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Its Generation and Use Springer

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Rules of Thumb, Process Planning, Scheduling, and Flowsheet Design, Process Piping Design, Pumps, Compressors, and Process Safety Incidents, Volume 2 John Wiley & Sons

This book investigates how political parties from 12 European countries used Facebook to inform, interact with and mobilise voters at the 2019 European Parliament election. Following a joint theoretical framework and method, the results of a content analysis of more than 14,000 Facebook posts are presented. Country specific chapters are followed by analyses of European parties Facebook campaigning, the spread of populism and the use of Facebook ads by the parties. The final chapter compares all countries showing that campaigns are more strongly shaped by the national than by the European political context. Facebook is used for campaigning as usual; parties inform and persuade but neglect the platforms mobilisation and particularly interactive affordances.

Steam Legare Street Press

From upstream to downstream, Heat Exchangers are utilized in every stage of the petroleum value stream. An integral piece of equipment, heat exchangers are among the most confusing and problematic pieces of equipment in the petroleum processing operations. This is especially true for engineers just entering the field or seasoned engineers that must keep up with the latest methods for in-shop and in-service inspection, repair, alteration and re-rating of equipment. Heat Exchanger Equipment Field Manual provides engineers and operators with an easy to understand working manual to the recent developments in heat exchanger technology and in the diagnosis and correction of operating problems. The objective of this book is to provide the reader with sufficient information to make better logical choices in designing and operating the system. Heat Exchanger Equipment Field Manual provides an indispensable means for the determination of possible failures and for the recognition of the optimization potential of the respective heat exchanger. Step-by-step procedure on how to design, perform in-shop and in-field inspections and repairs, perform alterations and re-rate equipment Select the correct heat transfer equipment for a particular application Apply heat transfer principles to design, select and specify heat transfer equipment Evaluate the performance of heat transfer equipment and recommend solutions to problems Control schemes for typical heat transfer equipment application

Law, Theory and Practice Random House Digital, Inc.

Industrial Chemical Process Analysis and Design uses chemical engineering principles to explain the transformation of basic raw materials into major chemical products. The book discusses traditional processes to create products like nitric acid, sulphuric acid, ammonia, and methanol, as well as more novel products like bioethanol and biodiesel. Historical perspectives show how current chemical processes have developed over years or even decades to improve their yields, from the discovery of the chemical reaction or physico-chemical principle to the industrial process needed to yield commercial quantities. Starting with an introduction to process design, optimization, and safety, Martin then provides stand-alone chapters—in a case study fashion—for commercially

important chemical production processes. Computational software tools like MATLAB®, Excel, and Chemcad are used throughout to aid process analysis. Integrates principles of chemical engineering, unit operations, and chemical reactor engineering to understand process synthesis and analysis Combines traditional computation and modern software tools to compare different solutions for the same problem Includes historical perspectives and traces the improving efficiencies of commercially important chemical production processes Features worked examples and end-of-chapter problems with solutions to show the application of concepts discussed in the text

Multiphase Sound Speed, CO2 Freeze-Out and HYSYS Implementation Athabasca University Press

Using an applications perspective Thermodynamic Models for Industrial Applications provides a unified framework for the development of various thermodynamic models, ranging from the classical models to some of the most advanced ones. Among these are the Cubic Plus Association Equation of State (CPA EoS) and the Perturbed Chain Statistical Association Fluid Theory (PC-SAFT). These two advanced models are already in widespread use in industry and academia, especially within the oil and gas, chemical and polymer industries. Presenting both classical models such as the Cubic Equations of State and more advanced models such as the CPA, this book provides the critical starting point for choosing the most appropriate calculation method for accurate process simulations. Written by two of the developers of these models, Thermodynamic Models for Industrial Applications emphasizes model selection and model development and includes a useful “which model for which application” guide. It also covers industrial requirements as well as discusses the challenges of thermodynamics in the 21st Century.

