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Become an Effective Software Engineering Manager  
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Machine Learning Engineering in Action  
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Engineering Fundamentals: An Introduction to Engineering, SI Edition  
Effective Model-Based Systems Engineering  
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The Civil Engineering Handbook  
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## LIZETH KAITLIN

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*Become an Effective Software Engineering Manager* Princeton University Press  
Field-tested tips, tricks, and design patterns for building machine learning projects that are deployable, maintainable, and secure from concept to production. In *Machine Learning Engineering in Action*, you will learn: Evaluating data science problems to find the most effective solution Scoping a machine learning project for usage expectations and budget Process techniques that minimize wasted effort and speed up production Assessing a project using standardized prototyping work and statistical validation Choosing the right technologies and tools for your project Making your codebase more understandable, maintainable, and testable Automating your troubleshooting and logging practices Ferrying a machine learning project from your data science team to your end users is no easy task. *Machine Learning Engineering in Action* will help you make it simple. Inside, you'll find fantastic advice from veteran industry expert Ben Wilson, Principal Resident Solutions Architect at Databricks. Ben introduces his personal toolbox of techniques for building deployable and maintainable production machine learning systems. You'll learn the importance of Agile methodologies for fast prototyping and conferring with stakeholders, while developing a new appreciation for the importance of planning. Adopting well-established software development standards will help you deliver better code management, and make it easier to test, scale, and even reuse your machine learning code. Every method is explained in a friendly, peer-to-peer style and illustrated with production-ready source code. About the technology Deliver maximum performance from your models and data. This collection of reproducible techniques will help you build stable data pipelines, efficient application workflows, and maintainable models every time. Based on decades of good software engineering practice, machine learning engineering ensures your ML systems are resilient, adaptable, and perform in production. About the book

*Machine Learning Engineering in Action* teaches you core principles and practices for designing, building, and delivering successful machine learning projects. You'll discover software engineering techniques like conducting experiments on your prototypes and implementing modular design that result in resilient architectures and consistent cross-team communication. Based on the author's extensive experience, every method in this book has been used to solve real-world projects. What's inside Scoping a machine learning project for usage expectations and budget Choosing the right technologies for your design Making your codebase more understandable, maintainable, and testable Automating your troubleshooting and logging practices About the reader For data scientists who know machine learning and the basics of object-oriented programming. About the author Ben Wilson is Principal Resident Solutions Architect at Databricks, where he developed the Databricks Labs AutoML project, and is an MLflow committer.

### Engineering Economy Pragmatic Bookshelf

Today, software engineers need to know not only how to program effectively but also how to develop proper engineering practices to make their codebase sustainable and healthy. This book emphasizes this difference between programming and software engineering. How can software engineers manage a living codebase that evolves and responds to changing requirements and demands over the length of its life? Based on their experience at Google, software engineers Titus Winters and Hyrum Wright, along with technical writer Tom Manshreck, present a candid and insightful look at how some of the world's leading practitioners construct and maintain software. This book covers Google's unique engineering culture, processes, and tools and how these aspects contribute to the effectiveness of an engineering organization. You'll explore three fundamental principles that software organizations should keep in mind when designing, architecting, writing, and maintaining code: How time affects the sustainability of software and how to make your code resilient over time How scale affects the viability of software practices within an engineering organization What trade-offs a typical engineer needs to make when evaluating design and

development decisions

### **Industrial System Engineering for Drones** Routledge

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.

#### **Software-Defined Radio for Engineers** Elsevier

This book gives a broad introduction to the properties of materials used in engineering applications, and is intended to provide a course in engineering materials for students with no previous background in the subject.

