern alternative to classical nuclear engineering textbooks that have not been updated over the last 20 years. Printed in full color, it conveys a sense of awe and wonder to anyone interested in the field of nuclear energy. It discusses nuclear reactor design, nuclear fuel cycles, reactor thermal-hydraulics, reactor operation, reactor safety, radiation detection and protection, and the interaction of radiation with matter. It presents an in-depth introduction to the science of nuclear power, nuclear energy production, the nuclear chain reaction, nuclear cross sections, radioactivity, and radiation transport. All major types of reactors are introduced and discussed, and the role of internet

tools in their analysis and design is explored. Reactor safety and reactor containment systems are explored as well. To convey the evolution of nuclear science and engineering, historical figures and their contributions to evolution of the nuclear power industry are explored. Numerous examples are provided throughout the text, and are brought to life through life-like portraits, photographs, and colorful illustrations. The text follows a well-structured pedagogical approach, and provides a wide range of student learning features not available in other textbooks including useful equations, numerous worked examples, and lists of key web resources. As a bonus, a complete Solutions Manual and .PDF slides of all figures are available to qualified instructors who adopt the text. More than any other fundamentals book in a generation, it is student-friendly, and truly impressive in its design and its scope. It can be used for a one semester, a two semester, or a three semester course in the fundamentals of nuclear power. It can also serve as a great reference book for practicing nuclear scientists and engineers. To date, it has achieved the highest overall satisfaction of any mainstream nuclear engineering textbook available on the market today.

[Industry 4.0 for SMEs](#)

[Handbook Of Nanobiomedical Research:](#)

[Fundamentals, Applications And Recent Developments \(In 4 Volumes\)](#)

[RFID Handbook](#)

[Challenges, Opportunities and Requirements Fundamentals and Applications in Contactless Smart Cards, Radio Frequency Identification and Near-Field Communication](#)

[Centrifugal & Rotary Pumps](#)

[Advances in Gas Chromatography](#)

[Guidelines for the Evaluation of Petroleum Reserves and Resources](#)

[Gas Pipeline Hydraulics](#)

[Introduction to Information Retrieval](#)