Gas Purification Springer

This book is concerned with the steady state hydraulics of natural gas and other compressible fluids being transported through pipelines. Our main approach is to determine the flow rate possible and compressor station horsepower required within the limitations of pipe strength, based on the pipe materials and grade. It addresses the scenarios where one or more compressors may be required depending on the gas flow rate and if discharge cooling is needed to limit the gas temperatures. The book is the result of over 38 years of the authors' experience on pipelines in North and South America while working for major energy companies such as ARCO, El Paso Energy, etc.

Network-Oriented Modeling Handbook of Petroleum Refining Processes

* Offers detailed description of process chemistry and thermodynamics and product by-product specifications of plants * Contributors are drawn from the largest petroleum producers in the world, including Chevron, Mobil, Shell, Exxon, UOP, and Texaco * Covers the very latest technologies in the field of petroleum refining processes * Completely updated 3rd Edition features 50% all new material

Improved, Sustainable and Clean Options for our Planet CRC Press

This is the seventh volume in the series, Advances in Natural Gas Engineering, focusing on carbon dioxide (CO₂) capture and sequestration, acid gas injection, and enhanced oil recovery, the “three sisters” of natural gas engineering. This volume includes information for both upstream and downstream

operations, including chapters detailing the most cutting-edge techniques in acid gas injection, carbon capture, chemical and thermodynamic models, and much more. Written by some of the most well-known and respected chemical and process engineers working with natural gas today, the chapters in this important volume represent the most state-of-the-art processes and operations being used in the field. Not available anywhere else, this volume is a must-have for any chemical engineer, chemist, or process engineer in the industry. Advances in Natural Gas Engineering is an ongoing series of books meant to form the basis for the working library of any engineer working in natural gas today.

Official Google Cloud Certified Associate Cloud Engineer Study Guide Gulf Professional Publishing

The precipitation and deposition of solids are a major challenge in the production of oil and gas. Flow assurance solids are formed because of unavoidable changes in temperature, pressure and composition of the oil-gas-water flowstream, from reservoir conditions to processing conditions. The advent of subsea production and the increased exploitation of heavy crudes have made flow assurance issues dominant in ensuring efficient and safe exploitation of hydrocarbon assets. Five troublesome flow assurance solids are described in the book: asphaltene, paraffin wax, natural gas hydrate, naphthenate and inorganic scale. These big-five solids are presented in stand-alone chapters. Each chapter is designed to be readable without clutter. Derivations of equations and descriptions of supporting details are given in several appendices. The book is intended for professional engineers and natural scientist working in E&P companies, engineering companies, service companies and specialized companies. An understanding of the big-five solids is required throughout the lifetime of oil and gas assets, from early development to abandonment. The technical, safety and environmental risks associated with deposition problems in near-wellbore formations, production tubing, wellhead equipment, flowlines and processing facilities, are relevant for decisions in the oil and gas industry and in outside regulatory and financial entities.

A Manual of Quick, Accurate Solutions to Everyday Process Engineering Problems Gulf Professional Publishing

An Engineering Data Book Third edition Edited by JR Calvert and R A Farrar This indispensable companion is a ready reference for commonly required formulae and data, for use in coursework and examinations (where permitted) and in professional practice. CONTENTS Symbols and Units Physical Constants Analysis of Experimental Data Mechanics Properties and Mechanics of Solids Properties of Materials Earth and the Environment Thermodynamics and Fluid Mechanics Automatic Control Electricity and Magnetism Soil Mechanics Structures Symbols Index Keyword Index

Global Corruption Pearson Education

This book presents the fundamental fluid flow and heat transfer principles occurring in oscillating heat pipes and also provides updated developments and recent innovations in research and applications of heat pipes. Starting with fundamental presentation of heat pipes, the focus is on oscillating motions and its heat transfer enhancement in a two-phase heat transfer system. The book covers thermodynamic analysis, interfacial phenomenon, thin film evaporation, theoretical models of oscillating motion and heat transfer of single phase and two-phase flows, primary

factors affecting oscillating motions and heat transfer, neutron imaging study of oscillating motions in an oscillating heat pipes, and nanofluid's effect on the heat transfer performance in oscillating heat pipes. The importance of thermally-excited oscillating motion combined with phase change heat transfer to a wide variety of applications is emphasized. This book is an essential resource and learning tool for senior undergraduate, graduate students, practicing engineers, researchers, and scientists working in the area of heat pipes. This book also · Includes detailed descriptions on how an oscillating heat pipe is fabricated, tested, and utilized · Covers fundamentals of oscillating flow and heat transfer in an oscillating heat pipe · Provides general presentation of conventional heat pipes