#### Product Management Essentials MIT Press

Process Engineering, the science and art of transforming raw materials and energy into a vast array of commercial materials, was conceived at the end of the 19th Century. Its history in the role of the Process Industries has been quite honorable, and techniques and products have contributed to improve health, welfare and quality of life. Today, industrial enterprises, which are still a major source of wealth, have to deal with new challenges in a global world. They need to reconsider their strategy taking into account environmental constraints, social requirements, profit, competition, and resource depletion. "Systems thinking" is a prerequisite from process development at the lab level to good project management. New manufacturing concepts have to be considered, taking into account LCA, supply chain management, recycling, plant flexibility, continuous development, process intensification and innovation. This book combines experience from academia and industry in the field of industrialization, i.e. in all processes involved in the conversion of research into successful operations. Enterprises are facing major challenges in a world of fierce competition and globalization. Process engineering techniques provide Process Industries with the necessary tools to cope with these issues. The chapters of this book give a new approach to the management of technology,

projects and manufacturing. Contents Part 1: The Company as of Today 1. The Industrial Company: its Purpose, History, Context, and its Tomorrow?, Jean-Pierre Dal Pont. 2. The Two Modes of Operation of the Company - Operational and Entrepreneurial, Jean-Pierre Dal Pont. 3. The Strategic Management of the Company: Industrial Aspects, Jean-Pierre Dal Pont. Part 2: Process Development and Industrialization 4. Chemical Engineering and Process Engineering, Jean-Pierre Dal Pont. 5. Foundations of Process Industrialization, Jean-François Joly. 6. The Industrialization Process: Preliminary Projects, Jean-Pierre Dal Pont and Michel Royer. 7. Lifecycle Analysis and Eco-Design: Innovation Tools for Sustainable Industrial Chemistry, Sylvain Caillol. 8. Methods for Design and Evaluation of Sustainable Processes and Industrial Systems, Catherine Azzaro-Pantel. 9. Project Management Techniques: Engineering, Jean-Pierre Dal Pont. Part 3: The Necessary Adaptation of the Company for the Future 10. Japanese Methods, Jean-Pierre Dal Pont. 11. Innovation in Chemical Engineering Industries, Oliver Potier and Mauricio Camargo. 12. The Place of Intensified Processes in the Plant of the Future, Laurent Falk. 13. Change Management, Jean-Pierre Dal Pont. 14. The Plant of the Future, Jean-Pierre Dal Pont.

#### *Microwave Engineering* John Wiley & Sons

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.

*Engineering Design Optimization* Addison-Wesley Professional  
AN EFFECTIVE STRATEGY FOR SAFE DESIGN IN ENGINEERING AND CONSTRUCTION Practically and efficiently implement the Construction (Design and Management) Regulations in any project In An Effective Strategy for Safe Design, safety and risk professionals David England and Dr Andy Painting provide a comprehensive exploration of the design process, from initial idea to the validation of the product in service, from a product and project safety perspective. In that context, the authors show how the appropriate implementation of the requirements of the Construction (Design and Management) Regulations 2015 can not only improve health and safety on a project but can also improve the project's output as well as offering savings in both capital and operational expenditure. Readers will discover how the seemingly complex matters of regulation and risk management can be practically applied to projects via examples, illustrations, and real-world references. They will find out how safety regulation, standards, and initiatives all converge on the same goal—the safest output from any given project. The book achieves three primary goals: To improve the understanding and implementation of the Construction (Design and Management) Regulations 2015 To reduce errors during the design process via the effective implementation of design management strategy To embed the concept of safety in design Perfect for designers, design managers and supervisors, project managers, surveyors, and insurers, An Effective Strategy for Safe Design is also an invaluable addition to the libraries of principal designers, specifiers, and building control officers.

#### Learn Social Engineering Apress

Gain all of the techniques, teachings, tools, and methodologies required to be an effective first-time product manager. The overarching goal of this book is to help you understand the product manager role, give you concrete examples of what a product manager does, and build the foundational skill-set that will gear you towards a career in product management. To be an effective PM in the tech industry, you need to have a basic understanding of technology. In this book you'll get your feet wet by exploring the skills a PM needs in their toolset and cover enough ground to make you feel comfortable in a technical

discussion. A PM is not expected to have the same level of depth or knowledge as a software engineer, but knowing enough to continue the conversation can be a benefit in your career in product management. A complete product manager will have a 360-degree understanding of user experience and how to craft beautiful products that are easy-to-use, with the end user in mind. You'll continue your journey with a walk through basic UX principles and even go through the process of building a simple set of UI frames for a mock app. Aside from the technical and design expertise, a PM needs to master the social aspects of the role. Acting as a bridge between engineering, marketing, and other teams can be difficult, and this book will dive into the business and soft skills of product management. After reading *Product Management Essentials* you will be one of a select few technically-capable PMs who can interface with management, stakeholders, customers, and the engineering team. What You Will Learn Gain the traits of a successful PM from industry PMs, VCs, and other professionals See the day-to-day responsibilities of a PM and how the role differs across tech companies Absorb the technical knowledge necessary to interface with engineers and estimate timelines Design basic mocks, high-fidelity wireframes, and fully polished user interfaces Create core documents and handle business interactions Who This Book Is For Individuals who are eyeing a transition into a PM role or have just entered a PM role at a new organization for the first time. They currently hold positions as a software engineer, marketing manager, UX designer, or data analyst and want to move away from a feature-focused view to a high-level strategic view of the product vision. *The New Software Engineering* John Wiley & Sons

Improve information security by learning *Social Engineering*. Key Features Learn to implement information security using social engineering Get hands-on experience of using different tools such as Kali Linux, the Social Engineering toolkit and so on Practical approach towards learning social engineering, for IT security Book Description This book will provide you with a holistic understanding of social engineering. It will help you to avoid and combat social engineering attacks by giving you a detailed insight into how a social engineer operates. Learn *Social Engineering* starts by giving you a grounding in the different types of social engineering attacks, and the damages they cause. It then sets up the lab environment to use different tools and then perform social

engineering steps such as information gathering. The book covers topics from baiting, phishing, and spear phishing, to pretexting and scareware. By the end of the book, you will be in a position to protect yourself and your systems from social engineering threats and attacks. All in all, the book covers social engineering from A to Z, along with excerpts from many world wide known security experts. What you will learn Learn to implement information security using social engineering Learn social engineering for IT security Understand the role of social media in social engineering Get acquainted with Practical Human hacking skills Learn to think like a social engineer Learn to beat a social engineer Who this book is for This book targets security professionals, security analysts, penetration testers, or any stakeholder working with information security who wants to learn how to use social engineering techniques. Prior knowledge of Kali Linux is an added advantage

#### *Engineering Materials 1* Apress

Because of its inherent simplicity, graph theory has a wide range of applications in engineering, and in physical sciences. It has of course uses in social sciences, in linguistics and in numerous other areas. In fact, a graph can be used to represent almost any physical situation involving discrete objects and the relationship among them. Now with the solutions to engineering and other problems becoming so complex leading to larger graphs, it is virtually difficult to analyze without the use of computers. This book is recommended in IIT Kharagpur, West Bengal for B.Tech Computer Science, NIT Arunachal Pradesh, NIT Nagaland, NIT Agartala, NIT Silchar, Gauhati University, Dibrugarh University, North Eastern Regional Institute of Management, Assam Engineering College, West Bengal University of Technology (WBUT) for B.Tech, M.Tech Computer Science, University of Burdwan, West Bengal for B.Tech. Computer Science, Jadavpur University, West Bengal for M.Sc. Computer Science, Kalyani College of Engineering, West Bengal for B.Tech. Computer Science. Key Features: This book provides a rigorous yet informal treatment of graph theory with an emphasis on computational aspects of graph theory and graph-theoretic algorithms. Numerous applications to actual engineering problems are incorporated with software design and optimization topics.