The Three Sisters Elsevier

What can be done about the major concerns of our Global Economy on energy, global warming, sustainable development, user-friendly processes, and green chemistry? Here is an important contribution to the mastering of these phenomena today. Written by Joseph Davidovits, the inventor and founder of geopolymer science, it is an introduction to the subject for the newcomers, students, engineers and professionals. You will find science, chemistry, formulas and very practical information (including patents' excerpts) covering: - The mineral polymer concept: silicones and geopolymers, - Macromolecular structure of natural silicates and aluminosilicates, - Scientific Tools, X-rays, FTIR, NMR, - The synthesis of mineral geopolymers, Poly(siloxonate) and polysilicate, soluble silicate, Chemistry of (Na, K)-oligo-sialates: hydrous alumino-silicate gels and zeolites, Kaolinite / Hydrosodalite-based geopolymer, Metakaolin MK-750-based geopolymer, Calcium-based geopolymer, Rock-based geopolymer, Silica-based geopolymer, Fly ash-based geopolymer, Phosphate-based geopolymer, Organic-mineral geopolymer, - Properties: physical, chemical and long-term durability, - Applications: Quality controls, Development of user-friendly systems, Castable geopolymer, industrial and decorative applications, Geopolymer / fiber composites, Foamed geopolymer, Geopolymers in ceramic processing, Manufacture of geopolymer cement, Geopolymer concrete, Geopolymers in toxic and radioactive waste management. It is a textbook, a reference book instead of being a collection of scientific papers. Each chapter is followed by a bibliography of the relevant published literature including 80 patents, 125 tables, 363 figures, 560 references, 720 authors cited, representing the most up to date contributions of the scientific community. The industrial applications of geopolymers with engineering procedures and design of processes are also covered in this book

Bioprocess Engineering Principles John Wiley & Sons

As the demand for global energy increases, fact-based evaluations of alternative energy sources are needed in order to address the growing interest in how energy is produced, provided, and transported in sustainable ways. Future Energy, Second Edition provides scientists and decision makers with the knowledge they need to understand the relative importance and magnitude of various energy production methods in order to make the energy decisions needed for sustaining development and dealing with climate change. The second edition of Future Energy looks at the present energy situation and extrapolates to future scenarios related to global warming and the increase of carbon dioxide and other greenhouse gases in the atmosphere. This thoroughly revised and updated edition contains over 30 chapters on all aspects of future energy, each chapter updated and expanded by expert scientists and engineers in their respective fields providing an unbiased and balanced view of the future of energy. Provides readers with an up-to-date overview of available energy options, both traditional and renewable, as well as the necessary tools to make informed decisions regarding selection, use, and environmental impacts. Covers a wide spectrum of future energy resources presented in a single book with chapters written by experts of the particular field Eleven new chapters including chapters on: solar heating, energy resources in developing nations and frontiers in oil and

gas, Arctic drilling and unconventional oil and gas sources, thorium in nuclear fission, ethanol and other options for future transport fuel, fracking, smart grids, new batteries, environmental issues and the energy options for China

Graduate Admissions Essays Gulf Professional Publishing

The Only Official Google Cloud Study Guide The Official Google Cloud Certified Associate Cloud Engineer Study Guide, provides everything you need to prepare for this important exam and master the skills necessary to land that coveted Google Cloud Engineering certification. Beginning with a pre-book assessment quiz to evaluate what you know before you begin, each chapter features exam objectives and review questions, plus the online learning environment includes additional complete practice tests. Written by Dan Sullivan, a popular and experienced online course author for machine learning, big data, and Cloud topics, Official Google Cloud Certified Associate Cloud Engineer Study Guide is your ace in the hole for deploying and managing Google Cloud Services. • Select the right Google service from the various choices based on the application to be built • Compute with Cloud VMs and managing VMs • Plan and deploying storage • Network and configure access and security Google Cloud Platform is a leading public cloud that provides its users to many of the same software, hardware, and networking infrastructure used to power Google services.