*The Requirements Engineering Handbook* Routledge  
Software startups make global headlines every day. As

technology companies succeed and grow, so do their engineering departments. In your career, you'll may suddenly get the opportunity to lead teams: to become a manager. But this is often uncharted territory. How can you decide whether this career move is right for you? And if you do, what do you need to learn to succeed? Where do you start? How do you know that you're doing it right? What does "it" even mean? And isn't management a dirty word? This book will share the secrets you need to know to manage engineers successfully. Going from engineer to manager doesn't have to be intimidating. Engineers can be managers, and fantastic ones at that. Cast aside the rhetoric and focus on practical, hands-on techniques and tools. You'll become an effective and supportive team leader that your staff will look up to. Start with your transition to being a manager and see how that compares to being an engineer. Learn how to better organize information, feel productive, and delegate, but not micromanage. Discover how to manage your own boss, hire and fire, do performance and salary reviews, and build a great team. You'll also learn the psychology: how to ship while keeping staff happy, coach and mentor, deal with deadline pressure, handle sensitive information, and navigate workplace politics. Consider your whole department. How can you work with other teams to ensure best practice? How do you help form guilds and committees and communicate effectively? How can you create career tracks for individual contributors and managers? How can you support flexible and remote working? How can you improve diversity in the industry through your own actions? This book will show you how. Great managers can make the world a better place. Join us. *The Effective Executive* McGraw-Hill Science, Engineering & Mathematics

Improve Your Creativity, Effectiveness, and Ultimately, Your Code In Modern Software Engineering, continuous delivery pioneer David Farley helps software professionals think about their work more effectively, manage it more successfully, and genuinely improve the quality of their applications, their lives, and the lives of their colleagues. Writing for programmers, managers, and technical leads at all levels of experience, Farley illuminates durable principles at the heart of effective software development. He distills the discipline into two core exercises: learning and exploration and managing complexity. For each, he defines principles that can help you improve everything from your

mindset to the quality of your code, and describes approaches proven to promote success. Farley's ideas and techniques cohere into a unified, scientific, and foundational approach to solving practical software development problems within realistic economic constraints. This general, durable, and pervasive approach to software engineering can help you solve problems you haven't encountered yet, using today's technologies and tomorrow's. It offers you deeper insight into what you do every day, helping you create better software, faster, with more pleasure and personal fulfillment. Clarify what you're trying to accomplish Choose your tools based on sensible criteria Organize work and systems to facilitate continuing incremental progress Evaluate your progress toward thriving systems, not just more "legacy code" Gain more value from experimentation and empiricism Stay in control as systems grow more complex Achieve rigor without too much rigidity Learn from history and experience Distinguish "good" new software development ideas from "bad" ones Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

Bioprocess Engineering Principles PHI Learning Pvt. Ltd.

This book is an engineering reference manual that explains "How to do DevOps?". It is targeted to people and organizations that are "doing DevOps" but not satisfied with the results that they are getting. There are plenty of books that describe different aspects of DevOps and customer user stories, but up until now there has not been a book that frames DevOps as an engineering problem with a step-by-step engineering solution and a clear list of recommended engineering practices to guide implementors. The step-by-step engineering prescriptions can be followed by leaders and practitioners to understand, assess, define, implement, operationalize, and evolve DevOps for their organization. The book provides a unique collection of engineering practices and solutions for DevOps. By confining the scope of the content of the book to the level of engineering practices, the content is applicable to the widest possible range of implementations. This book was born out of the author's desire to help others do DevOps, combined with a burning personal frustration. The frustration comes from hearing leaders and practitioners say, "We think we are doing DevOps, but we are not getting the business results we had expected." Engineering DevOps describes a

strategic approach, applies engineering implementation discipline, and focuses operational expertise to define and accomplish specific goals for each leg of an organization's unique DevOps journey. This book guides the reader through a journey from defining an engineering strategy for DevOps to implementing The Three Ways of DevOps maturity using engineering practices: The First Way (called "Continuous Flow") to The Second Way (called "Continuous Feedback") and finally The Third Way (called "Continuous Improvement"). This book is intended to be a guide that will continue to be relevant over time as your specific DevOps and DevOps more generally evolves.