Businesses, organizations, and individuals can launch servers in minutes, store petabytes of data, and implement global virtual clouds with the Google Cloud Platform. Certified Associate Cloud Engineers have demonstrated the knowledge and skills needed to deploy and operate infrastructure, services, and networks in the Google Cloud. This exam guide is designed to help you understand the Google Cloud Platform in depth so that you can meet the needs of those operating resources in the Google Cloud.

Principles, Technologies, and Equipment Butterworth-Heinemann

The past decade has witnessed the emergence of participatory Web and social media, bringing people together in many creative ways. Millions of users are playing, tagging, working, and socializing online, demonstrating new forms of collaboration, communication, and intelligence that were hardly imaginable just a short time ago. Social media also helps reshape business models, sway opinions and emotions, and opens up numerous possibilities to study human interaction and collective behavior in an unparalleled scale. This lecture, from a data mining perspective, introduces characteristics of social media, reviews representative tasks of computing with social media, and illustrates associated challenges. It introduces basic concepts, presents state-of-the-art algorithms with easy-to-understand examples, and recommends effective evaluation methods. In particular, we discuss graph-based community detection techniques and many important extensions that handle dynamic, heterogeneous networks in social media. We also demonstrate how discovered patterns of communities can be used for social media mining. The concepts, algorithms, and methods presented in this lecture can help harness the power of social media and support building socially-intelligent systems. This book is an accessible introduction to the study of \emph{community detection and mining in social media}. It is an essential reading for students, researchers, and practitioners in disciplines and applications where social media is a key source of data that piques our curiosity to understand, manage, innovate, and excel. This book is supported by additional materials, including lecture slides, the complete set of figures, key references, some toy data sets used in the book, and the source code of representative algorithms. The readers are encouraged to visit the book website for the latest

information. Table of Contents: Social Media and Social Computing / Nodes, Ties, and Influence / Community Detection and Evaluation / Communities in Heterogeneous Networks / Social Media Mining

The Law of Journalism and Mass Communication CRC Press

Here, in a compact, easy-to-use format, are practical tips, handy formulas, correlations, curves, charts, tables, and shortcut methods that will save engineers valuable time and effort. Hundreds of common sense techniques and calculations help users quickly and accurately solve day-to-day design, operations, and equipment problems.

Geopolymer Chemistry and Applications Springer

Liquefied natural gas (LNG) is a commercially attractive phase of the commodity that facilitates the efficient handling and transportation of natural gas around the world. The LNG industry, using technologies proven over decades of development, continues to expand its markets, diversify its supply chains and increase its share of the global natural gas trade. The Handbook of Liquefied Natural Gas is a timely book as the industry is currently developing new large sources of supply and the technologies have evolved in recent years to enable offshore infrastructure to develop and handle resources in more remote and harsher environments. It is the only book of its kind, covering the many aspects of the LNG supply chain from liquefaction to regasification by addressing the LNG industries' fundamentals and markets, as well as detailed engineering and design principles. A unique, well-documented, and forward-thinking work, this reference book provides an ideal platform for scientists, engineers, and other professionals involved in the LNG industry to gain a better understanding of the key basic and advanced topics relevant to LNG projects in operation and/or in planning and development.

Highlights the developments in the natural gas liquefaction industries and the challenges in meeting environmental regulations Provides guidelines in utilizing the full potential of LNG assets Offers advices on LNG plant design and operation based on proven practices and design experience Emphasizes technology selection and innovation with focus on a "fit-for-purpose design Updates code and regulation, safety, and security requirements for LNG applications Handbook of Petroleum Refining Processes Springer

This book introduces a new and powerful approach based on rigorous process simulations conducted with professional simulators like HYSYS to predict the performance of supersonic separators (SS). The book addresses the utilization of SSs for the offshore processing of CO₂-rich natural gas as an alternative to Joule-Thomson expansion, glycol absorption, membrane permeation and chemical absorption. It describes and analyzes the conventional offshore processing of CO₂-rich natural gas, discussing the advantages of SS in terms of cost and power consumption. The book offers a comprehensive framework for modeling SS units, describing the physical principles of SS in detail. The thermodynamic multiphase sound speed is also discussed at the light shed by a classical analysis based on the Landau Model of phase transitions. A complete framework is presented for modelling and simulating SS units within HYSYS environment. A special chapter is dedicated to the performance of SSs for removing CO₂ from CO₂-rich natural gas, taking into account the limitations of CO₂ freeze-out in various scenarios of gas feed in terms of CO₂ content, pressure and temperature.