### **Introduction to Embedded Systems, Second Edition**

Wadsworth Publishing Company

David Gibson uses 3D visual representations of sounds in a mix as a tool to explain the dynamics that can be created in a mix. This book provides an in-depth exploration into the aesthetics of what makes a great mix. Gibson's unique approach explains how to map sounds to visuals in order to create a visual framework that can be used to analyze what is going on in any mix. Once you have the framework down, Gibson then uses it to explain the traditions that have been developed over time by great recording engineers for different styles of music and songs. You will come to understand everything that can be done in a mix to create dynamics that affect people in really deep ways. Once you understand what engineers are doing to create the great mixes they do, you can then use this framework to develop your own values as to what you feel is a good mix. Once you have a perspective on what all can be done, you have the power to be truly creative on your own - to create whole new mixing possibilities. It is all about creating art out of technology. This book goes beyond explaining what the equipment does - it explains what to do with the equipment to make the best possible mixes.

Machine Learning Engineering in Action John Wiley & Sons

Based on course-tested material, this rigorous yet accessible graduate textbook covers both fundamental and advanced optimization theory and algorithms. It covers a wide range of numerical methods and topics, including both gradient-based and gradient-free algorithms, multidisciplinary design optimization, and uncertainty, with instruction on how to determine which algorithm should be used for a given application. It also provides

an overview of models and how to prepare them for use with numerical optimization, including derivative computation. Over 400 high-quality visualizations and numerous examples facilitate understanding of the theory, and practical tips address common issues encountered in practical engineering design optimization and how to address them. Numerous end-of-chapter homework problems, progressing in difficulty, help put knowledge into practice. Accompanied online by a solutions manual for instructors and source code for problems, this is ideal for a one- or two-semester graduate course on optimization in aerospace, civil, mechanical, electrical, and chemical engineering departments.

Engineering a Safer World "O'Reilly Media, Inc."

A groundbreaking treatise by one of the great mathematicians of our time, who argues that highly effective thinking can be learned. What spurs on and inspires a great idea? Can we train ourselves to think in a way that will enable world-changing understandings and insights to emerge? Richard Hamming said we can, and first inspired a generation of engineers, scientists, and researchers in 1986 with "You and Your Research," an electrifying sermon on why some scientists do great work, why most don't, why he did, and why you should, too. The Art of Doing Science and Engineering is the full expression of what "You and Your Research" outlined. It's a book about thinking; more specifically, a style of thinking by which great ideas are conceived. The book is filled with stories of great people performing mighty deeds--but they are not meant to simply be admired. Instead, they are to be aspired to, learned from, and surpassed. Hamming consistently returns to Shannon's information theory, Einstein's relativity, Grace Hopper's work on high-level programming, Kaiser's work on digital filters, and his own error-correcting codes. He also recounts a number of his spectacular failures as clear examples of what to avoid. Originally published in 1996 and adapted from a course that Hamming taught at the U.S. Naval Postgraduate School, this edition includes an all-new foreword by designer, engineer, and founder of Dynamicland Bret Victor, and more than 70 redrawn graphs and charts. The Art of Doing Science and Engineering is a reminder that a childlike capacity for learning and creativity are accessible to everyone. Hamming was as much a teacher as a scientist, and having spent a lifetime forming and confirming a theory of great

people, he prepares the next generation for even greater greatness.