Aircraft Propulsion and Gas Turbine Engines McGraw Hill Professional

The emergence and refinement of techniques in molecular biology has changed our perceptions of medicine, agriculture and environmental management. Scientific breakthroughs in gene expression, protein engineering and cell fusion are being translated by a strengthening biotechnology industry into

revolutionary new products and services. Many a student has been enticed by the promise of biotechnology and the excitement of being near the cutting edge of scientific advancement. However, graduates trained in molecular biology and cell manipulation soon realise that these techniques are only part of the picture. Reaping the full benefits of biotechnology requires manufacturing capability involving the large-scale processing of biological material. Increasingly, biotechnologists are being employed by companies to work in co-operation with chemical engineers to achieve pragmatic commercial goals. For many years aspects of biochemistry and molecular genetics have been included in chemical engineering curricula, yet there has been little attempt until recently to teach aspects of engineering applicable to process design to biotechnologists. This textbook is the first to present the principles of bioprocess engineering in a way that is accessible to biological scientists. Other texts on bioprocess engineering currently available assume that the reader already has engineering training. On the other hand, chemical engineering textbooks do not consider examples from bioprocessing, and are written almost exclusively with the petroleum and chemical industries in mind. This publication explains process analysis from an engineering point of view, but refers exclusively to the treatment of biological systems. Over 170 problems and worked examples encompass a wide range of applications, including recombinant cells, plant and animal cell cultures, immobilised catalysts as well as traditional fermentation systems. * * First book to present the principles of bioprocess engineering in a way that is accessible to biological scientists * Explains process analysis from an engineering point of view, but uses worked examples relating to biological systems * Comprehensive, single-authored * 170 problems and worked examples encompass a wide range of applications, involving recombinant plant and animal cell cultures, immobilized catalysts, and traditional fermentation systems * 13 chapters, organized according to engineering sub-disciplines, are grouped in four sections - Introduction, Material and Energy Balances, Physical Processes, and Reactions and Reactors * Each chapter includes a set of problems and exercises for the student, key references, and a list of suggestions for further reading * Includes useful appendices, detailing conversion factors, physical and chemical property data, steam tables, mathematical rules, and a list of symbols used * Suitable for course adoption - follows closely curricula used on most bioprocessing and process biotechnology courses at senior undergraduate and graduate levels.

Engineering Data Book Fps Elsevier

From 1928 to 1972, the Alberta Sexual Sterilization Act, Canada's lengthiest eugenic policy, shaped social discourses and medical practice in the province. Sterilization programs—particularly involuntary sterilization programs—were responding both nationally and internationally to social anxieties produced by the perceived connection between mental degeneration and heredity. *Psychiatry and the Legacies of Eugenics* illustrates how the emerging field of psychiatry and its concerns about inheritable conditions was heavily influenced by eugenic thought and contributed to the longevity of sterilization practices in Western Canada. Using institutional case studies, biographical accounts, and media developments from Western Canada and Europe, contributors trace the impact of eugenics on nursing practices, politics, and social attitudes, while investigating the ways in which eugenics discourses persisted unexpectedly and remained mostly unexamined in psychiatric practice. This volume further extends historical analysis into considerations of contemporary policy and human rights issues through a discussion of disability studies as well as compensation claims for victims of sterilization. In impressive detail, contributors shed new

light on the medical and political influences of eugenics on psychiatry at a key moment in the field's development. With contributions by Ashley Barlow, W. Mikkel Dack, Diana Mansell, Guel A. Russell, Celeste Tuong Vy Sharpe, Henderikus J. Stam, Douglas Wahlsten, Paul J. Weindling, Robert A. Wilson, Gregor Wolbring, and Marc Workman.