[Engineering Fundamentals: An Introduction to Engineering, SI Edition](#) Stripe Press

Specifically designed as an introduction to the exciting world of engineering, **ENGINEERING FUNDAMENTALS: AN INTRODUCTION TO ENGINEERING** encourages students to become engineers and prepares them with a solid foundation in the fundamental principles and physical laws. The book begins with a discovery of what engineers do as well as an inside look into the various areas of specialization. An explanation on good study habits and what it takes to succeed is included as well as an introduction to design and problem solving, communication, and ethics. Once this foundation is established, the book moves on to the basic physical concepts and laws that students will encounter regularly. The framework of this text teaches students that engineers apply physical and chemical laws and principles as well as mathematics to design, test, and supervise the production of millions of parts, products, and services that people use every day. By gaining problem solving skills and an understanding of fundamental principles, students are on their way to becoming analytical, detail-oriented, and creative engineers. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

**Effective Model-Based Systems Engineering** Artech House  
Explore a complex mechanical system where electronics and mechanical engineers work together as a cross-functional team. Using a working example, this book is a practical “how to” guide to designing a drone system. As system design becomes more and more complicated, systematic, and organized, there is an increasingly large gap in how system design happens in the industry versus what is taught in academia. While the system design basics and fundamentals mostly remain the same, the

process, flow, considerations, and tools applied in industry are far different than that in academia. **Designing Drone Systems** takes you through the entire flow from system conception to design to production, bridging the knowledge gap between academia and the industry as you build your own drone systems. What You'll Learn Gain a high level understanding of drone systems Design a drone systems and elaborating the various aspects and considerations of design Review the principles of the industrial system design process/flow, and the guidelines for drone systems Look at the challenges, limitations, best practices, and patterns of system design Who This Book Is For Primarily for beginning or aspiring system design experts, recent graduates, and system design engineers. Teachers, trainers, and system design mentors can also benefit from this content.

*Modern Software Engineering* Cengage Learning  
**Chemical Engineering Design, Second Edition**, deals with the application of chemical engineering principles to the design of chemical processes and equipment. Revised throughout, this edition has been specifically developed for the U.S. market. It provides the latest US codes and standards, including API, ASME and ISA design codes and ANSI standards. It contains new discussions of conceptual plant design, flowsheet development, and revamp design; extended coverage of capital cost estimation, process costing, and economics; and new chapters on equipment selection, reactor design, and solids handling processes. A rigorous pedagogy assists learning, with detailed worked examples, end of chapter exercises, plus supporting data, and Excel spreadsheet calculations, plus over 150 Patent References for downloading from the companion website. Extensive instructor resources, including 1170 lecture slides and a fully worked solutions manual are available to adopting instructors. This text is designed for chemical and biochemical engineering students (senior undergraduate year, plus appropriate for capstone design courses where taken, plus graduates) and lecturers/tutors, and

professionals in industry (chemical process, biochemical, pharmaceutical, petrochemical sectors). New to this edition: - Revised organization into Part I: Process Design, and Part II: Plant Design. The broad themes of Part I are flowsheet development, economic analysis, safety and environmental impact and optimization. Part II contains chapters on equipment design and selection that can be used as supplements to a lecture course or as essential references for students or practicing engineers working on design projects. - New discussion of conceptual plant design, flowsheet development and revamp design - Significantly increased coverage of capital cost estimation, process costing and economics - New chapters on equipment selection, reactor design and solids handling processes - New sections on fermentation, adsorption, membrane separations, ion exchange and chromatography - Increased coverage of batch processing, food, pharmaceutical and biological processes - All equipment chapters in Part II revised and updated with current information - Updated throughout for latest US codes and standards, including API, ASME and ISA design codes and ANSI standards - Additional worked examples and homework problems - The most complete and up to date coverage of equipment selection - 108 realistic commercial design projects from diverse industries - A rigorous pedagogy assists learning, with detailed worked examples, end of chapter exercises, plus supporting data and Excel spreadsheet calculations plus over 150 Patent References, for downloading from the companion website - Extensive instructor resources: 1170 lecture slides plus fully worked solutions manual available to adopting instructors

**Software Engineering at Google** Effective Bookshelf  
Introducing *The Effective Engineer*--the only book designed specifically for today's software engineers, based on extensive interviews with engineering leaders at top tech companies, and packed with hundreds of techniques to accelerate your career.

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